The performance of advanced level schools for academically talented female students in Tanzania: An evaluative analysis.

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A mini-thesis submitted in partial fulfilment of the requirements for the degree of M.Phil in the department of Women's and Gender Studies Programme, University of the Western Cape.

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DECLARATION

I declare that THE PERFORMANCE OF ADVANCED LEVEL (A-LEVEL) SCHOOLS FOR ACADEMICALLY TALENTED FEMALE STUDENTS IN TANZANIA: AN EVALUATIVE ANALYSIS is my own work, that has not been submitted before for any degree or examination in any other university, and that all the sources I have used or quoted have been indicated and acknowledged as complete references.

Anna John Malasi Njau

Date:

Signed:

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All praise and glory to God, our Almighty Father through his grace this thesis was completed.

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DEDICATION

My heartfelt thanks and internal gratitude are extended to my parents for all sacrifices which they have made to provide me with the academic opportunities that have availed me thus far. No words can fully express my debt to my parents. This thesis is dedicated to them with love.

ABSTRACT

This study is an evaluative analysis of the performance of Advanced Level (A-level) female students in schools for the academically talented in Tanzania. The pass rates of female students at Advanced Level in such schools are consistently lower than those of males, particularly in mathematics and science. The available literature on special schools in Tanzania is very limited. There are a number of related resources available concerning, for example, performance indicators for primary and secondary schools. This study would add to the sparse literature concerning factors which influence the performance of both female and male Tanzanian students who are academically talented.

The study gives attention to feminist perspectives within an educational evaluation framework. This is because evaluation is a process of determining to what extent particular educational objectives are actually being realised. It is based on student performance, curricula and instructional materials, school personnel, educational programmes and projects, education institutions and organisations. The main argument of the thesis largely draws on a liberal, socialist feminism and empowerment approach to education and seeks to explain and change historical systems of sexual differences according to which females and males are socially constituted and positioned in relations of hierarchy and antagonism (Haraway, 1989).

Data was collected through questionnaires, interviews, and by observation. Both quantitative and qualitative thematic content was used to analyse data. The respondents in this study involved four special schools (two for female and two for male students) with ten participants from each school. The data obtained from male students was used for

comparative purposes. The sample also involved four heads of schools[1], two teachers from each school, two zonal inspectors (Eastern and Central zone) and the director of secondary schools.

The study reveals that male students' performance in special schools is better than their female counterparts. The reason for this is inadequate provision of teaching and learning materials such as textbooks and an uneven distribution of teachers in schools for female which leads to a high teaching workload. In addition, there is a shortage of female graduate teachers who can act as female role models. Other factors include social cultural aspects and differential gender expectations for males and females in a society. All of these issues disadvantage females in relation to male students.

This study recommends that the government through the responsible Ministry should: increase the resources to these schools so as to create conducive learning environment for students and teachers; ensure even distribution of graduate teachers; encouraging more females to enroll in science and mathematics subjects; in order to be role models for younger students and recruit more female graduates teachers specialised in science and mathematics. Future research should involve all special schools as well as other ordinary schools both private and public with a large sample.

[1] In Tanzania education system, schools and colleges have heads called headteachers in primary schools, headmistress/headmasters in secondary schools and principals in colleges (Ministry of Education, 1984).

CHAPTER ONE

BACKGROUND TO THE STUDY

1.1 The Educational history of Tanzania

Formal western education in Tanzania came with the establishment of colonialism in the then German East Africa under German rule from 1890 to 1918. Thereafter the country was under the governance of the British between 1919 and 1961 when independence was gained. Missionaries established and administrated more schools in the country than the colonial government. Thus western education went hand in hand with Christianity. The colonial government controlled school curricula, which was based on the British schooling system. In time Asian communities in Tanzania established their own schools (Nyerere, 1982).

During the colonial period, access to formal education in schools was based on race, gender and status (of parents) and not on performance or academic ability. There were special schools for white and Asian pupils, as well as for the sons of African chiefs. Ordinary African children received the lowest quality of education. The aim of colonial education was not designed to prepare African students to serve their own country but was rather motivated by a desire to inculcate the values of the colonial society into the local population and to train individuals for the service of the colonial state. In addition, colonial education was aimed at training efficient clerks and junior officials from the local population (Nyerere, 1982). The available educational facilities singled out boys and men in order to provide manual labour. Formal education for African girls was not on the agenda and when it was provided, it was aimed at training them to fulfill their future roles in life as housewives and mothers (Ministry of Community development, Culture, Youth and Sports, 1988; Peasgood et al.1997).

The colonial education system therefore created and perpetuated distinct gender differentiations, with males having potential access to the formal employment sector while women were supposed to master the domestic sphere. In the infrequent cases where women's education was given attention during colonial times, curriculum contents differed from those offered to males. Courses taught to female students/scholars affirmed their responsibility for household chores and their subservient role to men in the home. The colonial education system thus assigned men a superior position over women (Robertson, 1986).

After independence, Tanganyika, and later the renamed Tanzania, took a number of measures to rectify the situation. These included the integration of children of different races into the same schools, the nationalization of some private and religious schools; exemption from school fees in government owned primary and secondary schools; the introduction of the Universal Primary Education (UPE); the establishment of special schools which would cater for the provision of educational opportunities to academically gifted and talented students in ordinary and advanced Level education and recently establishment of Tanzania Training Policy in 1995 which gave special attention to equity issues, including girl's access to and performance within education. This gave consideration to;

> gender needs and interests of girls especially in providing universal and compulsory primary education for all children at the age of seven years until they complete this cycle of education; girls are selected with low pass mark to join secondary education, promotion and encouragement of establishment of co-education and girls secondary school; de-boarding of boys government secondary schools by establishment of girls' day streams in existing communities where girls' secondary education is severely affected; continuation of existing girls' government boarding schools; establishment of financial support schemes for girls and women in education and training institutions; reviewing the school curriculum in order to strengthen and encourage participation and achievement of girls in mathematics and science subjects; elimination of gender stereotyping through

> the curricula textbooks and classroom practices in education and school systems; designing and implementing special in-service training programmes for women teachers; and encouraging the construction of hostel ,boarding accommodation for girls in day secondary schools (Ministry of Education, 1995).

The policy is multidimensional, inclusive building hope among the society members for reconstruction of new social, cultural and economic avenues for the good will of all Tanzanians regardless of gender affiliations. Precisely the policy is against gender in equality caused by existing social, cultural, political and economic relations. Despite these official policies, change is very slow due to economic hardships facing the country (Ministry of Education and Culture, 1999).

Under the socialist economy, most of the means of production were in the hands of the state. The state was producer and supplier of many goods and services. The collapse of USSR as superpower confronted developing countries (including Tanzania) with new sets of challenges and opportunities arising from a rapidly changing global order characterized by privatization, and reduction of government expenditure on social services such as education (Cooksey, Court and Makau, 1994). This situation undermined the efforts by Tanzania since independence to 1980s and widened the gender gap. In the 1970s the proportion of the government budget going to education grew from 20 to 24 percent, during the 1980s this proportion fell back to only 10 percent under the influence of Structural Adjustment Programs (Cooksey, Court and Makau, 1994). This led to a financial crisis in education and weakened the state's ability to provide basic education to its citizens and led to a growing privatisation of schools. This in turn has kept many children from poor families, particularly girls away from school.

In an attempt to come out of the financial crisis, the government re-introduced school fees and user fees. This meant that the costs which were formerly completely the responsibility of the government like the costs of the construction and maintenance of the schools, now have to be shared by the government and

students' parents (Ministry of Education and Culture, 1999). Both the re-introduction of school fees and the introduction of cost-sharing measures automatically meant a considerable increase in the amount of money that the parents had to contribute. Many students face problems paying the fees because their parents are poor. Quite often students are sent back home, because they have not yet paid their school fees. In this way students often lose a day's school, which might hinder their performance. Where resources are scarce and a choice has to be made, boys are sent to school and girls are not. As a result, access to education declined markedly because there was sharp spending cuts that drastically reduced funding for education and imposed new taxes on households (Koda, .et al.; Codou, 2000).

Another change is the privatisation of the education system. This means that the educational policy moved from an emphasis on comprehensive state control towards greater reliance on private and community initiatives (Cooksey, Court and Makau, 1994). Education, which was the basis for the socialist transformation of society was no longer followed. Consequently, education is seen in the context of development of manpower which would lead to the development of capitalism in Tanzania.

1.2 Education aimed at gifted children

According to the USA Gifted and Talented children's Act of 1978, 'gifted' and 'talented' can be defined as:

> Children and whenever applicable, youth who are identified at the pre school, elementary, or secondary level as possessing demonstrated or potential abilities that give evidence of high performance capabilities in areas such as intellectual, creative, specific academic, or leadership ability or in the performing and visual arts and who by reason thereof require services or activities not ordinarily provided by the school.

Gifted students were identified by using several measures of intellectual performance, such as, excelling academically in all subjects or particular

advancement in one. Some have creative abilities that allow them to produce unusual or novel solutions to problems.

Many countries provide special educational opportunities for gifted students. Some gifted individuals are allowed to enter school early and to accelerate quickly through the curriculum, sometimes by skipping one or more grades. Others attend special schools or classes (Renzulli, 1977). The known practice in Tanzania was to accelerate students who show unusual academic and intellectual ability at certain stages of their schooling, but this is not very common. Currently, and as mentioned above, those who excel in academic subjects, that is, achieving very good examination results at what is termed primary education and ordinary level secondary qualifications, are sent to special schools where, it is hoped, their talents will be fully developed.

To date (i.e. 2002) seven secondary schools have been designed as "special schools." These schools cater for education at both Ordinary and Advanced levels[2]. The selection of students is based on the excellence of results in the final national primary school leaving and form four examinations. The schools under discussion are all boarding, public schools (Government Schools) and are centrally managed by the Ministry of Education and Culture (United Republic of Tanzania, 1992). There are four such secondary schools for boys, namely Ilboru, Mzumbe, Tabora Boys and Kibaha Secondary School. Another three secondary schools namely Kilakala, Msalato and Tabora Girls are designated for girls. According to the United Republic of Tanzania (1992) the main aims and objectives of these schools are:

- To prepare gifted and talented students to become top scientists, innovators, discovers and professionals who will develop the country through the advanced use of science and technology;

[2] Find addendum: description of school system

- To promote and develop the talents of exceptional children for future application in different fields. This will benefit both the targeted group of students and the country (United Republic of Tanzania, 1992).

It can therefore be expected that the performance of these students at their A-Levels would be equally excellent. However, excellent performance has not been the case for all the special schools for girls. For example, students who scored division one[3] in the Advanced Level examination results in 1999 were as follows: 12.8 %, 11.1 % and 66.7% in Kilakala Girl's, Msalato Girl's and Mzumbe Boys secondary school respectively, while in 2000 the results also for female and male students were: 20.9%, 22.2%, 52.9 % and 44.3 % in Kilakala Girl's, Msalato Girl's, Mzumbe Boy's and Kibaha Boy's respectively. This situation indicates that female students in those special schools scored lower compared to male counterparts.

1.3 Aim of the study

The aim of my study is to gain insight into the reasons that have led to poor performance at Advanced Level examinations of female students (compared to male students) who join these special schools on the basis of their excellence in the performance at national Ordinary Level or form four examinations.

This study will attempt a better understanding of the reasons why there is disparity of performance in Form VI (Advanced Level) examinations results between female students in special schools and their male counterparts. The study will explore contributing factors that may in one way or the other cause this disparity in performance.

The study will focus on the following issues:

[3] in Tanzania the national examinations results are arranged into five different divisions i.e I,II,III,IV. and 0.These divisions represents different scoring levels in which division I represents the highest level of the scores and division IV represents the lowest scores at the national

- the existing infrastructure (classroom, dormitories and laboratories) school administration
- the environment surrounding the premises of the school;
- the availability and qualifications of the teaching staff;
- the proportion of teaching staff to the working load;
- the availability of necessary teaching aids and materials in schools for gifted girls;
- the relationship between teaching staff and students;
- the relationship between teaching staff and head of schools;
- additional factors influencing female students to perform poorly in mathematics and science.

The choice of these factors was informed by the criteria laid down by the government on Special schools. The difference in results of national examinations at A-Level seemed to indicate that there might be particular issues at stake that may contribute to the disparity in performance of female students in special schools.

According to the United Republic of Tanzania (1992) the aims of special schools can only be achieved if the following criteria are met:

- availability of competent and trained teachers;
- an environment conducive to teaching and learning;
- appropriate curriculum design;
- well prepared teaching and learning materials;

examination results. Students who achieve division I,II,III or IV have passed the examinations while the students who scored below division IV which is 0 has failed the examinations.

- the necessary infrastructure: classrooms, laboratories, libraries and the like;
- the design and use of proper methods for appropriate selection criteria and pedagogical methods to enable students to acquire the relevant attitudes, knowledge and skills.

In this case, the poor performance of female students in special schools also warrants an evaluation of these criteria, assessing whether they were met or what kinds of issues surrounding their achievement.

The research concentrates on two special schools for female students, namely Kilakala (best performance) and Msalato (second best). For comparative analysis the research includes two schools for males which have shown good results, namely Mzumbe (best performance and Kibaha (third best). These schools were chosen because of their accessibility during the rainy months. This comparative analysis will provide the data for my research.

1.4 Statement of the problem

The performance of female students in special schools for the academically gifted and talented in Tanzania is not as good as was envisaged. The National Examinations performances of female students in such schools have not impressed educationists, parents and the public at large. This is because most of the female students in these schools score below Division three (III)[4] Because the female and male students in these schools are academically gifted and talented and have access to potentially the best educational facilities, the general expectation is that they will score above division III as their male counterparts. This is nevertheless not the case, as illustrated by table I and II. Some of the 'academically gifted and talented' female students even fail to get university admission because they do not meet the required minimum qualifications. The top Divisions I, II, and sometimes III normally qualify one for entry to the

[4] This is division IV and 0

University (Ministry of Education and Culture, 2000). In table I below Form Six examinations results for both Arts and Science subjects are shown in percentage by division for the years 1999-2001.

Table 1: A-LEVEL RESULT 1999-2001 IN PERCENTAGE -ARTS AND SCIENCE SUBJECTS

	1999					2000					2001				
Division	I	II	III	IV	O	I	II	III	IV	O	I	II	III	IV	O
Kilakala	12.8	37.2	40.7	9.3	0	20.9	46.5	28	2.3	2.3	35.8	29.3	31.5	3.2	0
Msalato	11.1	36.1	47.2	2.8	2.8	22.2	30.6	44.4	2.8	0	16.9	33.3	47	0	0
Tabora Girls	2.7	37.8	51.4	5.4	2.7	0	34.3	57.1	8.6	0	9.7	58.5	26.8	2.4	2.4
Iliboru	73.1	23.7	3.2	0	0	70.3	25.3	4.4	0	0	63.8	26.8	3.2	0	0
Kbaha	-	-	-	-	-	44.3	30.7	23.9	1.1	0	64.3	25.7	9.9	0	0
Mzumbe	66.7	19.8	13.5	0	0	52.9	24	20.2	2.9	0	78	19	2.8	0	0
Tabora Boys	43.1	31	22.4	1.7	1.7	41.9	31.1	21.6	4.1	1.4	47.7	41.7	10.4	0	0

Key: Kibaha Boys secondary school was established in 1998. Its first result was in 2000.

Source: Ministry of Education and Culture (1999) The Advanced Certificate of Secondary Education Examinations Results.Dar-es-Salaam: National Examinations Council Of Tanzania.

Ministry of Education and Culture (2000) The Advanced Certificate of Secondary Education Examinations Results.Dar-es-Salaam: National Examinations Council Of Tanzania.

Ministry of Education and Culture (2001) The Advanced Certificate of Secondary Education Examinations Results.Dar-es-Salaam: National Examinations Council Of Tanzania.

From Table I above the examinations results for form VI indicate that male students performed better than female students. For example, in 1999 in Kilakala girls' secondary school there were 12.8 % girls who got division I while in Mzumbe boys' secondary school were 66.7 % boys. In 2001 students who scored division I and II qualified to enter University were 65.1 %, 50.2 %, 90 % and 97 % in Kilakala, Msalato, Kibaha and Mzumbe respectively. This shows that the number of female students who enter University would be smaller than male students.

Table II: A-LEVEL RESULTS IN SCIENCE SUBJECTS 1999-2001 BY PERCENTAGE – (SAMPLED SCHOOLS															
	1999					2000					2001				
Division	I	II	III	IV	0	I	II	III	IV	0	I	II	III	IV	0
Kilakala	16.1	35.5	40.3	8.1	0	22.2	39.7	32	3.2	3.2	25.7	31.4	38.6	4.2	0
Msalato	14.3	42.9	33.3	4.8	4.8	25	35.7	36	3.6	0	9	33.3	57.6	0	0
Mzumbe	83.8	9.5	6.8	0	0	62.1	18.2	20	0	0	81.7	14.6	3.7	0	0
Kibaha	-	-	-	-	-	44.3	30.6	24	1.1	0	64.3	25.7	9.9	0	0
Key: Kibaha secondary school was established in 1998. Hence its first results were obtained in 2000.															

Source: Ministry of Education and Culture (1999) The Advanced Certificate of Secondary Education Examinations Results.Dar-es-Salaam: National Examinations Council Of Tanzania.

Ministry of Education and Culture (2000) The Advanced Certificate of Secondary Education Examinations Results.Dar-es-Salaam: National Examinations Council Of Tanzania.

Ministry of Education and Culture (2001) The Advanced Certificate of Secondary Education Examinations Results.Dar-es-Salaam: National Examinations Council Of Tanzania.

The overall performances of female students has been particularly disappointing since their performance in science subjects has often disqualified most of them from entry into University of Dar-es-salaam. Table II above illustrates that in 2001, students who scored division I in science subjects were 9 %, 25.7%, 64.3 % and 81.7 % in Msalato Girls', Kilakala Girls', Kibaha Boys' and Mzumbe Boys' respectively. This indicates that male students perform better than female students in science subjects, which limits the educational opportunities for female students at institutions of higher learning compared with those of male students. This kind of failure is the main reason that compelled some of the female students doing science subjects to undergo a six weeks pre-entry training programme for University entrance between 1998 and 2000 (University of Dar-es-Salaam, 2000).

All Advanced level students enroll in a combination of 3 subjects. In addition, students who study science have to undertake General Studies and Basic

Mathematics as additional subjects while Arts students only have to undertake General Studies as a prerequisite for qualifications. Even though, these additional subjects are not considered in the final national form VI examination results (grades) to determine division, the results are used by institutions of high learning to determine criteria for selecting applicants for further education and training.

It is important to first understand the ways in which grades are arranged in Tanzania national secondary examinations. According to the National Examination Council of Tanzania the grades of National Form Six examination result are arranged as follows: A =1 point, B=2 points, C=3 points, D=4 points, E=5 points and S=6 points. The scores A up to E are taken as principal passes and have much weight in selection for further studies while S is a subsidiary pass.

The results are further categorized into five divisions as follows:
Division I range from 3-9 points: the highest is 3 point which means that the student scores three A's in a given combination:
Division II range from 10-12 points
Division III range from 13-17 points, (16 &17 points must have two principles)
Division IV= 16-18 points (with 1 principal for 16,17 points)
Division 0= 20 points

In light of the above, another aim of this study is to evaluate factors contributing to the relatively poor performance of female students in science subjects specifically and to make recommendations for redressing the situation.

1.5 Theoretical approaches

Many Feminist theorists contend that the goal of feminist education is not equality in knowledge, power and wealth but the abolition of gender inequality as an oppressive cultural reality (Weiner, 1994). For the purpose of this study the contribution of empowerment, liberal and socialist feminist approaches to education will be considered briefly. These theories including radical[7] feminism were noted by various writers (Arnot, 1981; Spender, 1982; Weiner, 1986; 1994; Acker, 1994) as offering the best general explanation of factors influencing the performance of female students.

Liberal feminism explored the apparent failure of girls at school by looking at several indicators namely: female-male peer relationships, the causes of differential attainment patterns between the sexes in certain subject areas, and in careers advice, bias in the way examinations and tests are constructed and marked, sex-differences in school staffing patterns and the like. Acker (1994) argues that the family, the school, and the media socialize females and males into traditional attitudes and orientations that limit their futures unnecessarily to sex-stereotyped occupational and family roles. At the same time, socialization encourages patterns of inter-personal relationships between the sexes that places females in positions of dependency and submissiveness while males are socialized into positions of dominance.

Liberal feminism centres on notions of discrimination, rights, justice, and fairness. A study by Weiner (1986) provides a list of liberal-feminist strategies aimed at changing the attitudes of teachers and children and promoting equal educational opportunities. The strategies include: reviewing aspects of school organisation such as the timetable, analysing curriculum materials for stereotyping, persuading female students not to drop science and technology subjects and establishing teacher working committees on the issues. Another

[7] radical feminism has not be considered in this study because it has not had impact theoretically or practically in Tanzania education system.

strategy is providing teachers-in-training and those on in service courses with ideas for combating sexism. Therefore liberal feminism in education is based on the intention to remove the barriers that prevent female students from reaching their full potential and campaign for changes. These barriers may be located in the school, the individual psyche or discriminatory labour practices.

Liberal feminism contends that if equal educational opportunities are given to female students, it is possible to improve their performance and their advantage for accessing higher education and consequently, better opportunities for the future.

The development of Socialist- feminism perspectives puts more emphasis on political economy and reproduction. It sees schooling as a mechanism which perpetuates and reproduces sexual as well as social division of labour in the family and class divisions within the work force (Arnot, 1981).

Socialist feminism views the curriculum as one of the areas in which both sex and class struggles are played out and in which patterns of social domination and subordination are reproduced and sustained. It argues that learners /students from the working-class are disadvantaged by the middle class curriculum. Girls from the working class are therefore doubly disadvantaged and undergo experiences of invisibility and inequality (Kramarae and Spender, 2000).

Most socialist feminists have focused on women's position within the economy and the family as prime determinant to nurturing other social and cultural relations the women are subjected to. They assert that education is related to the reproduction of gender division within capitalism (Acker, 1994). Socialist feminist approaches to education show increased awareness that gender, race, and class interact in complex ways to shape girls lives in and out of school (Brah and Minhas, 1985; Acker, 1994). For example, in parts of Asia, Africa, and Latin America rural poverty is often linked to high female illiteracy. They continue to argue that fees for primary schools may be limited to boys while girls work at

home particularly when cultural values interconnect with gender and economic considerations (Kramarae and Spender, 2000). The social reality of class is reflected in limited educational aspirations which lead to loss of the motivation to succeed in education.

The empowerment approach offers a less superficial solution to problems within male dominated education systems in opposition to the liberal feminism strategy of providing equal opportunity in order to improve the performance of girls/women in education.

An empowerment approach to education is about attainment of autonomy. It enables women to either work individually or collaboratively to change and shape the world in which they live (Kramarae and Spender, 2000). The empowerment approach asserts that equipping women with socio-cultural, economic and political knowledge enables them to analyse their own identity and situations. It considers self-esteem and personal fulfillment as important objectives in the educational process (Appel, 1995). The empowerment approach also argues that, socialization at home often creates dilemmas for female students as it conflicts with expected behaviour at school, which does not enhance learning. For example, this type of socialization interferes with the ability of females' students to interact with and take part in group-work with male students as well as male teachers. All this in turn affects the ability of female students' to fully participate and perform well in school. Therefore the empowerment approach in education is vital to female's effort to improve their standing in society that will lead to progressive change.

The existing socio-cultural as well as economic conditions in a society which influences female students' performance are challenged by the empowerment approach. It tries to outline the importance of girl's education individually and in a society at large. Thus, through empowerment female students would be in a position to change their daily life and eventually the attainment of development for a society. These explanations are confirmed by Ballara (1991) who asserts

that girls' access to education is a powerful determinant of national economic and social well-being. Similarly, Summers (1992) argues that on the individual level it is assumed to enable them to become aware of their civil rights, improve their income generating capacity and enable them to play an active role in family and community decision-making. Furthermore, it is believed that education for girls will do the following: assist in lowering infant mortality rates, provide for the family nutrition, lead to lower fertility rates and will contribute to their children's success in school.

Principles of the empowerment approach, sample schools will be examined with attention to economic factors as well as socio-cultural factors. This will focus on neither simplistic equal rights/equal access nor on economic restructuring. Instead the perceptions of female and male students as well as teachers regarding issues of culture, self-esteem, personal fulfillment and future opportunities will be taken into account.

In the same way that the Women in Development (WID) approach was an inadequate measure of analyzing development in society, focusing exclusively on girls in education would not be theoretically viable. Instead applying the process of gender and development (GAD) to education, directs the researcher to include male as well as female students in the study (Visvanathan, 1997).

1.6 Conclusion

This chapter has set out the introduction followed by education aimed at talented children, the aim of the study, the statement of the problem, a theoretical framework and its application to the study. The rest of the work is arranged in five major Chapters.

Chapter Two contains a review of the relevant literature. It opens by defining the concept of special schools and gifted/talented children and discusses the procedures for identifying talented children. Then it reviews and discusses the

literature related to factors within school and outside school, which mainly focus on socio-cultural aspects that affect students' performance.

Chapter Three discusses the research design and methodology, which includes the rationale for the research, methodological framework, population and sample, data collection methods, validation of instruments and the data analysis procedures.

Chapter Four contains the presentations of data. It presents and discusses the differences and similarities between schools with good results and those with bad results. The chapter will remain explanatory, while the gender implications of these differences will be discuss in the next chapter.

Chapter Five examines gender implications of each of the contributing factors that influence the performance of female and male students in special schools.

Chapter Six is the concluding chapter. It summarises the key findings of the study and offers recommendations and suggestions for further research.

CHAPTER TWO

REVIEW OF LITERATURE

2.1 Introduction

In the previous chapter the background of the study was discussed. In this chapter, I review various literatures from Tanzania, other African and Western countries about special schools, gifted children and performance indicators in primary and secondary schools. I will begin by defining the key concept in the study, which is a gifted/talented child. Then the socio-cultural and school factors/indicators which influence the performance of special schools will be reviewed.

2.2 Special schools and gifted/talented children.

Gifted children can be defined as children who exhibit extraordinary intellectual or creative ability, or may have unusual leadership skills and abilities and /or academic capabilities (Gallagher, 1975). Hallahan and Knaffman (1991) point out that 'special' schools mean specially designed schools that meet the unusual needs of a gifted/talented children to get education which enables them to reach their maximum potential. The intention of establishing special schools is to cater for the intellectual demands of academically gifted children with the purpose of nurturing and enhancing their capacities to be profitably used in future.

There are important factors in establishing and maintaining a good local program for gifted and talented students. According to Stephens and Wolf (1978) these are: appropriate and broad procedures to identify both the gifted and talented and the potentially gifted who may not be performing to their potential due to variety of reasons. Often trained teachers can identify gifted and talented students in their classrooms.

There are several ways in which individualised programs can be delivered to gifted and talented students. Clark (1983); Lewis and Donald (1986) suggest a continuum of ability grouping by placing students in learning groups where their progress will continue without inhibitions. The following approaches can be used to achieve this objective:

- through enrichment whereby something extra is added to the regular program enabling talented students to study the same subjects as their peers but in greater depth, or the curriculum may be broadened to include areas of study not generally covered;

- through an acceleration program where talented students may be admitted to school at a younger than usual age, or be allowed to skip one or more grades allowing them to progress in a regular classroom;

- through the telescoping of grades. For instance, the course of study for two grades might be compressed into one school year. An analysis of research conducted on acceleration programs by Kulik and Kulik (1984) established that students enrolled in these programs achieved better than talented students of the same age who were not accelerated;

- through the special class approach, with some integrated classes. This approach is particularly useful at lower grade levels where subjects are organised in the schools with specially trained teachers for gifted students and others for regular classes. This model has much potential because all of its possible variations will be examined. In this approach, the gifted and talented students are in separate rooms and have little or no involvement with other students for specific instruction. But they can attend school in the same class with others in same topics or subjects.

However, Tannenbaum (1983) argues that talented children can only perform well in special classes or schools if all aspects of the curriculum program are well planned and expertly administered, otherwise failures may occur if no formal attempt is made to adjust the curriculum contents accordingly. The administrative support, provision of time, space, materials and encouragement for teaching staff is fundamental to provide a wide variety of appropriate opportunities for gifted and talented students.

2.3 Students' performance

A range of indicators, which supposedly influence the performance of students in secondary schools in several places in the world, have been identified by education specialists. Husen, Saha and Noonan (1978) argue that the determinants of scholastic achievement in developed countries are less clear-cut than those in developing countries. There is nevertheless generally a positive relationship between teacher characteristics and student achievements in developing countries. In developed countries the determinants of student achievement are largely outside the school, such as education of parents, their occupation, availability of television and study rooms at home (Fagerlind and Saha, 1989; Heyneman and Loxley, 1983; Heyneman, 1980). Heyneman (1980) revealed that in developing countries school achievement is less influenced by out-of-school factors and more by internal characteristics of schools, such as the lack of teachers, good quality or up-to-date teaching and learning materials.

Alexander and Simons (1985) did an extensive study on the determinants of school achievements in Malaysia, Iran, Kenya, Tunisia, Chile, Puerto Rico, India and Thailand. They examined the relationship and interaction between pre-school factors, school educational input and final schooling outcomes among students. They found that teacher's qualifications were important. Qualifications alone were not sufficient, only where teaching and learning materials and equipment were effectively utilised. There are many contributing factors that may affect educational output besides school variables. These include the ability of students

and home background. Alexander and Simons (1985) refers to this as an interaction between internal and external factors.

In Tanzania related studies on the input variables and economic performance of students have also been conducted. Boma (1980) found that socio-economic background of parents influenced the academic performance of primary school children in Tanzania. Similarly, Malekela (1983) found that parents' education level had an impact on the selection of the offspring to continue with schooling, both at Ordinary Level and Advanced Level. Drenth, Flier and Omari (1984) did a major study on the abilities of Tanzanian school pupils and indicated strong relationships between the occupation of parents, their education levels and school performance of their offspring. Kamwela (1977) on the other hand, opted to employ school input indicators such as the characteristics of teachers, student's attitudes toward learning, availability of teaching and learning materials and school equipment. The indicators were compared to school achievement. It showed that pupils in well equipped schools with school materials achieved higher than in poorly equipped schools. Likewise Mbunda (1978) showed that managerial practices in schools such as time allocated for academic activities, number of teachers that were available, and the teaching resources, were all positive indices for school achievement.

2.4 Teachers' competence

Effectiveness of the teaching and learning process depends on the academic competence of a teacher. Fafunwa (1967) argues that most schools and colleges in African countries suffer from a shortage of well-trained teachers. Malekela (1997) adds that incompetent teachers or inadequately trained teachers contribute to poor quality teaching and low results. Elietze (1981) in turn argues that good teachers should be conversant with the subject matter of the course and must be able to effectively communicate prescribed knowledge, skills and attitudes to the students. A good teacher is one who understands the needs of his/her students.

Nwagu (1976) also argues that the effective teacher learns as s/he teaches. In order to keep a teacher up-to-date on knowledge, skills and methods in classroom management, s/he needs in-service sessions that teachers can attend and bring back to their respective institutions. This is widely promoted as a potential cost effective strategy for the improvement of teaching. To support this point, Hanushek (1979) revealed that the level of education and years of teaching experience is related to an improvement in student achievement. The involvement in frequent in-service and up-grading courses is most valuable if it is based on a workshop and problem solving approach rather than on how to be good teacher.

Teachers are thus regarded as having a major influence on the performance of students. Effective teachers for gifted and talented students in high school are intellectually superior, motivated to high achievement, favourable toward students and like to teach gifted students (Willis and Swanson, 1981). Such teachers are more stimulating and imaginative in the classrooms. Teachers in schools for the gifted are supposed to be adequately equipped and able to provide for the needs of their students. Gold (1965) proposed the following guidelines for teachers who want to work with the gifted:

(a) Proper screening and selection of candidates;
(b) Good general preparation for teaching;
(c) Both depth and breadth in scholastic training;
(d) Graduate study with professional specialisation;
(e) In service training.

The common conclusion following from the poor performance of female students in special schools is that many teachers are not adequately qualified and need more training themselves. Gallagher (1975) argues that despite the lack of research concerning selection and training, there is general agreement that adequate and viable programmes for training competent teachers for the gifted are needed at all levels.

A study conducted by the Female Education in Mathematics and Science in Africa Programme (1997) in Cameron, Ghana, Tanzania and Uganda found out that there is a great shortage of mathematics and science teachers at secondary school level. The few available teachers have to be shared by a large number of students, a situation which increases the already heavy workload of the teachers. At the same time, the study revealed that most mathematics and science teachers are male. There are relatively few female teachers teaching mathematics both at the upper primary and secondary schools. Hence girls lack female science and mathematics teachers as immediate female role models. This shortage of female teachers caused further inconveniences when providing career guidance and academic counselling to female students. Many female students do not perform well in school and subsequently drop out. Female teachers are able to inspire girls and provide them with a sense of direction and encouragement to work hard at school. Additionally, most heads and senior education officials are male (Ministry of Education and Culture, 1999).

2.5 Teaching and learning materials

Instructional materials are key ingredients in the learning process. These materials provide information, organise the presentation of information in terms of scope, sequence and provide students with opportunities to use and apply what they have learned. Learning materials that are known to enhance student's achievement are textbooks, teacher's guides, reference books and other software and hardware such as chalkboard, classroom charts and maps.

There is a strong belief among educationists that books assist students to do better, not only in tests, but also in their home assignments. For example, in Nicaraguan classes, there were some students randomly assigned and given textbooks and tested on mathematics while others not. The results of the former group were higher by about one third of a standard deviation compare to the

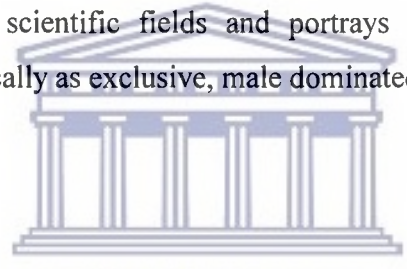
group with no such supplementary materials (Heyneman, 1981). This identifies a clear and consistent positive relationship between the provision of educational materials, especially textbooks and student performance. One key reason why many schools in developing countries are ineffective in imparting knowledge is that they lack the learning and teaching materials that are necessary for the promotion of students learning (Heyneman, 1981).

The use of modern technology for teaching and learning materials is equally important. In relation to the teaching of science, Elstgeest (1976) advocates the availability of necessary material and tools for learners, particularly in the case of science curricula. Elstgeest (1976) suggests that educators focus on a variety of interesting topics. According to Walkin (1987) appropriate teaching and learning materials enhance the process of perception and retention and so improve the efficiency of learning. At the same time M'Bou (1976) points out that a shortage of books and reading materials for teachers and students is the biggest problem in developing countries. The situation is more serious in Tanzania and Malekela (1997) points out that the shortage of textbooks is so severe in some public secondary schools that one textbook often has to be shared by 20 students. Mushashu (1997) in turn argues that this severe shortage of textbooks in public schools leaves teachers as the only source of information for students. This might result in limiting the scope of knowledge, expertise and ability acquired by students.

A study conducted by Tanzania Gender Networking Programme (1999) found that teaching and learning materials in most subjects are gender-biased. In many textbooks females are mentioned less frequently than males. This reinforces the positive self-image of males and the negative self-image of females. Moreover, where books do focus on females, their images are frequently stereotypical; for example females are shown in the home with babies rather than in offices or running businesses. In so doing the textbooks reinforced male dominance in society. The study found that this lowers self-confidence and self-esteem of

female students. Consequently, female students assumed that they can only aspire towards domestic and lower status jobs.

Similarly, stereotypical gender roles portrayed in textbooks, teaching methods and the attitudes of teachers have been found to limit female's achievement (Bourgue and Warren, 1990; Lockheed and Gorman, 1989). If the media portrays science and technology subjects as an attractive and accessible field for women, then certainly young girls will be influenced to enroll. Thus, explicit as well as implicit messages about female and the sciences which are conveyed through the media, and popular images can have either a negative or positive impact on female decisions to enter science and technology fields. The media becomes yet another obstacle to female's participation when its images show males as the only visible participants in scientific fields and portrays the scientific and technological disciplines typically as exclusive, male dominated clubs.



2.6 School physical facilities

The presence of physical facilities, albeit buildings, books, equipment utilities, space and such in the necessary quantity and quality impacts on student performance at school. Other facilities like staff houses, health services, communication systems, recreational grounds and inputs, well furnished and adequate spaces classrooms, laboratories, equipped workshops, good toilets, and school transport are also important. Sayi (1993) argues that physical infrastructure is among the resources most needed by the school systems to attain their goals. Eichen (1984); Knezevich (1975); Gredier, Pierre and Rosenstengel (1961) maintain that among the indices used to observe quality of the school are various resources like desks and chairs per student in each classroom. If these are lacking, teachers might find it difficult to do their work, and students will encounter problems in studying. The quality and style of teaching and learning is enhanced by adequate and pleasant physical facilities. They exist to facilitate the

instructional program. Mrema (1991) maintains that learning can be severely affected if it is not supported by such facilities.

Commenting on poor physical facilities in Lesotho and in Nigeria, Lockheed (1993) and Adeyinka (1975) respectively, wrote on problems of educational development and came up with similar findings, namely that, many secondary schools were faced with a lack of various equipment highly necessary for an effective teaching and learning process. These physical facilities in the form of hardware with teaching resources like software produce optimal results in studying. Mohapeloa (1980) observed that the school buildings were generally ill adapted to their purpose, and were badly equipped in respect of furniture and other school materials.

2.7 Motivation of students and teachers

Teacher and pupil motivation in any learning process is vital as it enhances the whole process of acquiring knowledge. Studies focusing on motivational issues are divided into two groups. There are those focusing on the teacher and on students.

For effective implementation of an education programme, teachers, who are the main implementers, should be highly motivated. This is achieved by providing them with the necessary teaching materials, conducive teaching environment, good salaries, housing, medical services and transport. Supporting this point, Malekela (1993) argues that teachers have to work in an intellectually rewarding environment.

It is widely believed in Tanzania that a teaching force is unmotivated and demoralised by deplorable working conditions. This, in turn, lowers the morale of teachers and compromises the quality of education (World Bank, 1991). Mbilinyi, Mbughuni, Meena and Olekambaine (1991) consider low teacher morale as among the most significant explanation for poor teaching in schools.

Poor working conditions also appear to be a factor contributing to teachers resigning from the profession (Ubwani, 1992; Mwakilembe, 1981).

According to Omari (1994) more than half of all teachers in Tanzania are dissatisfied with their job. The occupations in which job satisfaction is high are law, commerce, accountancy, engineering and custom service due to better payment. In contrast, the educational sector often employs people who enter the teaching professional as a last resort. Cooksey, Ishumi, Malekela and Galabawa (1991) also point out that working and living conditions for secondary school teachers is a source of dissatisfaction. In Tanzania many teachers suffer from lack of housing, inadequate salaries, or have small houses and no reliable transport to and from school. According to research conducted in schools in Tanzania, Cooksey, Ishumi, Malekela and Galabawa (1991) assert that teachers have to use several different sources of income to survive. These include growing food for their own consumption, extra curriculum tuition and engaging in small business enterprises. These activities often distract teachers from their schoolwork, especially from preparing their lessons and marking students' papers. This situation negatively affects the quality of teaching.

Student's motivation is also essential if one expects good performances from them. A student who is highly interested in a subject will often do better than one who is more intelligent but less interested (Sharp, 1975). There are different ways in which a teacher can motivate students. For example, by verbal encouragement, engaging students in different activities in class and by the use of as many audio visual aids. Furthermore, the use of student's ideas has a reinforcing or motivating effect and has been found to have a moderate but possessive relationship with student achievement (Dunkin and Biddle, 1974). Therefore, student's motivation is necessary for effective learning to take place and hence high performance in examinations.

The nature of the teacher-student interaction also creates an environment that may either improve or decrease the student's capacity to learn. The role of teachers as guides to students is to provide a conducive environment to facilitate effective learning. Yet, according to Nkumbi (1997) most secondary school teachers in Tanzania use teacher centred teaching methods. This kind of approach dispels student's curiosity and hinders creativity and inquiry. Thind (1997) argues that such a state of affairs stifles student's intellectual growth and development, and leads to mechanical and rote learning. Mushashu (1997) also points to the heavy load of secondary school teachers in Tanzania. This forces them to resort to a lecturing method for teaching.

2.8 Time management

In the educational context, time is a resource that refers, for example, to the time spent on and made available for student learning (Symth, 1987). Effective schools are time conscious and a large percentage of the school day is devoted to academic subjects. School terms and timetables are followed to cover the necessary curriculum topics at every level. Learning time is associated with student achievement (Bloom, 1997; Britton and Tesser, 1991) and is a central factor in all learning. Schools determine the duration of school terms each year, as well as the number of hours per day, per week and per month that will be designated to each part of the curriculum.

Keith (1982) and Holmes and Groll (1989) investigated the effects of time spent on homework on subsequent student performance. Keith (1982) concluded that an increase in time spent on homework had a positive effect on student's performance. Therefore the amount of time devoted to academic activities is considered to be an important variable in effecting the teaching and learning process.

2.9 Classroom management

The use of a variety of teaching procedures and teaching materials as well as enthusiasm in presentation affects students' performance. A study by Marjoribanks (1974) demonstrated that the quality of instruction by the teacher contributed greatly to the learner's achievement. He concluded that it was the classroom teaching environment and not its physical characteristics that are more important for school learning and student academic performance. Windham (1982) discussed the same issue and pinpoints the most important influence on the quality of learning as the complex interactive process within classrooms rather than the teaching resources such as textbooks or even the numbers of trained staff. Dunkin (1987), Anderson and Block (1987) and Bloom (1982) also emphasised that achievements in the classroom are related to the quality of instruction provided by the teacher, and that variables like time allocated to learning and classroom management are crucial in the teaching process. These scholars maintained that the quality of instruction such as the clarity and structure of instruction, periodic formative testing and corrective feedback are crucial. Other variables are staff development programs for teachers'which focus on how to present the materials in classroom, involvement of student in the learning process and application of reinforcement.

Anderson and Block (1987) and Bloom (1982) concluded that teachers who used participatory approach management in establishing and maintaining effective learning environments, tended to be more successful than teachers who emphasised their role as authority figures or disciplinarians. Additionally, teachers who were judged to be unclear in their goals and in giving instruction and directives were less effective in promoting academic achievement. To sum up the discussion, Bloom (1982) states that qualifications and experience are important, but that teachers' virtues are more crucial in classrooms than cognitive personnel entry qualifications.

2.10 School leadership

The head of school plays a dual role of being a leading professional and chief executive (Hughes, 1985). As leaders and managers of schools heads of schools have key positions of responsibility in the management and control of education services. Good leadership has an indirect influence on the establishment of a conducive climate for learning, e.g. through the initiation of goal-directed activities, emphasising student achievement and coordinating instructional programs (Sammons, Hillman and Mortimore, 1994; Elberts and Stone, 1985). Torrington and Weightman, (1989) identified three organisational styles; prescriptive, leadership and collegiality. The prescriptive management style imposes order and allows for a lot of co-ordination. Leadership management style functions best when control is linked to strong consensus, supporting initiatives of senior management teams. The collegial style emphasises collaboration and teamwork. Summing up their findings, Torrington and Weightman (1989) concluded that each of the styles is appropriate for particular situations. The balance between them depended on the leaders' ability to deal with the particular school in its own context.

A great deal of research on the effects of organisational climate on students' achievement has been done in Tanzania. Noya (1994) observed that student attitudes are motivated by their teachers and by their respective school environment, notably the head's leadership styles. Maro (1994) investigated the extent to which the qualities of leadership among heads of secondary schools contribute to the promotion and enhancement of the teaching and learning process resulting in a good school performance. The findings revealed that some heads show consideration for the welfare of their staff and students but their efforts are weakened by the inadequate government funding of the schools, lack of instructional materials and physical facilities. Similarly, Mosha (1988) and Wilson (1964) maintain that unity and coherence in schools ensure greater success in the attainment of educational goals.

2.11 Socio-cultural factors

Research on gender and primary schools in Tanzania, found that, up to primary (grade) four, boys and girls perform equally well (Bendera, 1998). When girls enter primary (grade) five, usually the time when they reach puberty, their performance starts to deteriorate. Puberty ceremonies and initiation disrupt the schooling of some girls. In addition, during the initiation the girls are prepared for all "female functions" including preparation for sexual life (Southern African Research and Documentation Center, 2000; Keller and Kitunga, 1999). It would seem that at this stage societal expectations for girls take precedence over schooling. Similarly, girls face conflicting role expectations and sometimes become subject to sexual harassment from teachers, male students, and members of the community. Absenteeism from school causes them to fall behind in their schoolwork. The school curriculum and puberty ceremonies and initiation are incompatible. Instead of the two programs acting in conjunction, form a sharp opposition. The girls find themselves in a difficult situation in trying to adjust with the obligations of the contending social and cultural domains (Tanzania Gender Networking Programme, 1999). This reduces incentives for female students to work or study hard to persevere in male-oriented subjects.

It is also argued that parents and society at large have higher expectations and aspirations for males than females. Most female pupils do not have an environment conducive for developing their scholastic abilities. Culture, values, beliefs and practices influence the attitudes of female students, parents and teachers. Female students are expected to accept the dictates of traditions without questioning. This affects their attitudes towards school learning. Our society further perceives and portrays males as aggressive, brave, logical, intelligent, ambitious, innovative and adventurous. Young females, in turn, internalize societal views of themselves as inferior and of lower intelligence. The categorizing of subjects such as natural sciences as 'male' and social sciences as 'female' is also problematic. This trend is in accordance with De Beauvoir's (1952) and subsequent feminist contentions that women are groomed and

socialised to be beautiful, charming, loving, submissive, kind, hospitable, humble and are expected to guide and hand over traditions of housewifery and motherhood to their daughters. Such socio-cultural beliefs do not encourage female students to work hard in school.

Young children often describe themselves in terms of their sex, their physical features and what they like to do. When girls are socialised into believing that they are physically weaker, not as good at things mechanical as males, and are not as deserving of higher education as male then they are likely to see themselves as less competent than male in these respects. Male and female are, therefore, socialised differently. This differential socialisation has implications for learning and performance in school and career (Davies, 1988).

While some female students believe that education will improve their chances of getting a good husband and that they will subsequently have a more comfortable lifestyle, many other female students are concerned about being too highly educated or of entering fields of study that may limit their choices of potential husbands. Although many African men may prefer to marry women who can obtain salaried employment and contribute to the household budget, few actually marry women who are more educated or who earn more money than they do. In addition, many men prefer to marry women whose jobs leave them time to attend to children and the household hence, their preference for nurses and teachers as wives (Martineau, 1997). This reality may cause some female students to avoid science and technology fields, which often require several years of higher education but are generally financially lucrative. Similarly, the societal pressures bring about urgency and preoccupation with importance of marriages and for female students. This limits their educational attainment and determines the type of subjects they choose.

The family has the greatest impact on shaping the young child in his or her appropriate gender role. Most parents encourage their children to adopt

behaviour deemed appropriate for males and females. Even families that claim equal treatment of their children consciously or unconsciously communicate sex–appropriate expectations in ways they may not realise like non-verbal behaviour (Bailey, 2000).

2.12 Gender stereotypes

Stereotypes usually have political implications and provide insight into the way in which different groups are perceived in a society. It is useful to consider how female and male students are commonly stereotyped. Following De Beauvoir (1952) and feminists like Arnot and Weiner (1987) it can be argued that females are stereotyped as being the complementary opposite of males. They are supposed to be nurturing, passive, weak and non-competitive. Males are supposed to be aggressive, active, powerful and competitive; qualities which have frequently been used to justify male dominance of society. While these stereotypes are obviously damaging and prevent children from developing their full potential, they also internalise extremely negative images of femaleness. This is allegedly the genesis of the syllabi content that females and males learn in the process of becoming gendered.

Through a process called gender socialisation children are socialised into assigned roles from infancy (Kelly, 1981). For example, at home children are provided with gender specific toys (Maccoby and Jackline, 1974), and this tend to socialise females and males into their expected gender roles. Female children play more with dolls and domestic appliances, which encourage development of verbal skills as well as preparation for motherhood/ housewives. Male children play with "masculine" mechanical toys such as dimensional structures that help them to develop spatial skills (Harding, 1980). Moreover, there is gender related differentiation in home activities where female are deliberately pushed into domestic activities or discouraged from certain so-called male activities, while males are encouraged to undertake adventurous and exploratory activities (Kramarae and Spender, 2000).

Many children grow up with few books at home. In fact, the number of books in the house is usually directly related to the socio-economic status of the family. The contents of books and other print material can have a powerful impact on the gender role socialisation of children. Just as toys and games can influence the development of gender identity during the early years, the illustrations, which the child sees, even before s/he begins to read, convey powerful messages about societal values and especially about masculinity and femininity. Children's stories, whether intentionally or not, tend to project prevailing cultural values and social norms and, by extension, help to define society's prevailing standards of masculine and feminine role development (De Beauvoir, 1952). Children using these books are therefore consistently presented with gender imbalances, which were found to contribute to the development of traditional gender identities and roles. Before the child enters the formal public school a good deal of sex-role socialisation usually has already occurred.

At school the expectations of male and female students further reinforces gender roles. Female students are expected and encouraged to study "feminine" subjects such as languages, home economics and literature which will prepare them for the expected adult role whereas male are oriented toward challenging areas like those of science subjects. The picture is similar at societal level. The cultural division of labour determines certain careers as unfeminine and incompatible with marital demands. Largely because the majority of science-related careers have in-built inflexibility in work schedules, requiring those involved to be taken out of their homes to the laboratory or the field. Consequently, the majority of female students with potential for technical and scientific skills are discouraged from pursuing sciences (Female Education in Mathematics and Science in Africa, 1997)

The attempt to explain the lack of interest in science by girls has more credence in the social-cultural than the biological dimension. The argument is anchored in

the influence of the home, school and the society at large in conditioning females to adopt and identify with feminine ideas. The framework of cognitive developmental and social learning theories attempt to underline the process of child socialisation. It assumes that the child is essentially self-socializing, developing rule for categorization with gender as a primary label and then fitting her/himself into these categories (Kelly, 1987). Thus this theory locates the problem of women in relation to science in the context of the social process by which gender identity is embedded.

The foregoing sociological explanation for the female position in science is complimented by psychological perspective that brings into focus personality variables such as interest, attitude and self-concept. Brooks and Vernon, (1956) and Meyer and Penfold, (1961) draw attention to a wide range of activities which either stimulate or inhibit the growth of the female in sciences and which posit that females start off with lesser interest in science-related activities than males. This can be traced to the intensity of their experience and exposure to physical objects in the environment right from early childhood. In their upbringing female children are nurtured to develop a capacity for "emotions", "concern" and "feeling" for nature with minimal manipulation of the physical objects in the environment (Johnson, 1987; Matyas, 1985; Smail and Kelly, 1984). The result is that they are denied the opportunity for developing attributes that promote scientific capability such as aggressiveness. This explains in part why females are often attracted to the animate aspect of science and those aspects which have potentials for solving social and human problems (Walberg, 1967; Johnson and Murphy, 1984; Harding, 1982). Gilligan (1982) reporting about what a twelve years old girl said:

> I want to be some kind of scientist or something and I want to do things and I want to help people ...I think that everybody should try to help somebody else in someway and the way I am choosing is through science.

It is therefore not surprising that females are predominant in careers like nursing, medicine, and biology that provide the channels for the actualisation of stereotypical feminine traits.

2.13 Sexual division of labour

Children observe the different behaviours and gender roles of the their parents. The sexual division of labour in the family promotes the separation between work that men do and get paid for, and household labour that women perform and are not paid for. Such gender-typing in the family tends to encourage the submission and acceptance of the next generation of women to their inferior status in a role at the bottom (Altbach and Kelly, 1978). For the most part the school, as a public care-taking institution and socialising agent, tends not to counter the forces of parental socialisation but becomes implicated in reinforcing traditional sex roles introduced by the family. The constant reinforcement of these gender roles in the family and the school affects female formal education (Altbach and Kelly, 1978). Learning institutions from pre-schools to universities have kept these gender stereotypes, which seriously have affected girls academically, their careers and chances for promotion (Female Education in Mathematics and Science in Africa, 1997).

2.14 Classroom interaction

Language, the medium in which teaching and learning is provided, is also a source through which gender-stereotypes are reinforced. Language is used most frequently in the classroom through oral and written communication, textbooks and other printed material. It provides perhaps the clearest example of how teaching often conveys gender stereotypes and expectations of the sexes to pupil. For instance, two common expectations are that "males will do well in mathematics, females will not " and "females will do well in language, males will not". The instructions and the models are structured in a way that the selection of words and phrases depict the parallel (Bailey, 2000). This is the

message often conveyed to both male and female students, even in classrooms where evidence proves differences. The power of language should not be underestimated because it lowers female's self-confidence and quest for performance.

Most observers of classroom interactions report that male students receive both more positive and negative feedback from the teacher than female do and that the teacher devotes a greater share of all her/his time to male than female students (Altbach and Kelly, 1978). There is an assumption that female students performance cannot go beyond fixed limits. A study conducted by Female Education in Mathematics and Science in Africa (1997) in Tanzania asserts that many female students suffer from inferiority complexes when it comes to academic matters. These include lack of confidence, self-defeatist attitude, shyness, fear of subjects and belief that they are weak and therefore incapable of excelling in academic. Teachers attribute this problem to the way girls are socialised by families and society in general. They felt that society in general considers females as less capable than males and have certain pre-conceived ideas of ideal gender roles. Females are also perceived as nurturers and supporters rather than leaders, and were thus expected to play the roles of mothers and wives. They are therefore socialised to be obedient and non-aggressive. Because these messages are communicated directly and indirectly to them from birth they become internalised. This in turn results in female students having poor self- esteem. This poor self-image touches on every aspect of their lives including education.

2.15 Conclusion

All of the above issues are very relevant for re-examining the factors contributing to the poor performance of female student in special schools. Yet none of the indicators identified the special school environment as being particularly problematic for females. This is nevertheless relevant in Tanzania because girls

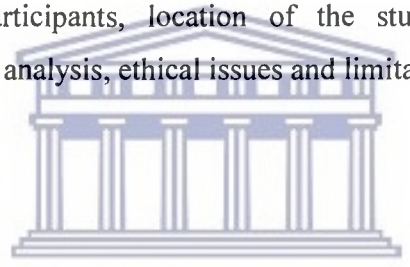
generally score as high as boys in Ordinary Level exams, yet they score much lower at Advance Level. Given the assumption that special schools for females will provide an environment conducive to good academic performance, this nevertheless does not seem to be the case. It is therefore imperative that this specific concern be highlighted in attempts to reach and support females in special schools.

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

The previous chapter reviewed literature from Tanzania, Africa and Western countries regarding performance indicators in primary and secondary schools. This chapter describes the process that was followed: the design and dissemination of questionnaires, interviews and the techniques that were used to present and analyse the data collected. The contents of this chapter are presented in sub-sections, namely the aim of the study, methodological framework, methodology, selection of participants, location of the study, procedures, methods of data collection, data analysis, ethical issues and limitations.



3.2 The aim of the study

The aim of the study is to explore the factors which influence the performance rates of Advanced Level female students at special schools in Tanzania. The research sought to get answers to the following questions:

- are the educational facilities provided in female special schools the same as those provided in special schools for male students?
- what are the qualifications of the teaching staff and what criteria are used to select such staff?
- how is the curriculum organised: are all subjects taught as thoroughly as indicated in the syllabi? which subjects lack teachers and what are the teacher-student ratio and the teaching load?
- how are these schools run? Is the administrative system efficient enough to enable a good studying environment?

- what other problems do the schools in questions face and what measures have been taken so far to solve them?
- which factors influence girls to perform very poorly in science and mathematics?

3.3 Methodological Framework

This study is framed within an Educational Evaluation Framework. Evaluation is a process of determining to what extent the educational objectives are actually being realised (Tyler, 1950). Its use implies a general weighing of the value or worth of something and it usually involves making comparisons with other programs, curricula organisational schemes. Generally, evaluation is a systematic examination of educational or social programs. The study used the empowerment to illustrate ways in which female students abilities have been hampered by social-cultural factors, but also ways in which the students themselves see as opportunities for their empowerment through school system.

There are different types of evaluation: formative, diagnostic and summative. My study concentrates on formative evaluation which is used for the improvement and development of ongoing activities or programmes (Husen, 1994). From a review of the contemporary evaluation literature it is evident that almost everything can be an object of evaluation. Thus educational evaluation should not be limited to the evaluation of students or school personnel (Husen, 1994). An effective and systematic evaluation exercise in education is usually based on the following areas of investigation:

- Students
- Curricula and institutional materials
- School personnel (teachers and administrators)
- Educational programmes and projects
- Educational institutions and organisations (Husen, 1994).

The evaluation of educational institutions had long been utilised as part of various evaluation practices used for accreditation of secondary schools, colleges and universities in the world and Tanzania in particular.

3.4 Methodology

Within a feminist empowerment framework, the study used both qualitative and quantitative methods for data collection. Sikes (1996) and Jayaratne and Stewart (1991) argue that a combination of complimentary techniques is common in modern research where choices of techniques depend upon the nature of research questions and available resources. This method of triangulation is effective because it rests on the premise that the counter balancing strength of one method will compensate for the weakness of other methods (De Vault, 1999; Jayaratne and Stewart, 1991).

The qualitative feminist framework entails familiarity with the everyday life of the setting chosen for study, values participants perspectives on their own words and seeks to discover those perspectives. It views enquiry as an interactive process between the researcher and participants, is primarily descriptive and relies on peoples' words as the primary data (Jayaratne and Stewart, 1991). Thus a combination of research methods was seen as a viable option to enrich the findings of the study and for triangulation purposes.

3.5 Selection of Participants

The sample for the survey was selected through the purposive sampling procedure. As Cohen and Manion (1989) point out, in purposive sampling, researchers hand pick the cases to be included in the sample on the basis of their judgement of their typicality and their match to the specific needs of the research.

The survey sample selected for study followed this criterion and included director of secondary school, educational inspectors, heads of schools, teachers and students.

3.6 Respondents in the study

a) Four (4) out of seven (7) existing schools for gifted and talented students were selected by using purposive sampling. This is because resources, especially time and funds would not allow for a large sample. I picked schools with the best, second and third best performance for females and males respectively in the 2000 academic year.

b) I purposively selected 10 students depending on the kinds of schools they were at Ordinary level prior entering Advanced Level special school (an attempt was made to include a broad range of schooling backgrounds such as co-education, single sex, day, boarding, religious, private, public/government schools). The location and residential areas (rural/urban) of the students of these schools were also taken into consideration. This was useful in understanding students' past experiences, a necessary tool of determining student's performance in examinations.

c) Two (2) science subject teachers in each school were included in the sample to collect information regarding performance and problems encountered in teaching science subjects. I planned to get two (2) teachers with four or more years in teaching experience from each school using the fishbowl technique in which slips of paper representing names of teachers in a school were placed in a bowl from which a random choice was to be made. A fishbowl random selection procedure was preferred so all the teachers with four or more years of experience in teaching had an equal chance of being selected for the sample. The process ensures that each slip in the bowl has the same probability of being selected. Fox (1969), states that, when the fishbowl technique is used, the researcher can be confident that bias had played no part

in the selection process. Patton (1990) advises the researcher to select those from whom one can learn a great deal about issues of central importance to the purpose of the research a purposive sample. Therefore I planned that if I obtained respondents with four or more years of working experience, they could provide rich data for the study.

d) 4 heads of schools, one (1) director of Secondary Education, and 2 zone inspectors of schools for Eastern and Central Zone were included. These were useful in giving information about the schools located in their respective areas of supervision. All the people mentioned here were targeted because they are regarded as having fundamental knowledge and experience in the teaching and learning processes at Advanced Level.

3.7 Location and Sample size

The study was carried out in the Morogoro, Dodoma and the Coastal regions on Tanzania Mainland. These regions were selected because I was able to gain access to the research sites.

3.8 Characteristics of the selected schools

The study covers four public secondary schools: Kilakala and Msalato girls' schools and Mzumbe and Kibaha for boys. Kilakala and Msalato were nationalised by government in the 1970s from missionaries. The Roman Catholic Church controlled Kilakala while Msalato was under the Anglican Church. Mzumbe and Kibaha are schools which were originally established and operated by the government.

Kilakala girls' secondary school was previously known as Marian College. It was established in 1955 by the Mary Knoll Sisters. The school is situated about 3

kilometres from the centre of Morogoro town. It recruits girls from all over Tanzania starting from Ordinary to Advanced Level.

Msalato girls' secondary school is 15 kilometers out of Dodoma municipality. It was established in 1962 as ordinary secondary school. In 1983 it was upgraded to Advanced Level.

Mzumbe boy's secondary school is 20 kilometres out of Morogoro town. It was established in 1953 in Kibiti in Coast region. The school was moved to Mzumbe in 1956 where sufficient land was available for expansion. Mzumbe was initially a middle school but in 1957 it was changed into a secondary school.

Kibaha secondary is located in the Coast region. It is 2 kilometers from Kibaha the headquarters of the coast region. It is one of the schools which is managed by the Ministry of Education and Culture and the Prime Minister's Office.

3.9 Procedure

Participants were contacted through the Ministry of Education and Culture. I wrote a letter to the Ministry explaining the significance of my study in order to obtain official permission to pursue my study and get the opportunity to present my proposal. I developed my questionnaires for students (both structured and unstructured) (see appendix II: A) in both Kiswahili and English so as to enable the respondents to feel free to express themselves in the language in which they felt most comfortable. Then I composed the questionnaires for teachers, heads of schools zonal inspectors and the director of secondary education (both structured and unstructured) in English. However, all students filled the questionnaires and did the interviews in English. I administered the questionnaire to students in person in all schools except in Kibaha school for boys in order to minimise the inconvenience of getting questionnaires back. The rest of participants I left the questionnaires to them with fixed time to collect them.

In contrast, when I was visiting the schools I found that my plans could not work in some of the schools. For example in Kibaha secondary school it was not easy to get the students because they were doing zonal mock examinations which lasted for almost two weeks. I decided to leave the questionnaires, which were sealed in envelopes for each of the ten student participants at each school. A due day for collection of completed questionnaires was arranged with the heads of each school. In Kibaha Boys' I found that out of the ten questionnaires, four were misplaced due to preparations for mock examinations. I again distributed some unfilled questionnaires to be collected at an agreed time. Additionally, I decided to do interviews for both female and male students after some of the filled-out questionnaire failed to yield responses. I opted for the interview in order to probe for more clarification. There were no problems with regard to teachers, heads of schools, zonal school inspectors and the director of secondary education.

3.10 Methods of data collection

In this study more than one research instrument was used for the collection of data. This is because no research technique per se can give adequate and reliable information. Frankfort et al. (1992) point out that each data collection method has certain advantages but also inherent limitations. For instance, by using the questionnaire and interview I had no guarantee of truth of what was filled in.

The major sources of data were the Advanced Certificate of Secondary Education Examination (ACSEE) results, questionnaires, interviews and observation. The study also collected and studied variety of documents including school log books, Cumulative Assessment (CA) forms, Teachers' reports forms and school timetable and calendars

3.10.1 Questionnaires

I decided to use this method because it would enable me to collect a lot of information within a very short period of time. Borg and Gall (1988) as well as May (1993) point out that a questionnaire may cover a large population sample in less time than any other method. It has also been argued by others (Grosof and Sardy, 1985; Kerliger, 1973; Cohen and Manion, 1989; May, 1993) that questionnaires are the least expensive means of data collection and the most able to preserve the anonymity of the respondents, thereby encouraging frankness and honesty. Because of this a good number of respondents filled in the questionnaire correctly and quickly. There were different questionnaires for heads of schools, teachers, director of secondary education, zonal school inspectors, as well as for students (See appendix II: A-E).

Apart from the merits explained above, the questionnaire can be used as a convenient means of assessing many and widely scattered respondents (Youngman, 1979; May, 1993). It is also believed that self-completion questionnaire allow for comparison to be made between individuals and groups (Wiersma, 1986) and that they are easier to analyse than other techniques (Cohen and Manion, 1989).

3.10.2 Interviews

The same questionnaires were applied for the interview in order to compliment the data. This enabled me to probe and ask follow up questions and hence gain deeper understanding of perceptions of the interviewees' and collect in-depth information about the problem. It also allowed ample room for participants to elaborate or to introduce issues they consider relevant to the study (Betts, 1994). This method of data collection was applied to both female and male students in order to acquire a gender perspective in the study. (See appendix II: A).

3.10.3 Observation

Observation was also used in this study in order to compliment other methods. As Cohen and Manion (1989) argues observation forms a significant part of all research methods. I decided to use this method because it conveys data in the simplest manner compared to questionnaire and interview after witnessing. For the purpose of collecting information the observation instrument includes a list of teaching and learning materials and facilities available as in the questionnaires for all participants (See appendix II: A-E). The instrument helped to make an analysis and assessment of the availability and the use of the learning and teaching materials and facilities in schools. The checklist was used for filling in information after I had done a thorough observation.

3.11 Data Analysis

The information from the survey questionnaires and interviews, to all respondents were reported in accordance to comparative analysis between schools with good results and poor results. Thus data gathered was processed through thematic content analysis in which major themes and patterns were established in the light of the issues raised in the conceptual framework and literature.

3.12 Ethical Issues

For ethical reasons I made sure that the participants were fully aware of the purpose of the research. Institutional consent was obtained from the Ministry of Education and Culture. I also obtained written consent from each respondent. Participants were assured that their identity would remain anonymous and the information collected confidential. The participants signed a letter of consent to ensure that participation was voluntary. The respondents were free to terminate the interview at any point in the interview process if they felt uncomfortable (See

appendix III). However, all participants were co-operative and nobody terminated the interviewing process.

3.13 Limitations of the study

I anticipated several problems. The study dealt with personal issues related to the factors influencing poor performance in special schools particularly female students. It took time to build a relationship of trust and to make the purpose of the study clear to the respondents. They had to be assured of confidentiality and a degree of anonymity. In order to minimise the degree of specificity, I used the advise of Frankfort et al. (1992) and applied more than one method.

Another major limitation is that a fully generalised study requires a large amount of information. However, financial constraints, transport problems, time constraints and difficulty of traveling around all schools made this impossible, hence generalisations made in the study are more likely to be suggestive rather than conclusive.

CHAPTER FOUR

COMPARISON BETWEEN SCHOOLS WITH GOOD RESULTS AND THOSE WITH BAD RESULTS

4.1 Introduction

The previous chapter discussed the research design and the methods used to collect data. This chapter presents and discusses the differences and similarities between schools with good results and those with bad results in advanced level schools for academically talented students in Tanzania. This chapter will remain descriptive, while the gender implications of these differences will form the focus of the next chapter.

Before comparing the schools, it is necessary to supply information on subjects offered and pass rates at the participating schools. The special schools offered five types of combinations for science and Arts subjects, 4 combinations for sciences and one for arts. These are Physics, Chemistry, Mathematics (PCM), Physics, Chemistry, Biology (PCB), Chemistry, Biology, Geography (CBG), Chemistry, Biology, Agriculture (CBA) for sciences and History, Geography, Language (HGL) for arts subjects. The combination of CBG is available at schools for girls only while CBA is offered only at schools for boys. The following table will show the combinations which offered in special schools and the number of students in each combination.

Table III: THE COMBINATION (SUBJECTS) WHICH OFFERED AT A- LEVEL SPECIAL SCHOOLS				
School	Kilakala	Msalato	Mzumbe	Kibaha
Combination	No.of students	No.of students	No.of students	No.of students
PCM	25	25	50	50
PCB	25	25	25	25
CBG	25	-	-	-
CBA	-	-	-	25
HGL	25	25	25	-
TOTAL	100	75	100	100

Source: Ministry of Education and Culture (2000) "Form V Selections". Unpublished.

Table III is in based on number of students selected every year and not on students seated for the national examinations. The results for the 1999 showed that there were only 86 out of 100 students in Kilakala Girls' who wrote final national examination as table III indicates. In the same year in Msalato Girls' only 36 out of 75 students wrote final examination (Ministry of Education and Culture, 1999). Several reasons are given regarding this phenomenon by the heads of schools and the director's office. The head of Msalato School said, "the prevailing shortage of teachers in physics, mathematics, chemistry and biology causes some female students not to join this school." Similarly, the head of Kilakala School reported, " some girls shifted to ordinary A-Level or private school because they are afraid of high competition from other students who are believed to be very intelligent as well as shortage of teachers of chemistry and history". Additionally, the director's office argued that:

> most of parents prefer their children to study nearby schools...this is because of the introduction of cost sharing whereby some of the responsibilities, which were covered previously by the government, have been shifted to parents like mattresses, transportation, and the like.

However, in special schools for boys no big discrepancy between students enrolled and those seated for the national examinations is reflected. For example in 2001 students enrolled in Mzumbe Boys'were 100 and those seated for the national examination were 105 while in Kibaha there were 100 students enrolled and 101 seated for national examination (Ministry of Education and Culture, 2001). The heads of these schools argued that:

> most students from Tabora Boys' one of special schools, like to shift to this school because of the availability of teachers and good performances in the national examinations and also the schools are located near Dar-es-salaam where most of students' relatives work... sometimes it might happen that students, who fail to cope with the pace of other students, they shifted to the ordinary schools.

When comparing these schools to other schools in Tanzania, Mzumbe and Kibaha compare favourably while the results for Kilakala and Msalato are not what would be expected of schools for the most gifted learners in the country. Table IV shows the rating of Tanzanian schools for 1997-2001.

Table 1V- THE ADVANCED LEVEL NATIONAL EXAMINATION RESULT FOR TALENTED STUDENTS 1997/98-2000/2001.

Secondary School	1997/98 (Out of 128 schools)	1998/99 (Out of 138 schools)	1999/2000 (Out of 138 schools)	2000/2001 (Out of 124 schools)
Msalato Girls'	24th	34th	11th	21st
Kibaha Boys'	-	-	3rd	3rd
Mzumbe Boys'	1st	3rd	2nd	1st
Kilakala Girls'	22nd	31st	10th	15th

Source: Ministry of Education and Culture (2001) *The Advanced Certificate of Secondary Education Examinations Results 2001.*Dar-es-Salaam: National Examination Council of Tanzania.

Table IV illustrates that Mzumbe and Kibaha secondary schools for boys achieved good results. Mzumbe consistently had the best results with Kibaha

only slightly lower. Compared to this, the girls' schools faired relatively badly, with Msalato being the 11th and 21st, while Kilakala being the 10th and 15th in those years. When comparing 1997/98 and 1998/99 to 1999/00, there seems to be an upward trend in the results of the schools for girls.

In the rest of this chapter a systematic comparison based on questionnaires completed by participants from these schools, will now be made with reference to curriculum, teachers, students and material conditions.

4.2 Curriculum

The curriculum for each subject is extensive and seems to create a burden for students and might therefore affect their performance negatively. As a school inspector who participated in my study commented:

> Advanced level school curricula are packaged in a variety of subject combinations. All Advanced level students choose one combination of 3 subjects. In addition to 3 subjects, it has remained a rule that at Advanced level all students must take General Studies and all Science and Commerce students have to study Basic Applied Mathematics.

This shows that the Advanced Level students have to study a minimum number of five subjects for Science or Commerce streams while Arts students do four subjects. This may lead to insufficient time for individual subjects, resulting in a lack of competence in some subjects. Thus, sixty percent of students' claimed that:

> the syllabus for Advanced Level science is too wide especially for physics subject. As a result teachers rush through to finish the syllabus on time without considering the students' capacities of understanding... there is a need of reducing the content or increase the time of study.

Those who can afford to, turn to extra tuition as a possible solution. Extra tuition during holidays is one of the factors contributing to good performance among students. Even though it is prohibited by the Ministry of Education and Culture

additional tuition is a common phenomenon among school children in Tanzania. These lessons are presented after normal schools hours and during vacations and are meant to supplement what is taught at school to enable children to perform better in the examinations. Given the demands of the curriculum on these students the availability of extra tuition is of special important to the students attending the schools included in this study.

An additional factor influencing performance is the medium of instruction. The 'speak English only' programme was established in schools in an effort to enable students to understand topics more quickly and to assist them in group discussions. This also helps students to read as many books as possible, thus equipping them with enough knowledge about the topic or subject taught. For example, the school administration of both female and male schools has ordered every student and teaching staff to communicate to students in English, and each morning during parade hour a student makes a speech and all announcements are made in English. The head of schools said that "this facilitates their understand during their final exams hence good performance".

4.3 Students

The special schools included in this study draw their students from different kinds of ordinary level secondary schools. Some came from single sex schools, others from co-educational schools. Others came from public or government owned schools while others studied in missionary owned or schools managed by different religious denominations. In addition, many students came from homes with a rural environment while twenty percent of the total students grew up predominantly in urban and ten percent in sub-urban neighbourhoods.

Students who came from schools administered by missionaries or those regarded as religious schools claimed that "the previous schools had restricted regulations regarding student behaviour, learning processes and interaction within the school environment". In comparison, they regarded their current 'special' schools as

having loose rules. They supported this argument by pointing out to the laxity of school administration regarding boy-girl interaction. Boys are allowed to visit nearby girls' schools for social gatherings such as dances and debates. It was projected that these social interactions would increase psychological satisfaction and therefore encourage both girls and boys to study harder. However, excessive social interaction was also indicated as a reason why girls could perform poorly in comparison to boys.

The lower enrolment numbers in special schools also affected students. Before the creation of special schools all schools used to enroll between 700 and 800 students. After the change of policy, student population in the four special schools has dropped to between 357 and 600. This indicates that enrolling fewer students in special secondary schools was one of the strategies the Ministry of Education and Culture established to offer a conducive learning environment to talented students. However, according to the head of schools this low enrolment figures meant that some teachers in certain schools became underutilized. One head of school explained this point by giving the example of Geography teachers who are often assigned to teach a combination, of subjects for example History, Geography and Literature. In other schools these teachers may have been compelled to teach students taking Chemistry, Geography and Biology, or Physics Geography and Mathematics, but only if the Ministry of Education and Culture had provided for those three combinations to be in the same school. This was not the case in special schools.

The differences in performance between the special schools might also be explained partly by the differences in the quality of the students selected into these schools. Mzumbe boys' and Kibaha boys' had the best students compared to Kilakala girls' and Msalato girls' schools. This is based on the differences in pass marks, a difference that prevails because of the pre-determined quota of students each school has to receive for admission to Form V. A quota system exists which operates mainly by allowing a certain proportion of females to be

admitted to secondary schools, even to special schools for the academically talented with lower grades than male students. This is because more boys than girls complete ordinary level and their performance is often higher than that of girls. In addition, there are also a few girls who major in the Sciences in the 'O' levels and their performance is often not as good as boys'. The table V indicates the cut-off point for form five (V) selections in special schools and the combinations taken by students.

Table V: CUT-OFF POINT FOR FORM FIVE SELECTIONS FROM 2000-2002..

	2000					2001					2002				
	COMBINATIONS					COMBINATIONS					COMBINATIONS				
GIRLS	PCM	PCB	CBG	CBA	HGL	PCM	PCB	CBG	CBA	HGL	PCM	PCB	CBG	CBA	HGL
Comb.point	8	7	8	-	8	8	6	8	-	8	7	6	8	-	8
Exams.Aggr	21	16	18	-	19	14	13	19	-	22	21	16	17	-	22
No.credits	5	8	7	-	7	10	10	5	-	5	4	8	6	-	5
No.passes	8	8	10	-	9	10	10	9	-	5	9	9	8	-	8
BOYS	PCM	PCB	CBG	CBA	HGL	PCM	PCB	CBG	CBA	HGL	PCM	PCB	CBG	CBA	HGL
Comb.point	5	5	-	8	5	4	4	-	7	7	4	4	-	6	6
Exams.Aggr	14	13	-	19	19	13	14	-	15	17	16	12	-	13	19
No.credits	10	9	-	9	5	9	10	-	7	6	6	9	-	9	5
No.passes	10	9	-	10	6	9	10	-	10	9	9	9	-	10	6

Source: Ministry of Education and Culture (2000) "Form V Selection Results." Unpublished.

Ministry of Education and Culture (2001) "Form V Selection Results". Unpublished.

Ministry of Education and Culture (2002) "Form V Selection Results". Unpublished.

Key: P=Physics; C=Chemistry; M=Mathematics; B=Biology; G=Geography;
A=Agriculture; H=History; L=English Language.
Combination Point =arranged according to A=1; B=2; C=3; D=4.i.e total number of points for the selected combination.
Examination Aggregates arranged according to the scored i.e. the highest is 7 point for only 7 subjects in which the student performs better.
It arranged further into divisions.
Division 1 range from 7-16 Points
Division II range from 17-21 Points
Division III range from 22-25 Points
Number of credits =total numbers of A's; B's; and C's the student scored.
Number of passes =total number of A's; B's; C's and D's the student scored in each subject.

Table V shows that girls who joined Form V in special schools enrolled with lower scores than boys. For example, the cut off point for the PCM combination in 2000 for girls was 8-combination points while for boys was 5. This means that girls achieving lower grades for individual subjects, lower averages and fewer passes than boys are selected to enroll in special schools. Table V also shows that the cut-off point for PCB combination for 2000-2002 for girls was higher than other subjects combinations. The overall combinations points as indicated in table V shows that the academic standard of male students is higher on enrolment, putting schools for boys at an advantage from the start.

My study uncovered a certain degree of ambiguity around the term special as is used in reference to these 'Special schools for the talented'. Some of the students argued that they are special students in special schools but their teachers are not special. One bold student commented "I am special student, but what about the teachers are they special?" The comment was made that the criteria for appointment of teachers to special schools were not as transparent or widely known as the criteria for selection of the students. The response to this was clarified by director's office that:

> the Ministry of Education and Culture has the criteria for allocating teachers to these special school ... is clearly known and includes qualities such as High Grand Point Average (GPA) from a University degree or college, good character, having renown talents and experiences from other schools.

4.4 Teachers

Schools for boys have a higher percentage of teachers who hold degrees than schools for girls. Table VI indicates this shortage of female graduates teachers compared to their male counterparts. The table below indicates the distribution of teaching staff in terms of schools and their qualifications.

Table VI : DISTRIBUTION OF TEACHERS ACCORDING TO QUALIFICATION AND SEX.

SCHOOLS	FEMALE TEACHERS				MALE TEACHERS				
	DIPLOMA		DEGREE		DIPLOMA		DEGREE		
	NO	%	NO	%	NO	%	NO	%	TOTAL
Kilakala	13	21	10	23.8	12	28.5	7	16.6	42
Msalato	16	42.1	4	10.5	10	26.3	8	21	38
Mzumbe	10	20	3	6	14	28	23	46	50
Kibaha	14	28	3	6	12	24	21	42	50

Source: Questionnaires administered to heads of school.

Peasgood et al. (1997) support this finding by their assertion that the best teachers in term of qualifications are in males and co-educational schools. Additionally, contrary to government policy, there are more diploma holders who teach beyond form II in schools for girls (Ministry of Education and Culture, 1995). This is a situation which prevails in special Ordinary Level for schools for girls. This overall shortage of graduate teachers for girls influences the foundation of girls' education, putting them at a disadvantage when they are selected for Advanced Level.

The level of qualification and motivation that teachers have are also important factors to be taken into consideration regarding the improvement of performance in A-Level schools. The research showed that apart from their entrance qualifications most teachers have not attended in-service training for quite a number of years. Those who have managed to undertake in-service training have done so by their own initiatives. Among 8 teachers who completed the questionnaire from the sampled schools 5 attended in-service training through their own initiatives and 3 did not take such initiatives. Heads of schools admitted that, "teachers are not provided with any motivation apart from housing and related facilities whose expenses are deducted from teacher's salaries as house rent". The reasons given for lack of this motivation is that heads of school had no access to such funds from the Ministry of Education and Culture. The director's office provided a different

perspective by reporting that "when there is opportunity for scholarships or seminars overseas teachers of these schools are given priority...plans are underway to give them incentives like free house and electricity." This puts teachers in special schools for the time being on exactly the same level as teachers in ordinary secondary schools in terms of salaries and other fringe benefits. Consequently, this leads teachers to devote much of their extra time in involving themselves with non-academic projects, such as agriculture, shop-keeping, livestock-keeping and the like so as to increase their income.

The teaching load in schools for boys is lower than in schools for girls. The average teaching load per week in Mzumbe and Kibaha schools for boys is 18 periods per teacher while the average teaching load in Msalato and Kilakala schools for girls is 24 periods per week. This shows that where teachers have a higher teaching load there is less time available to assist individual students with problems. The highest teaching load for teacher per week in Msalato and Kilakala is 32 periods. However, in Mzumbe and Kibaha secondary schools are 28 and 24 periods respectively.

The involvement of subject teachers in remedial classes for final year students also contributes to the high performance of students. My study showed that teachers conduct remedial studies for one of two purposes. They either do it to address shortcomings in the curriculum or to revise topics that were not clearly understood by the students during school terms. The second purpose is aimed to provide students with necessary skills and knowledge to enable them to tackle final examination papers. These kind of remedial classes are usually offered a couple of weeks before students sit for their final examinations. Students are given exercises that the national examination approves to provide them with a practice. This strategy has proved to be very effective and to enhance the good performance of students at National examination levels especially in Mzumbe and Kibaha. Another strategy used to prepare students for better performance in the final examination involves mock exams for form VI.

Another important factor is the academic qualifications and experience in school leadership. It was found that all heads had degrees in education and had been heads in other schools before they were appointed to their current schools. Thus with their experience in leadership and teaching, the heads could easily support other teachers and students in the teaching and learning processes.

My study found that as far as motivation was concerned, heads of schools employed various ways to motivate teachers as well as students who displayed outstanding achievement in academic and extra curricula activities. All heads of schools said "we usually presented certificates and letters of appreciation to students and teachers who contributed to the students performing well". Unlike other schools, Mzumbe secondary school regarded the outstanding performance of students as a result of joint efforts of the school community, students, teachers and non-teaching staff. The appreciations were in the form of special meals, which were served to everybody. This study found that leadership played an important and key role in influencing students' academic performance. This study supports Noya's (1993) research, which found that student performance depended on how the students were motivated and/or manipulated by their teachers, notably the leadership styles and behaviours of heads of schools.

Heads of schools have different approaches to monitoring the teaching-learning processes in their schools. In their own words:

> we use class attendance forms in which monitors filled in the taught and unattended periods and students who are absent...the subject teacher sign the forms before they are submitted to the academic mistress/master ... we visit classrooms ... we get the reports from students, as they come to us to express their feelings towards teaching.

Regarding student assessment and feedback school inspectors said, "different techniques are employed... Msalato and Kilakala had weekly test every Monday while Kibaha and Mzumbe set monthly tests."

The findings of my study observed that all sampled schools have proper channels through which students can raise opinions, ideas, wishes and problems to the administration. They can channel these issues through their matrons or patrons, dormitory representatives, class monitors, prefects, class teachers, people who eventually present these issues to the Heads of schools. Only when the issue is serious are students permitted to present themselves directly to the head. This illustrates that all sample schools had no problem of interaction among students, teachers and school administration. The situation creates a conducive environment for learning.

4.5 Material facilities

The study revealed that heads of schools are facing difficulties in managing the schools due to financial constraints. All of them experienced financial problems due to small subsidies from the government, which was the result of implementation of the Structural Adjustment Programme. This is the policy that was effected in Tanzania following World Bank and International Monetary Fund conditionalities. The objective of this policy was to reduce subsidies to social services including education. It contributed to factors such as the deterioration of general government revenues and rising primary and secondary enrolments (United Republic of Tanzania, 1993). As a result the responsibilities for schooling such as paying school fees, which the government had previously carried, shifted back to parents.

Resources for running secondary schools are shared between the government through the Ministry of Education and Culture that owns public secondary schools, and parents who are required to contribute towards school fees, examinations fees, sports activities and teaching and learning materials or stationery. Due to the scarcity of resources, funds are allocated to each school depending on the populations of students available in that school.

The share of the national budget (excluding debt services) allocated to education over the period 1984-1991 was around 12 percent but in 1997/98 it was only around 3 percent. The allocation of the national budget, the priority given to education is therefore on the decline and completely insufficient. Most education programmes are under funded due to current expenditure. This results in deteriorating school infrastructures, dilapidated equipment and plant owing to lack of maintenance and repair (Ministry of education and Culture, 1997). Of the budget allocated to education the largest share 65 percent goes to primary education. After that tertiary and higher education gets a bigger share than secondary education. Lowest on the list is the education of teachers (United Republic of Tanzania, 2000). This implies that the low level of funding in secondary education leads to poor access and quality secondary education and consequently provides a weak source of students for institutions of higher learning as well as for the labour market. The relative budgetary allocation to secondary schools has declined every year, as shown in the table VII.

Table VII: Ministerial budgetary allocation in secondary education 1994/95-1999/2000		
Financial year	Total in million T.shilling	% share for secondary
1994/95	7,533	9.5
1995/96	6,608	8.4
1996/97	7,838	8.2
1997/98	7,894	7.4
1998/99	7,857	7
1999/2000	10,492	7.6

Source: United Republic of Tanzania (2000) *Basic statistics in Education1999.Regional Data.* Dar-es-Salaam: Ministry of Education and Culture.

Table VII indicates that the ministerial budgetary allocations for secondary education including special schools are minimal. As a result heads of schools reported that all schools depend heavily on school fees, school projects and contributions from parents to finance their expenditures. Government funds were seldom given to schools due to economic problems facing the government. The control of schools fees is left to the schools management.

Teachers, students and heads of schools were asked to comment on the availability of resources in schools. Their responses are summarised in Table VIII.

Table VIII: AVAILABILITY OF TEACHING AND LEARNING MATERIALS				
Materials	Kilakala	Msalato	Mzumbe	Kibaha
Textbooks	P	P	P	P
Ref.Books	P	P	P	P
Lab.Equipments	P	P	P	S
Chemicals	P	P	P	P
Library books	P	P	P	P
Computers	N	N	P	N
Key: S = sufficiently present; P = Present but not sufficient; N = Not present at all				

Source: Questionnaires administered to heads of school

It is evident from Table VIII above that all schools that were studied have inadequate teaching and learning materials. It also appears as though the schools most affected were the schools displaying the worst results.

Even school inspectors said that, "teaching and learning materials are present but not sufficient." Studies by Heyneman and Jamison (1980) and Heyneman and Loxley (1983) indicate that teacher quality and textbook availability are major determinants of results in schools in low-income countries. The Director's offices clarified that "the allocation was based on the ratio of 1:2 and depended on the availability of textbooks and number of students". In addition, while the Ministry of Education and Culture would like to equip its schools with updated references and textbooks, it failed to do so due to economic constraints and thus only a few books could be offered.

The lack of books and other related learning materials is solved by sharing the little available resources on a rotational basis among students or by borrowing from nearby schools. This is the case for Mzumbe Boys' school. Teachers also introduced a system of lending out their own books to their students for a specific period of time to enable students to do at least some of their prescribe work. The teachers effort at schools for boys make students access to learning materials was in contrast to the situation in schools for girls where similar arrangements were absent. This could possibly be indicative of poorer relationships between teachers and students in schools for girls.

Kibaha School has sufficient laboratory equipment and Mzumbe School has few computers while the rest don't. The Head of Mzumbe school for boys said, " I obtain them through collaboration with various institutions and individuals particularly Mzumbe foreign ex-teachers." Kibaha School for boys is managed by Prime Minister's Office and Ministry of Education and Culture, which is to their advantage. However, each special school has its own way of solving problems regarding inadequate teaching and learning materials. As one science teacher said " students either do practical exercises in groups or a few students may be given the opportunity to perform some experiments while others sit and watch." This places students of science who do not conduct adequate practical experiments at a disadvantage.

The school library is an important resource where teachers and students can access academic material and literature. Both girls and boys use the libraries for improving their knowledge and supplementing the lectures they receive. Although all schools included in the study have school libraries and a trained librarian these libraries do not contain up to date reference books to compliment the current syllabuses. The Kilakala, is an exception to this rule, a good number of current books were donated by a sister school from Finland.

With the exception of Kibaha School also all have schools dispensaries, staffed by trained nurses and assistant nurses who offer services to the school community. As Kibaha School for boys is within the campus of a regional hospital there is no need for a further dispensary. However, all the school dispensaries were running short of basic drugs. Most students had to travel to regional hospital to get treatment and use most of their time to obtain medication. As a result there is absence from classes and a decrease in study time.

Another material issue is an acute shortage of staff quarters found at all schools. In severe cases teachers had no other alternative but to share the few rooms available or to rent a house outside the school environment, a situation they expressed as very embarrassing.

4.6 Conclusion

This chapter attempted to refer to factors influencing performance of both female and male students in academically talented schools in order to understand how these factors affect their performance. The results showed that a lack of resources leads to problems such as poor physical infrastructure, insufficient materials, laboratory equipment and poor remuneration packages for teachers. All these factors have created inefficiency in the education system as well as have affected the performance of students. The next chapter will examine the implication of gender in each contributing factor.

CHAPTER FIVE

THE GENDER IMPLICATIONS OF FACTORS INFLUENCING THE PERFORMANCE OF BOTH FEMALE AND MALE STUDENTS

5.1 Introduction

The previous chapter discussed factors influencing the academic performance of talented female and male students' in special schools. The purpose of this chapter is to examine the role gender plays in each contributing factor.

There are a number of factors that contributed to the good performance of students in schools. These include for example the number of teachers with the necessary qualifications who in turn, positively impacted on effective teaching and the conducive schooling environment. At the same time, several constraints, which affect some schools more than others, or some students more than the others, contribute heavily to their performance during examinations. This chapter will indicate the extent to which gender categorization can be associated with this.

5.2 Societal expectations of education of girls and boys

Societal expectations of the education of girls and boys differ. In this study twenty percent of students commented that " our parents wanted their daughters to continue with studies, which would avail to them good marriage prospects". Twenty percent of the students reported, "our parents or the wider society viewed studying as too time consuming for girls and as thus reduced their daughters' chance of marriage". Thirty percent of the students argued "our parents or society felt that educating a boy was more important than educating a girl ... it was assumed that boys had the responsibility of looking after their parents in their old age". This is an indicator that the traditional and old-fashioned mentality that schooling or knowledge is a preserve for males rather than

females, still persists. This might be caused by the society's expectations of the future of boys. Translated into practice it means that when resources are scarce, preference is for boys. This resonates with Abe (1977) who argued that some parents expect more help from their boys than from girls. As a result, it is believed that the benefits of a girl's education go to the husband and that money spent on the education of girls is lost to the parents. One can deduce from this that there is some element or degree of insensitivity that needs to be addressed both at school and in the wider community.

Thirty percent of students reported that parents/society nowadays agreed to educate both girls and boys for their future attainment. As one female student said:

> nowadays educated daughters are more helpful to parents than sons because some male children forget their parents completely while females would not...in my village educated girls are role model...they build houses for their parents.

This shows that the expectations of the wider society still influence the variation of performance of students.

The study shows that female and male students had the same views with regard to further studies. Eighty percent indicated a desire to join a University. Fifteen percent wanted to work so that they can help their parents and their young siblings. Five percent wished to sensitize society on the importance of girls' education. Despite this the future expectations of females and males students were different. Girls expect to get married after completion of further studies while males wished to acquire property like houses.

5.3 Curriculum

Many students expressed the perception of society that science subjects are somehow inherently "male" and better suited for male students, while languages and other subjects falling in the category of the "arts" are supposedly more feminine and suitable for female students. Boys tend to work hard in science and

opt for science combinations at A-Level. Both girls and boys seem to internalise the societal expectations of males as aggressive, active, powerful and competitive. These have not only been used to justify males dominance, but are also frequently associated with requirements of science subjects. In opposition to this, female students are supposed to be passive, caring and supportive (Bendera, 1997; Tanzania Gender Networking Programme, 1993). These assumptions might partly be explained why there are more male than female students taking science subjects. Most girls consequently lack confidence in their academic ability in the area of the sciences and seldom try to compete with male peers.

One of the girls from Msalato secondary school, who is doing arts subjects, said that " majoring in science lead to lower returns, because of higher failure rate, length of courses, amount of work required and the limited occupational opportunities that follow." The relatively high failure rate for girls in science subjects at form IV and VI and higher levels discourages other girls from entering science subjects. This means that many girls prefer arts and commerce majors, which leads to shorter post-secondary courses and "easier" work with lucrative fringe benefits.

In addition, most of the participating teachers pointed out that,

> girls do not get proper grounding in science and mathematics because the syllabus in primary school is abstract and unexciting ... the practical aspects of mathematics and science training in schools are more closely related and applicable to the kind of work boys will do once they leave school such as working with machines and appliances.

As a result girls are consciously or sub-consciously discouraged from developing an early interest in science and mathematics. This results in poor attitudes towards science and mathematics among girls. Therefore the difference in achievement of girls and boys can be ascribed to environmental factors supported by a cultural belief that mathematics and science is part of the world of men and not the proper venue for girls.

Furthermore, one male teacher in Kilakala girls' reported that,

> girls are often overprotected by their families...unlike sons, daughters are not for example allowed to play outside for fear for their safety...in some cultures, girls are also discouraged from talking, playing or otherwise interacting with boys.

This kind of upbringing denies girls the opportunities that boys have to observe experience and experiment with material objects and situations, which contribute to developing their academic curiosity.

Views concerning boys and girls having different syllabuses were only minimal. Only ten percent of the boys claimed that, "there must be different syllabuses for female and male students...boys' syllabuses should concentrate mostly on science and female syllabuses on arts subjects." This indicates that it will take time to eradicate negative attitudes towards the pursuit of science subjects by girls. Ninety percent of students (both girls and boys) reported that "the syllabus should be the same for both female and male students". They argued that "both have equal thinking capacity and equal responsibility to the society."

Another way in which gender influences academic results centers around the availability of extra tuition during holidays. Despite the general practice of extra tuition among students, this option is not equally open to boys and girls. My study revealed that while girls are expected to do housework during holidays boys are not. As a result male students get more time and opportunity to study during vacations than girls and this improves the performance of male students. The household tasks expected from female students also take longer to be accomplished than other manual tasks involving boys in farm work. Although boys are given responsibilities by their parents during holidays, the kind of tasks such as agricultural work they have to do are more quickly completed than those done by their sisters. Therefore, since boys are able to study more and even to attend tuition during holidays, they become more competent in their studies.

Eighty percent of the twenty students' respondents in Mzumbe and Kibaha boys' secondary schools indicated that women and girls did most of the household tasks. For the remaining twenty percent, household tasks were equally distributed among the children in a family irrespective of gender.

It was established that the high number of household tasks they are expected to perform when at home during holidays also negatively affects the performance of girls. The majority of female students who participated in the study come from rural areas where they are subjected to these household tasks plus agricultural work, hence having no chance for either self-study or tuition. This indicates that girls who live in rural areas are at a disadvantage compared with those in urban areas because of the burdens of domestic and agricultural work upon them and their mothers. This argument is taken a step further in the study of Peasgood et al.'s (1997) on gender and primary schooling in Tanzania. They assert that a stressful life for a mother affects daughters because they have been socialised to act as a substitute for their mothers. Consequently, when these daughters return to school, they are behind in school work compared to other students who attended tuitions. If one bears in mind that science subjects need a lot of calculations, so that once you are behind, catching up is difficult, one can therefore begin to understand the poor performance of female students.

To sum up, both female and male students seems to be aware of the gender division of labour as twenty percent of them blame their parents for unknowingly hindering their daughters' education because of the increased household chores and farm work which they cannot cope with alone.

5.4 Students

On the whole female students were selected with lower grades than male students. The results is that some of the students, particularly female students fail to perform well in the A-Level final examination despite their good performances in ordinary (O) Level. As presently constructed, the quota system

sets up girls for failure because of the lack of any kind of additional support in all level of education system. On other hand, if there were no quota system there might be fewer girls in the education system and special schools in particular (Tanzania Gender Networking Programme, 1993). The lower examination results are an indication that female students have had access to less education resources than their male counterparts.

The study reveals that girls do not receive adequate guidance and counseling in their academic careers. According to Biswalo (1988) guidance and counseling as terms used to denote the process of helping an individual to be able to gain self understanding and self-direction so that s/he can adjust maximally to her/his home, school or community. This involves a process through which individuals are educated and assisted to take responsibility for making their choices and decisions. They are guided so that they are able to make rational and proper decisions. These decisions and choices may relate to the requirements to learn effectively and lead a determined life. Girls could be empowered with knowledge and skills to help them participate fully in the educational process. This means that girls need to be taught to question gender roles and the division of labour within the family and the community, and gain greater understanding of the impact of tradition and culture. What society expects is that boys will be active and independent while girls should be passive and compliant (Female Education in Mathematics and Science in Africa, 1998). As a result society expects girls not to excel in subjects and those girls who perform better are in breach of the societal expectations.

Peer groups also have an effect on the performance of girls. This factor can operate both negatively and positively. Seventy-five percent of the respondents argued that "both male and female peers can either support or encourage a girl/boy in her/his academic pursuits or they can discourage them to perform well". In addition parents, teachers, close relatives like brothers, sisters, uncles and aunts seemed to influence students in their choice of subjects. This was

evident from the students responses on who influenced them to opt for either science or arts.

The research has also revealed that girls do not show co-operation among themselves. Those with useful materials for example tend to hide them from their peers. Group discussions are formed in the basis of intellectual abilities. This has a negative impact on the academic performance because the unfortunate students who are less competent in a certain topic fail to get much assistance from the more capable ones. A female student who came from religious schools argued that "it is difficult for me to cope with the environment due to the fact I was used to work together in-groups...but nowadays there is no solidarity, togetherness and sharing." Another girl lamented that " it is difficult for me to adjust to the new life of boarding school because there is no love and caring as I used when I was day scholar" The environment of special schools therefore seems to affects the social performance of girls. This might be caused by the socialisation process in their families and previous schools in general, the absence of role models, the lack of attention to social skills or the highly competitive nature of these schools.

In line with this lack of social assistance, puberty introduces a new set of problems for girls. Some girls reported "they experience pain during menstruation... causes fatigue and class absenteeism which caused them to lag behind and receive no remedial classes". When girls are absent in class they miss facets which they fail to pick up in the next periods. Consequently, this leads to poor results. Other girls argue that "we do not have enough pocket money to sustain facilities for menstruating which also causes low concentration and eventually affects performance". Facilities providing adequate management of menstruation are lacking, as is guidance from teachers. Through guidance and counselling girls would be in a position to better deal with and adjust to different situations and expectations, hence making better use of their time and talents. This situation is difficult as Bendera (1998) argues that in some families discussions of puberty are taboo. Many girls receive little guidance from either

parents or teachers on how to handle the physical changes of their body and how to deal with menstruation while at school. This indicates the need for more informed female teachers in all schools and the importance of including gender issues in the teacher-training curriculum as well as in the primary and secondary school curriculum.

Two teachers in girls schools reported that " girls are at much higher risk of depression than boys and that they loose their self-confidence as they progress through adolescence unlike boys who gain confidence". A study by Kramarae and Spender (2000) also states that teenage girls have high rates of depression, were uncomfortable about their bodies and appearance, and felt intellectually inadequate. Fifty percent of teenage girls said they felt depressed at least once a week, twenty-nine percent said they felt somewhat or very uncomfortable with their body image, fifty percent said they were unhappy with their appearance, forty percent said they are struggling in school, twenty one percent said they were "not smart enough" and thirty percent said they lacked a strong adult role model. In reference to this problem teachers suggested, "physical activity and sports in the lives of young girls would improve girls mental health and did better academically".

From the findings of this study it seems as though female students have a tendency to be self-centred. According to my findings, female students put food as priority number one followed by academic issues while it is opposite to boys. For female students, the third priority was shopping for psychological satisfaction, especially because it affords their other interesting encounters outside the school, and not only for the purpose of buying essential requirements such as sanitary towels, snacks and cosmetics. Male students indicated more interest in getting information from school administration. This showed that female and male students have different interests and needs which contribute to their performance. The failure of fulfilling those interests and needs affect the performance of both girls and boys students.

It was also apparent that all teachers, heads of schools and zone inspectors regard their female students as having negative social and personal attributes such as shyness in class, lack of self-confidence and giving up easily when school work is difficult. Boys were reported to posses the more positive qualities such as ambition, competitiveness, self-confidence and determination to continue when schoolwork is difficult. However, they admitted that, " both girls and boys can do equally well in the national examination". All of them cited the example of:

> excellent performance by girls from St. Francis Girls Secondary School in Ordinary Certificate of secondary examination results in 2000 and 2001... for two consecutive years ranked number one out of nine hundred thirty four schools in Tanzania.

Fear of sexual harassment is an important factor that prevents students in girl's school from performing well in their examinations. Although teachers are regarded as being loco- parents some female students are afraid to seek help from male teachers for fear of being sexually harassed. Some female students are often afraid to be alone with male teachers. This means that girls rarely go to male teachers for help and sometimes-male teachers do not assist girls who perform well because they fear that people and other students may suspect them of love relationships. As one student reported, "if a girl is unable to handle a specific problem in class the male teacher will direct her to seek help from her classmates who perform better." Although students who were interviewed have provided no clear data, the one head of school testified to this bad behavior that " one male teacher lost his job due to sexual harassment a few years ago".

Boys have a better chance of seeking information from their subject teachers regarding academic issues. This is apparently because most of the teachers in A-Level are male and the experience of sexual harassment of male students by male teachers is negligible (if any) in the country. Research has also shown that male students can easily seek information from teachers of either sex. This allows them more access to solving academic issues, leading to better performance.

5.5 Teachers

Table VI (chapter four) indicates that the staffing of teachers in special schools is based on sex. As a result in schools for girls (especially in Msalato) there are few female graduate teachers. This shows that female students in these schools lack role models which schools for boys have. As a result of historical factors such as the fact that the education system was initially aimed only at boys there are not enough female graduate teachers. Girls received no education or a markedly inferior one (Kane, 1995). In Tanzania for example there were 38 boarding secondary schools for boys, but only 15 for girls in 1985 (Sumra et al. 1991). This was despite the fact that females accounted for 51 percent of the national population. This legacy still influences the education of girls in present day Tanzania.

Another issue that students felt strongly about was the shortage of teachers in special schools. Female students argued that the shortage of female teachers in their present schools has meant that they lack role models, a privilege they enjoyed in their previous schools. One commented that their female teachers instilled in them discipline, responsible and accountability. However, it was noted that the Structural Adjustment Programme, which froze employment in government institutions, also affected the employment of teachers. This situation was aggravated by what Omari (1994) explained as the drive of many teachers in public government schools to leave these schools for higher paying jobs in private secondary schools, and the decision of many newly qualifying teachers to apply directly to private schools, hence denying the students new talented blood.

Furthermore, some of the female students who come from religious schools said,

> In the previous schools we had screen examinations frequently...as a result we were compelled and encouraged to study hard so as to meet the minimum marks required for enrolment. Those who failed to fulfil the required marks were expelled.

This situation caused some inconveniences to parents who had to seek other schools for their children, schools that would accept the students, and has the same status. In the present schools the students said, "we have no fear of being expelled when we fail to meet the required pass mark.

Such a shortage might be a reason for talented female students to perform poorly compared to their male counterparts. For example Msalato had the lowest number of teachers overall and its ranking in the national examinations was the lowest compared to sampled schools.

The teaching load in schools for boys is lower than in schools for girls. The average teaching load per week in Mzumbe and Kibaha schools for boys is 18 periods per teacher while the average teaching load in Msalato and Kilakala schools for girls is 24 periods per week. Where teachers have a higher teaching load there is less time available to assist individual students with problems. The highest teaching load pool for teacher per week in Msalato and Kilakala is 32 periods. However, in Mzumbe and Kibaha secondary schools are 28 and 24 periods respectively.

The study indicates that gender has nothing to do with a position as heads of schools. This is because the head of schools gives directives and monitors implementation of agreed goals. Thus gender is seen in terms of its utility in managing the school. For example the study observes that a woman to head a school regardless of sex is a role model to both female and male students and society in general. Therefore, the poor performance of girls in specials schools is due to the influence of other factors.

Another factor that has contributed to better performance of schools for boys in A-Level results at national examination is a good relationship between students and their subject teachers and among student themselves. This study revealed

that male students were more co-operative studying among themselves as well as with their teachers. In Mzumbe more than 95% of the respondents (teachers and students) reported to have good co-operation. They shared learning materials such as books and had group discussions related to schoolwork. The above findings seem to resonate with Ifelunni (2000) who reports that educational psychologists, counselors, evaluators and administrators agree that student-student teaching is a more effective way of learning than the teacher to students learning process (although of course, this would depend on the level of knowledge the students have). Group learning therefore appears to improve the academic performance of students who will have the opportunity of learning in an informal manner from peers.

According to girls interviewed their teachers have no patience with them particularly when they are learning physics and mathematics. This shows that teachers could not help female students when they did not understand some of the abstract mathematical concepts. This might be an indicator of societal bias influencing the attitudes of teachers towards the academic capacity of girls. The result is that some girls lose confidence in their teacher and subject ultimately leading to poor performance.

The responses of teachers indicated that female students tend to admire and respect male teachers more than female. This could be due to adolescent behaviour which ends expression in an attraction to the opposite sex. Sometimes male teachers sympathise with girls particularly when female teachers abuse them verbally. Eventually this becomes a tactic for male teachers falling in love with female students. This causes female students to lose concentration in class. As a result they perform poorly in a particular subject. This shows that guidance and counselling skills are important for both female and male teachers since they are responsible for and accountable to their students.

5.6 Material facilities

There are unique problems associated with economic status of their parents which can affect boys' students differently. As one girl student from Msalato reported that " I fail to concentrate at classroom because I have little pocket money."

A shortage of water is a persistent problem which faces students in Kilakala and Msalato schools. The findings of my study revealed that at Kilakala there is no adequate supply of water particularly for cooking purposes and sometimes students are absent from classes. Sixty percent of students in Kilakala said that they are tired and unable to proceed effectively with their studies for the day when they come back from fetching water. Uncovered topics are not repeated and at the end of the year the syllabus is not finished this leads to poor performance. These explanations are supported by Mrema (1991) who indicates that learning can be severely affected if it is not supported by favourable and adequate availability of physical resources such as classroom, furniture, teaching and learning resources and the like.

Twenty percent of the respondents from Msalato girls' secondary school complained of the effect of the hot weather affecting on their performance. Fatigue and dizziness brought on by heat cause low levels of concentration among students. Twenty percent of students are unsatisfied with the lack of reliable lighting after preparation time. This was clarified by the head of Msalato who commented that " there is a specific time after preparation the light is put off so that they can have time to sleep...because students can continue reading till morning." In addition, in Kilakala girls schools punishment takes the form of physical labour during teaching hours like pruning grasses. It was confirmed by twenty percent of sample students that this practice caused them to fall behind in their work. In the absence of remedial classes the performance of affected students suffer. It is not clear whether the boys suffer similar effects.

5.7 Conclusion

The gender implications of factors influencing the performance of both female and male students were discussed in this chapter. The findings indicated that the absence of a support system as the result of quota system has led to poor performance of female students. This means that female students are forced to compete on an unfair basis with male counterparts. Additionally, lack of appropriate action to protect female students from fear of sexual harassment seems to affect performance of female students.

CHAPTER SIX

CONCLUSION AND RECOMMENDATIONS

6.1 Introduction

This chapter presents the conclusions and recommendations regarding the performance of academically gifted and talented female students in special schools. As explained above, the study sought to explore the reasons for poor performance of female students in special schools in the Advanced Level stage, as reflected by national examination results in Tanzania. Primary and secondary factors influencing the social life, school environment, previous backgrounds and own dispositions towards these for both male and female students were investigated. It attempted to investigate how the school environment and social interaction at school and at home in females special schools differ from that of males in terms of school inputs and examine the effects of these schools on the performance of the students.

6.2 Salient features of the study

The reviewed literature shows that socio-cultural factors including puberty ceremonies, initiation, parents' societal expectation as well as socialization are not compatible with educational attainments. The sexual divisions of labour in the family between female and male as well as usage of language encourage the submission and acceptance of women of inferior status. Additionally, curriculum and media portray gender stereotypes and patriarchal ideology that affect females' perceptions and self-confidence. This in turn influences the poor performance of female students. There are few female mathematics and science teachers while males occupy most of the high occupational positions like heads and senior education officials in Tanzanian education system. As a result female students lack role models. There is also gender bias in teaching and learning

materials whereby females are fairly mentioned in textbooks. This creates a negative image of female students.

The study revealed that societal perceptions of education of girls were not encouraging, and to some extent, worked to constrain female students' abilities to perform well in school. While this understanding is a long known fact, it still prevails among many households and communities in Tanzania and aggravates female student's underachievement otherwise attributed to school-based situations such as, inadequate teaching and learning materials, lack of teachers and encouragement and intervention at the school.

The number of teachers in each school was also inadequate. The problem is serious for female students where there is a shortage of both female and male graduate teachers. As a result female students lack female teachers to act as role models. This situation has limited the ability of teachers to concentrate on female students with difficulties and has influenced performance.

The findings illustrate that teaching and learning materials in all schools were found to be in short supply. This also includes shortages in laboratory equipment and chemicals, thus preventing optimal educational performance.

Administratively, financial constraints inhibit the capacity of the heads of schools to manage their schools effectively, and for the benefit of the students and teachers. This aspect, seems to be a greater limitations in schools for girls than schools for boys since as the findings indicate, boys were more able to find alternative reading spaces and collaboration with fellow boys in education while at school and even at home, an opportunity girls were not able to fully exploit.

My study observed that girls are over burdened by household chores during holidays and this minimises their possibility of participating actively in schools. Male students have ample time during holiday for attending tuition than their

female counterparts. Additionally, girls are disadvantaged when selected on a lower cut-off point than boys. This tends to reinforce the attitude that girls are academically weaker than boys.

The following recommendation and suggestion are made to improve the situation.

6.3 Suggestions and Recommendations

Several recommendations arise from the findings of the study.

6.3.1 Establishment of extra combination

The study revealed that the introduction of special schools in the education system has reduced the capacity to enroll more secondary school students. This leads to under utilisation of physical facilities such as dormitories and teachers. Therefore the Ministry of Education and Culture should enroll more students in other combinations.

6.3.2 Challenging socio-cultural limitations

The research revealed socially constructed issues are responsible for the poor performance of female students in special schools. Therefore girls do not perform well as boys because the society arranges a lower access for them. The Ministry of Education and Culture should incorporate gender components in the curriculum so as to bring about a fundamental restructuring of Tanzanian societal norms for the benefit of individual students and the society at large. Similarly, strategies to sensitize parents on having household chores distributed equally among the gender can be one part of the whole process.

Encouraging and 'de-mystifying' science subjects such as engineering and physics as purely 'men's' jobs' could also be done at the community level by whatever technique a community adopts. The government should form

committees of female scientists who have excelled in science, engineering, medicine and the like. Member of such committees could go back to their various communities and schools from time to time to chat with female students. The student can look to these women as role models and aspire to work harder to become like them. Such chats with students should be pre-arranged, possibly twice a year, when the students have just been admitted as well as when they are about to graduate. Efforts have to be made to give science a more feminine image by making girls more visible in science textbooks. This may help girls to see themselves having a role in science and technology.

6.3.3 Girls' performance in mathematics and science

On the improvement of girls' performance in mathematics and science the participants of the study suggested that there is a need for mass mobilization through advocacy and sensitization. This should emphasize the importance of girls performing better in science and mathematics and the benefits to the family, community and country. This should be carried out by teachers and other community members especially opinion leaders in the community like church leaders and policy makers at school level for students and at community level for parents respectively. They also recommended the use of various media and forums in order to reach the widest possible audience.

In addition, it was observed that female students lack sufficient experience in activities like tinkering and manipulation of physical objects, which could consolidate learning the physical science subjects. In this regard, membership in science and mathematics clubs should be encouraged among female students right from the first year in school. These clubs should organise lectures, fairs, quizzes, and the like, on a regular basis so that female interest in science will be sustained and also to compensate for their disadvantaged position in tinkering activities.

The study further suggests that a way of popularising science among female students is to impact on confidence in the students ability to cope with science subjects which will increase performance levels in the subjects right from the formative years. If more girls pass the subjects, they will exhibit high motivation to other female students for studying science. In this regard, schools should organise seminars and workshops for teachers on regular basis to sensitize them to the need to promote science among girls, update their teaching methodology and orientate them to the special needs of girls. Another measure is to give them more positions of responsibility to enable them to develop self-confidence, high self-esteem and the desire to compete favorably with male students.

6.3.4 Girls' science counselling

The study also recommends the establishment of career guidance and counseling at school level or through exhibitions each year in order to enable girls to consult their teachers whenever it is necessary. The practical implication is that any programme that is designed to promote science should impact on the career plans and this should be introduced in early years because at that point only a few students already have definitive career options. This suggests the need to attract them as soon as they enter the primary school. School-based programmes which will expose girls to occupation in science, allow them to interact with female career scientists and also increase the awareness about their future career should also be included.

6.3.5 A Gender-sensitive Teacher distribution system

From the research it was evident that there is no equal distribution of subject teachers among schools with regard to sex. Most degree holders are male teachers while females are very few. Since female teachers can act as role models in girl's special schools, strategies to encourage the recruitment of more female graduates especially those teaching science subjects should be developed and placed so that these teachers could act as motivating factors for female students

to be attracted to join science subjects. Similarly graduate teachers should be evenly distributed so that they will not be concentrated in boys' schools.

The study also illustrates that teachers' attitudes have a profound effect on the perception of girls towards science and mathematics which in turn affects their level of performance. These attitudes are a reflection of the values, beliefs and attitudes of the society in which teachers and girls live. Therefore there is a need to raise teachers' awareness through attending in-service courses on gender and education. Additionally, it is necessary to evolve and establish partnerships to work with the community as well as other key actors in the education system. Efforts have to be made to counter the attitudes of boys and men towards feminine involvement in science.

6.3.6 Teacher Motivation

The disappointment of teachers due to poor conditions of services such as insufficient salary, poor remuneration, inadequate housing facilities and the poor image of the teaching profession also need to be addressed. I recommend that the heads of schools should show more concern for their teachers through addressing their welfare concerns initiating staff development programmes and being sensitive to teachers personal problems. This will increase their dedication to teaching, personal and collective effectiveness and ultimately to higher academic performance for students. On the other hand, the government through Ministry of Education and Culture should introduce the incentive packages for teachers especially those in special schools like study tour, in-services course, free houses, electricity and water in order to motivate them. The study also recommends that in-service courses and seminars or workshops on methods of teaching be held for in-service teachers. At the same time an improved scheme of service should be formulated as motivator in order to attract and retain graduate teachers.

6.3.7 Allocation of funds

The government through the Ministry of Education and Culture should consider the allocation of funds to these special schools particularly to female students who have been marginalised in educational opportunities from quite a long time. A school equipped with enough materials, particularly those related to science subjects, attract female students to opt for sciences combinations and also promotes performance. Another measure is that the Ministry of Education and Culture should provide incentives in the form of grants, financial aid and exemption of girls who excel in mathematics and science subjects from paying school fees, as part of a broader encouragement of other girls to participate in those subjects.

6.3.8 Provision of Reference Materials

With regards to the shortage of reference books and up to-dated textbooks it is recommended that provision of teaching and learning materials by the Ministry should consider the importance of specials school and give them the priority in allocation of books. Provision of remedial programmes is one way to supplement resources for the female students. The lack of such support systems is one of the major explanations for the low achievements in examination results.

The study revealed that except Mzumbe the special schools have no access to computers. There is a need for Ministry of Education and Culture to provide them with computers and Internet so that the aim of the government to establish these schools is fulfilled.

6.3.9 Other measures i.e gender specific.

The study reveals the issue of fear of sexual harassment for girls by teachers. More evidence should be gathered on this to help eliminate the problem and establish proper channel through which sexual harassment can be addressed.

6.4 Suggestions for further Research.

This was a case study covering only four schools out of seven and concentrating only on 40 students, 8 teachers, four heads of school, 2 zonal inspectors of schools and the Director for Secondary Education. There is need for conducting a similar study in more schools with bigger samples in the country. These findings are only a starting point that can be used for more studies using larger samples to verify the factors affecting performance of student particularly female students.

The literature reviewed revealed that female students perform well in biology and language in different countries. Therefore there is a need for the Ministry of Education and Culture to conduct a research to confirm the reality in Tanzanian schools. It would be particularly interesting to investigate subjects where female students perform better than males and to see whether the gender typing of a subject as feminine acts to depress the achievements of boys.

6.5 Conclusion

My study revealed that problems of educating girls have to be seen in the context of the wider social environment rather than in terms of the education system alone. Therefore making sure that girls have access to persist and perform in school is necessary as well as to ensure that they would be given educational opportunities similar to those open to males students. To leave girls with limited learning environments is to deprive the full potential of half of the work force, half of citizenry and half of the parents of the next generations.

A poor learning environment, both at home and at school not only lowers opportunities for women, but jeopardizes their children as well. It is only through addressing the situation of female students from a multi-dimensional and dynamic angle that the performance of girls in special schools can be addressed realistically. Performance of girls is very important to enable them to advance their skills in areas traditionally reserved for boys, particularly in science subjects. This will promote the girls' potentials for flexibility and stability to adjust them when the socio-economic changes occur in a society.

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APPENDIXES

APPENDIX I: Addendum: Description of school system

STRUCTURE OF EDUCATION SYSTEM IN TANZANIA

The Ministry of Education and Culture (MOEC) is generally responsible for the country's education. In Tanzania education is controlled by the state. There are Government and Non-Governmental secondary schools. Government schools consist of two categories: the traditional national schools and community schools. The latter are schools built by local communities, but operated and managed by the government. Non-Governmental secondary schools include private schools and seminaries. Private schools are owned and operated privately by individuals, companies, Non Govermental Organisations (NGOs) or groups of people. Seminaries are owned and operated by religious bodies (Ministry of Education and Culture, 1995).

In Tanzania, the structure of the formal education system follows a pattern of 2-7- 4 –2 –3+, whereby there are two years of Pre-primary; seven years of Primary education (standards I –VII); four years of (O-Level) Ordinary Level (forms I-IV); two years of (A-Level) Advanced Level (forms V-VI) and three or more years of Tertiary education at universities and other institutions of higher learning. For example it takes five years and four years for medicine and education respectively (Ministry of Education and Culture, 1995).

Schools in Tanzania can be either single sex or coeducation. Schools can also be operated either day or boarding depending on geographical location, cultural circumstances, catchment areas and affordability. The majority of the schools are day schools. Similarly, a school can have both O-Level and A-level or one of these only. Majority of the schools combine both levels.

At present at O-Level offers a variety of 39 subjects that are taught with students taking up to 13 subjects and offering a minimum of seven subjects for the final examination (Ministry of Education and Culture, 1997). Due to the diversity of the curricula all secondary schools are required to emphasize one of the bias (specialized optional) subjects in which students will be examined through nationally set examinations. These biases are technical, agricultural, commercial and home economics. This was done in order to prepare students for their future lives, by the acquisition of essential and different skills (Ministry of Education, 1984). In each bias student in Forms I and II have to study 11 compulsory subjects. These subjects are: Kiswahili, English, Mathematics, Civics (Political Education) Geography, History, Biology Chemistry, Physics, Religion and one of the following biased subjects: technical, agricultural science, commercial or home economics subjects. Students in Forms III and IV have to study 7 to 11 compulsory subjects depending on the bias they have chosen. This means that there is a residual category of students pursuing a pure academic program without any of these biases. Both in forms I and II and in forms III and IV students are to choose some additional subjects, like Physical Education, Foreign Languages, Music or Additional Mathematics. At the forms III and IV level Physics and Chemistry are optional subjects.

Tanzania Institute of Education (TIE) under the Ministry of Education and Culture, develops curriculum for pre-primary, primary, secondary and teachers education. Subject panels comprising of teachers from the field, ministry experts, as well as specialist from the University of Dar-es-Salaam, meet to discuss and devise syllabi, curricula, and textbooks and teachers' guides. The products of their deliberations are then sent to the Commissioner of Education for final approval before being distributed to the schools.

In Tanzania, the basis for certification of form IV and Form VI graduates is based on continuous assessment of academic work for students which comprises

of two components: Continuous assessment (CA) which carries a weight of 50% and final written examination which also carries a weight of 50%. Additionally, students must have a satisfactory character record in order to receive their school certification. Concurrently, private candidates' academic performance has been evaluated solely on the basis of written examinations (Ministry of Education and Culture, 1995).

The national examinations results are arranged into five different divisions these are I, II, III, IV and 0. These divisions represent different scoring levels. Division I represents the highest level of the scores. Division IV represents the lowest scores at the national examination results. Students who achieve division I, II, III or IV have passed the examinations. The student who scored below division IV that is 0 has failed the examinations. The highest score in the form IV national examinations results is 7 points, which is counted from the minimum of seven subjects the students perform better although there are more subjects.

The grades of National Form IV examination result are given as follows: A =1 point, B=2 point, C=3 point, D=4 point, F=5 point. Grades A, B and C is known as credits and D is pass. For example the student who seated for 10 subjects and scored 10 A's in the result has division I with 7 points.

Arrangement of divisions in Form IV results are as follows.
Division 1 - range from 7-16 Points
Division II- range from 17-21 Points
Division III- range from 22-25 Points
Division IV- range from 26-30 points
Division 0- range from 31-35 points

Criteria for selection of students into Form V based on good performance in the subjects comprising the A-Level subjects combination and attaining at least three credits in the certificate of Ordinary secondary Education Examinations which

are regulations sets by the National Examination Council of Tanzania. Those who will be selected into public secondary schools depend on the number of vacancies available in the schools (Ministry of Education and Culture, 1995).

All Advanced level (A- Level) students enroll in a combination of 3 subjects. However, students who study science and commerce have to take General Studies and Basic Mathematics as additional subjects while Arts students take General Studies. However for a student to be selected into form V to do science and commerce subjects s/he should pass mathematics at least with a D grade. These additional subject marks are not calculated into the final national form VI examination results (grades) although they have influence in the selection of further studies.

The arrangements of grades for the National Form VI examination result as follows: A =1 point, B=2 point, C=3 point, D=4 point, E=5 point and S=6 point. Grades A up to E are principals passes and have much weight in selection for further studies while S is a subsidiary pass.

The results are categoriesed further into five divisions as follows:
Division I- range from 3-9 points
Division II-range from 10-12 points
Division III-range from 13-17 points, (16 &17 point with two principles)
Division IV-range from 16-18points (with 1 principal in 16 and 17 points)
Division 0= 20 points
The highest is 3 points meaning that the student scored three A's in a given combination.

The combination offered to academically talented students are Science and Arts streams which include Physcis, Chemistry, Mathematics (PCM) Physcis, Chemistry, Biology (PCB), Chemistry, Biology, Geography (CBG) Chemistry, Biology, Agricultural Science (CBA) for science subjects and History,

Geography, English Language (HGL) for Arts subjects. CBG is only offered to female students and CBA to male counterparts. In ordinary A- Level schools the number of combinations have been increased from 13 to over 25 (Ministry of Education and Culture, 1997).

The selection to form V students

The selections for form V students follow the four categories as shown below:

i) Combination Points = these are the total points of the grades scored to three subject combinations chosen.

ii) Examination Aggregates, is arranged according to the scored for seven subjects i.e. the highest, is 7 points.

iii) Number of credits =total numbers of A's; B's; and C's scored.

iii) Number of passes =total number of A's; B's; C's and D's scored in each subject.

For example a student who choose PCB scored the following grades for 9 subjects seated for national examinations. The scores are: Civics=B, Kiswahili =B, Mathematics=A, Physics=A, Chemistry=A, Biology=A, Additional Mathematics=A, Geography=B and History= C.

The arrangement into form V selection will be as follows.

i) The combination point (the number of point for the combination chosen i.e PCB the number of point for three subjects are Physics A, Chemistry A and Biology A =3 points

ii) Examination aggregates is 9 points i.e seven subject scored better. This is 5As+2Bs (i.e A=1 point and B=2 point)

iii) Number of credits=9

iv) Number of passes=9

Therefore the selection point is 3-9-9-9 and it is arranged according to order of merit. When students have the same points in the order of merit they

normally use the mathematics grades for competition so as to get the best student. By using the system of order of merit it is easy to identify the cut-off point for the student selected.

The participants of the form V selections are: The chairperson is the director of secondary Education department, two deputy directors (i.e Administration and Academics), officials from secondary education department, all A-Level heads of government schools, principals of government technical colleges and one official from state house.

APPENDIX II:

A: QUESTIONNAIRES/INTERVIEWS FOR STUDENTS

Instructions: Answer all questions.

1. Name of the school
2.Form _____Arts/sciences
3.Previous school: (Please tick the appropriate answer)

- single sex
- co-education
- public
- private
- religious

4.Indicate home residence (please tick the appropriate answer)

- rural
- urban
- sub-urban

5.Who pays your school fees, pocket money? (please tick the appropriate answer)

- Father
- Mother
- Guardian
- Brother/sister
- Fiancé/fiancée
- Other (specify)

6.Type of work done by:

Father a) If he is employed, where he is working
if not what is he doing
b) if is a farmer, what kind of crops is he cultivating.
c) Other (specify)

Mother a) If she is employed, where she is working
if not what is she doing
b) if she is a farmer, what kind of crops is she cultivating.
c) Other (specify)

7.What is the difference between previous schools and the present in terms of discipline, academic, learning and teaching materials, timetable and others specify.

8.Which division did you score at O Level national examinations?

9.Which division do you expect to get at the final national form six examination?

10.Can you explain the reasons which may have hindered you from performing well? (please tick the appropriate answer)

- influence of parents
- influence of peer groups
- socio-economic position of parents
- lack of teachers
- lack of female teachers (role model)
- unconducive environment
- frequent sickness
- bad method of teaching (please specify)
- others (specify)

11.Availability of teaching and learning materials

a) Does your school have teaching and learning materials? (Please tick the appropriate answer)

Material	Sufficiently present	Present but not sufficient	Not present at all
Textbooks			
Reference books			
Laboratory equipments			
Chemicals			
Library books			
Computers			
Others			

b) What is the distribution ratio teaching and learning materials ? (Please tick the appropriate answer)

- 1:1
- 1:2
- 1:3
- 1:4
- Other (specify)

12.The material facilities:

a) Does your school have the following material facilities? (Please tick the appropriate answer)

Facilities	Sufficiently present	Present but not sufficient	Not present at all
Classroom			
Library			
Laboratory			
School furniture			
Telephone			
Dispensary			
Sports & Recreation			
Dormitories School Bus			

b) If there is a shortage of items mentioned above how does the school solve it? Explain.

13. What motivated you to join form V?

14. What is you expectation after completion and why? Is there any difference between girls and boys?

15. Are there organized channels through which your opinion, ideas are known by the management of schools?

16. What is your opinion on the range of subjects being offered to the A level students?

17. Is there a need to have different syllabi between boys and girls?

18. a) What activities are you involved in during vacation? (Please tick the appropriate answer)

- Tuition
- Cooking and house keeping
- Farming
- Others (specify)

b) Do you have conducive environment for studying/tuition during vacation?
c) If there is no conducive environment why?

19. Do you have equal time for studying during vacation as your brother/sister

20.a) How is your family motivating girl's and boy's education?

b) How do such motivations differ from girls to boys? Explain.
c) How is your society view your education?

21.What issues should be considered in order to encourage girls to study science and mathematics?

22.What do you think can be done at your school to raise the status of your school.

23. When you have a problem whom do you face first (arrange according to priority)

- Mother
- father
- mothers' relatives
- boyfriend/girl friend
- female teachers
- male teachers
- others (specify)
-

a) Which problems do you tell her/him? Do these problems affect your studies?

24.a) What is the relationship with the following people? (tick √)

	Good	Bad
parents		
students		
teachers		
adminstration		

b) If the relationship is bad why?
c) What should be done to correct the situation?

25. a) What kind of services are offered at your school? (tick √) the appropriate answer.

	Good	Satisfactory	Bad
food			
water			
hospital			
transportation			
electricity			
telephone			
Post office			

c) If the services are not sufficient, do you think the situation affects you academically? Explain

26. How do you feel to being in a special school? Do you think it was appropriate to be here or it was by accidentally?

27. How do other students from other ordinary schools view you for studying at special school?

B. QUESTIONNAIRES FOR TEACHERS

Instructions: Answer all questions

1. Name of school

2. Sex

3. How long have you been working? (Teaching experience in years)

4. How long have you been teaching in this special school?

5. (a) Which subject(s) do you teach? and form(s)

   (b) What are the criteria for subject allocation, (Tick√) all the appropriate answer
   - (i) Number of teachers available
   - (ii) Experience (please specify)
   - (iii) Educational level/qualifications (please specify)
   - (iv) Sex (being female or male) i.e. if there is, explain briefly the significance of sex in subject allocation.
   - (v) Area of specialization

6. How many periods do you have per week? (Tick √)
   - (i) They are less load
   - (ii) They are enough/moderate/medium load/common load
   - (iii) They are heavy load
     - If heavy load, how do they affect your teaching? Explain

7. What criteria does government use for selecting teachers to teach schools like this? Is it normal or there is any peculiarities, may be in terms of experience, competence, qualifications, age, gender, sex, performance or any other specify.

8. Do you have a family? No or Yes (Tick √).

- If Yes, how does your family/responsibility support or hinder your performance as a teacher? (Explain).

Is your salary sufficient to survive? Yes or No (Tick√)

If not, how do you survive? Explain

Apart from teaching what other jobs/tasks are you engaged in? Mention

9. Do you conduct "tuition classes"? Yes/No. If Yes, is it as remedial teaching after classes (If students have not understood or prepare for their final exams) OR as source of income? Explain.

10. Apart from your salary is there any other allowances/fringe benefits or motivation do you get from either the Government/ parents/donors or school, as teacher of this 'special school'? Mention them (i.e. housing, water, electricity, transport, allowance, leave allowance etc.).

(i) What is the quality of what you are given (i.e. houses, water, transport, medication etc).

11. Do you receive any (training while teaching) in service training? Yes or No.

(i) If Yes: What type of training
From which college
Who was your sponsor (Tick √)
Government school or private (specify).

(ii) If No, how do you cope with these students who are said to be very challenging and demanding? Explain

12. Teaching method.

What methods and techniques do you use to facilitate teaching and learning process? (Please tick the appropriate)

No	During the lessons students collectively listen to the teacher talking	Never	Sometimes	Often	Always
2.	During the lessons the students work individually				
3.	During the lessons the groups work in group				
4.	During the lesson the teacher stimulates students to ask questions				
5.	During the lesson the teacher stimulates students to discuss				

	or debate				
6.	During the lesson the teacher ask questions to the students				
7.	During the lesson the students just listen and write down what the teachers says				
8.	During the lesson the students ask questions to the teacher				
9.	During the lesson the students discuss with each other and with teacher				
10	Other specify				

13. Does the allocation in the timetable affect teaching and learning?

14. Have you ever taught other schools (i.e. normal schools) before this special school? Yes or No.
    - If Yes, is the any difference in terms of:
      (If there is any, please specify)
      (i) Responses from students
      (ii) Methods of teaching used by teachers
    - If Yes, is the curriculum used in normal schools the same or different as you use in this school? Yes or No
      If different, how.

15. Availability of teaching and learning materials
    (a) Does your school have teaching and learning materials (please tick the appropriate answer)

Materials	Sufficient Present	Present but not sufficient	Not present at all
Textbook			
Reference books			
Teacher's handbooks			
Laboratory equipments			
Chemicals			
Library books			
Computers			
Others			

(b) (i) What do you do in the case of having those materials which are present but not sufficient?
(ii) Does the situation hinder or affect your performance as a teacher? YES or NO.
If, no what do you do? Explain.

18. (a) Does your school have these facilities?

Materials	Sufficient Present	Present but not sufficient	Not present at all
Telephone			
Classroom			
Sanitation			
School furniture			
Sports and recreation facilities			
Dormitories			
School bus			
Dispensary infirmary			
Other (specify)			

(b) If the said facility is not sufficient or not present at all what measures are taken to solve the problem?

19. What is the performance of your students in the subject(s) that you teach?
(a) Is the range between the first and the last too big or not?
(b) What measures do you take to eliminate the gap?

20. (a)What problems do you encounter in a classroom with only girls/boys in it?
(b) Do these problems occur frequently?
(c) How do you manage to handle them?

21. Are these problems associated with gender/sex? (Yes or No)
- If Yes, explain.

22. What is you opinion on the combinations of subjects being offered at your school?

23. What is the perception of students on the subject that you teach? (Positive or Negative) Explain.

24. Is English, as a medium of instruction a problem to students (Yes or NO)
- If Yes, how do you help in solving it?

25.Do you think this problem is more prominent in male students than in female students? Yes or No (ie If you have taught in a different sex schools).

26. As a teacher, do you use English throughout your teaching or sometimes you switch to Kiswahili (Yes/No), If Yes, give reasons.

27. Is there any enforcement used by the school or English department to ensure that students communicate in English? (Yes/No).

- If Yes, mention strategies used
- If No, give reasons.

28. Do you think that the other teachers in this school always use English as the only medium of instruction?

29.Do you think English should remain as a medium of instruction or changes should be made?

30.Do your students have the opportunity to interact or share experiences/study together with students in other special schools (eg in debates, science practicals etc). If yes, with whom do they interact? Do you think this interaction helps them? In what way?

31.What special needs do you think your students require as female/male students to improve their performance?

32. Being a female/male teacher is your gender/sex a barrier in interacting socially with students? Please explain

33.What process have you designed to allow students to approach you easily? What issues do female (or male) students come to you with?

C: QUESTIONNAIRES FOR HEADS OF SCHOOLS

Instructions: Answer all questions.

A: General Information:

1. Name of the school

2. How many streams does your school have for Form V and VI?

3. What is the average size of each class?

4. For how long have you been in this school as a Head?

5. Do you have any experience as a head in other schools or this is the first school to administer?

6. If you have been a head in other schools, what similarities and differences can you give when you compared with the school you are heading?

7. Does being a woman/man have anything to do with your position as a head of this school? Explain

8. What problems or difficulties do you face in managing the school?

9. What is your opinion on the range of subjects being offered to the "A" level students?

10. Are there organized channels through which your students can make opinion, ideas and wishes known to the administration (public)? Mention these channels.

11. Do you yourself use English as a medium of instruction when addressing students and members of staff? (Yes/No)
Explain

12. What is your comment on your teachers over the use of English as a medium of instruction?

13. Do you think that they are all fluent in the language?

14. Do you think that your students at "A" level are fluent enough in English to understand the lesson? (Yes/No)
Explain

15. Does your school have teaching and learning materials? (Please tick the appropriate answer)

Material	Sufficiently present	Present but not sufficient	Not present at all
Textbooks			
Reference books			
Laboratory equipments			
Chemicals			
Library books			
Computers			
Others			

16. The Material facilities

Facilities	Sufficiently present	Present but not sufficient	Not present at all
Classroom			
Library			
Laboratory			
School furniture			
Telephone			
Dispensary			
Sports & Recreation			
Dormitories School Bus			

B: Teachers and teaching capacities:

17. How many teachers does your school have and what are their qualifications
    (a) Male teachers
        (i) Diploma in Education
        (ii) Degree holders

    (b) Female teachers
        (i)Diploma in Education
        (ii)Degree holders

18. Is the number of teachers proportional to the size of a class? Explain

19. What problems related to teacher remuneration or monetary kinds of motivation do your teachers face?
    If yes, explain the kind of measures you take in solving or coping with the situation?

20. Apart from salaries and other fringe benefits from the government do you have any other way of motivating your teachers? Explain?

21. Do teachers receive any in-service training? (Yes/No) Explain

22. What are the criterias used in allocating periods to teachers?
    Explain .

23. Teaching load per week
    (i) Average _____ periods
    (ii) Highest _____ periods
    (iii) Lowest_____ periods.

24. Does the teaching load affect teachers' preparation of lesson plan and notes? Explain

25. (a) What proportion of female teachers teach mathematics and science subjects?

    (b) Does that have any impact on students studying science subjects?

26. What is your opinion on the qualification of teachers in your school?

C: Student Performance:

27. What is the overall position of your school in "A" level exams at:
    (a) National Level
        (i) 1998 Ranked _____ out of _____ schools

(ii) 1999 Ranked _____ out of _____ schools
(iii) 2000 Ranked _____ out of _____ schools
(iv) 2001 Ranked _____ out of _____ schools

28. How is the ranking of your school at National level compared to other "Special Schools"? Explain.

29. What is the background of students that you have been receiving in your school since it became a "Special School"? (Tick where appropriate)
(i) from public schools
(ii) from private schools
(iii) from single sex schools
(iv) from co-education schools
(v) from religious/seminary schools
(vi) from urban schools
(vii) from rural schools.

30. Is their performance reflected in these different backgrounds? Please explain.

31. What is your comment on the students who join these "Special Schools?" Do you think they really deserve?

32. Does their performance indicate that they are really talented?

33. What other criteria (on) do you think should be used to select students to join these "Special Schools?"

34. How is prep-time or private studying arranged? Does the allocation of students in their boarding houses affect their studying?
Explain.

35. What general problems do you think prevents students from performing well in exams at national Level?

36. Do you think the school environment has an effect on student performance? In what way? (eg neighbourhood, urban environment etc).

37. Are there specific problems related to female students? (Yes/No). If Yes, mention them.

38. Are students allowed to evaluate the performance of their teachers? How do they do this?

39. What is the attitude of students towards their teachers in general?
    (c) Are there any differences in the way they regard female teachers and male teachers?
    (d) In the methods of teaching? (Yes/No) explain
    (e) Interacting with students (Yes/No) explain

40. What is the relationship between female and male teachers in your school?

41. Does that relationship have any impact on student's performance?

42. Has it occurred in your school for male teachers to be found having relationships with female students? Or vice versa (Yes/No)
    If YES, what steps were taken to stop the behaviour from happening again?

43. Which are the common cases of misconduct among the students?. (Mention them). And what are measures taken to deal with them?

44. How do you intend to improve performance of this school if you were to maintain your position in the next five years?

45. How do you facilitate parents – teacher – students interaction in your school?

46. What are your general comments on 'Heading' a Special School?

D: QUESTIONNAIRES FOR DIRECTOR OF SECONDARY EDUCATION

1. What was the main aim of the Ministry in establishing schools for talented students?

2. What is the current situation in special schools regarding having the required material facilities? Please tick the appropriate answer.

Materials	Sufficient Present	Present but not sufficient	Not present at all
Textbooks			
Reference books			
Teacher's			

handbooks			
Chemicals			
Library books			
Computers			
Other (specify)			

3. Do special schools have other material facilities mentioned below? (Please tick the appropriate answer).

Materials	Sufficient Present	Present but not sufficient	Not present at all
Classroom			
Library			
Laboratory			
Sanitation			
School furniture			
Telephone			
Sports and recreation facilities			
Electricity			
Dormitories			
Others			

3(b) What processes do you use to confirm that these facilities are available in the schools?

4. What procedures for motivation do you avail to the teachers in those special schools (Please list down at least three).

5. How do you ensure that the special schools have competent and trained teachers? Explain.

6. What is your opinion on the range of subjects offered to students of form V and VI?

7. What is your opinion on the performance of girls in comparison with boys? Do you think there is a difference? Why do you think so?

8. What do you think should be done to improve performance in these schools?

9. In your opinion do you think that the Ministry of Education and Culture should consider a special gender-sensitive and focused teaching and learning process? Explain.

10. In your experience (and opinion) do you think that girl students should be given special priorities as regards the school environment than boys? Please explain

11. How do you consider the allocation of a teacher to a special school? By qualifications? Same sex? Why? Explain

12. Knowing that you had been a 'class-room' teacher, what specific challenges did you face in interacting with, and teaching Male/Female students, and co-education schools. Please explain

E: QUESTIONAIRES FOR INSPECTORS OF SCHOOL

Instructions: Answer all questions

1. Name of Inspectorate zone

2. How many times do inspections conducted in "Special Schools"?

3. Are there any problems that have been discovered regarding these "Special Schools?"

4. What measures have been taken to solve the problems?

5. Is inspection done in "Special Schools" conducted by "Special Inspectors?
If Yes, do these inspectors have special qualifications and experience distinct form the ordinary ones?
If No, is there any difference found while inspecting "Special School" from Ordinary ones?

6. When was the last inspection conducted in these special schools?

7. What is you opinion on the combinations of subjects being offered at A-Level school?

7. Do you know if the school has the following facilities? (Please tick the appropriate answer)

Materials	Sufficient Present	Present but not sufficient	Not present at all
Classroom			
Library			

Laboratory			
Sanitation			
School furniture			
Telephone			
Sports and recreation facilities			
Dormitories			
Others			

8. Do you know if the school has the following teaching and learning material? (Tick the appropriate answer).

Materials	Sufficient Present	Present but not sufficient	Not present at all
Textbook			
Reference books			
Teacher's handbooks			
Laboratory equipments			
Chemicals			
Library books			
Computers			
Others			

8.What kinds of evaluation are done in these schools?

9.How do you motivate teachers who perform their duties well? (Explain How?)

10.What are the criteria used to select students to join "Special Schools?"

11.What extra strategies are needed to be taken to enable girls/female students to perform better than boys/male students?

APPENDIX I1I: CONSENT TO BE A RESEARCH PARTICIPANT

Anna J. M. Njau a postgraduate student (Women's and Gender Studies Programme) from the University of the Western Cape is conducting a study about the performance of advanced level schools for academically talented female in Tanzania. An evaluative analysis.
If I consent to participate in this study, I understand that:

- I will be interviewed/ filled the questionnaires.

- The interview will be tape-recorded. The tapes will be destroyed when the study is completed. In the interim, only the researcher and the transcriber will hear the tapes. They will never be played publicly.

- My participation in the interview/questionnaires is entirely voluntary. I may at any time refuse to answer a question or stop the interview without any consequences to me.

- I choose to have my identity kept confidential in any research report, article, or text that result from this study. I will indicate to Anna my choice to have identity kept confidential at the beginning of the interview. I may decide at a later date to keep my remarks confidential as well. I will then contact Anna to inform her my decision. (0744 578 087; anna_njau@yahoo.com)

- There may be some risk to me – psychologically, emotionally, perhaps physically--in talking about the subject of the performance of advanced level schools for academically talented female in Tanzania. An evaluative analysis.

- The benefits of participation are indirect, that is, further understanding of factors influence performance of female students and how to address the problems.

- The interview and products of the research are the sole property of the researcher.

I understand the conditions of my participation in this study.

I voluntarily agree to participate.

Signature

_____