
# ADDIS ABABA UNIVERSITY
# SCHOOL OF GRADUATE STUDIES

## FACTORS AFFECTING THE PERFORMANCE OF FEMALE STUDENTS IN MATHEMATICS AND SCIENCE: THE CASE OF SELECTED HIGH SCHOOLS IN SHASHEMANE

**BY**

**AMIN BURKA**

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**A THESIS SUBMITTED TO THE SCHOOL OF GRADUATE STUDIES, ADDIS ABABA UNIVERSITY, IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF ARTS (MA) IN EDUCATIONAL RESEARCH AND DEVELOPMENT**

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**FACULTY OF EDUCATION**
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# Acronyms

FGD: Focus Group Discussion

GCE: Global Campaign for Education.

MOE: Ministry of Education.

PTA: Parent Teacher Association.

UNESCO: United Nations Education, Scientific, Cultural Organization.

## ABSTRACT

*The purpose of this research was to assess and enhance the performance of female students towards mathematics and science subjects. Participants were selected, randomly, from three high schools.327 female students of grade 9, 30 teachers, 3 directors and 9 parents, were sources of information in this study. The required data was secured using instruments such as; questionnaire, interview and focus group discussion including documents (roster) analysis. The data was analyzed by using narrative approach for qualitative data and statistical approach including percentage and chi-square. The results obtained indicate that most of female's performance, towards mathematics and science, is poor. The study reveals that this is due to student's attitude; home and school related factors are some of the problem. Finally, this study suggested that teachers, the schools, and other concerned bodies, those governmental and nongovernmental organizations, have to intervene to help female students.*

# CHAPTER ONE

# INTRODUCTION

## 1.1 Background of the Study

Education is the corner stone for the development of a country. According to Satyarth, president of Global Campaign for Education (GCE), and Joven, GCE Chairperson (2005), “education is the most powerful weapon in global fighting against poverty, disease and hunger reduction.” In order to strengthen their idea the former president of South Africa Mandela (2005) said that "Education is the most powerful weapon that you can use to change the World."P (1-5).

Education is a tool to enable both women and men to make all rounded contribution in development process by acquiring effective and efficient knowledge, skill and attitudinal change to improve countries from much developmental backwardness. Thus, quality education is the base for the development of a nation.

According to Getahun (2000:1), *“As the quality of Education increases, the productivity of the people raises and more material wealth is produced this in turn enhances the other area of development.”*

Since formal education is a decided and deliberative human action towards the quality of education with the means of gaining knowledge, skill and attitude through setting goals or objectives, it has to be evaluated periodically. Although what to evaluate and how to evaluate differs from one form of evaluation model to others fairly, evaluation of specific educational outcome is necessary to compare the behavior observed with intended instructional objectives.

Achievement tests as one of the instruments used to select, place or certify students at the end of any academic period are often determined by many factors. According to Hanushek,1979 cited in Getahun (2002:3), educational output (all desirable changes in students behavior) is a function of student innate ability, characteristics of the student, family background, school inputs including teachers and characteristics of the peer group. In relation to this, the major factors causing the low performance of female students in secondary education in the study areas include labor demand by the family, cultural factors, low living standards of family, exposure of school going girls to certain dangers and poor prospects of employment (Begashaw 1998, cited in Alemayehu 2003:3).

In addition to the above, some scholars also explored the factors affecting the achievement of female education. For example, the amount of time females spend on domestic chores and other activities also reduces their time and energy they spend in schools affecting their success (Namuddu, 1991 in Teshome, 2003). The learning environment, distance to school, teachers' attitudes toward female students, teaching practices, gender bias in the curriculum and classroom culture also contribute either facilitating or hindering the academic performance of female students (Hyde, 2005:119). According to the above all scholar ideas there are many factors that affect the performance of students especially females in education.

In our country, Ethiopia, women are dominated by male, beginning at home and their surroundings, due social, economic, and other aspects that affect directly or indirectly the performance of their education. Likewise, in West Arsi zone, in the area of Shashemene women are dominated as other parts of the country, by the men. A daughter used to

grow up seeing the event that has been done by her father and mother at home. This in turn, influences female students to think about gender gap and her future life negatively and this affects their attitude towards education and makes them low achiever.

To overcome these problems, the MOE (1994:7) has implemented a new education policy that gives emphasis on performance and participation of education for boys and girls, and giving special attention on girls' education. Owing to this fact the state and other stakeholders are now seen of investing much resource and effort to make girls education fruitful, and to minimize several factors that hinder them from achieving better knowledge but, the issue never penetrate as expected in our rural areas due to the impact of this social and economical dependence. These female students enroll to school and come still wearing the influence they grown up with at home and their surroundings.

As far as my experience in the high school, most female students are shy and inferior specially those who came from rural areas. Most of these female students perform much less than boys' students in all subjects, especially in mathematics and science subjects. It is a little wonder that almost all students perceive mathematics the hardest of all lessons. These, in turn, make female students not only to hate but also, to fear mathematics and science as hazardous disease. Consequently, this attitude can affect their result and they hate the whole subjects. So that, these female students, as their elder siblings, would dream to immigrate to Arab countries rather than giving attention to education.

## 1.2 Statements of the Problem

In Ethiopia, the government has forced and, programmed, on quality of education to produce knowledgeable, skilled and the fitter graduates by setting a policy of 70% of science, and 30% of social science, to promote technology for the betterment of the country and its people. In other words, the government is committed to expand its higher education base and focus on expanding science, technology and engineering fields (MOE, 2007).

To achieve this goal, the researcher believes that mathematics and science are key subjects. There is no science untouched by mathematics, as there is no technology without science, too.

Despite that the Ethiopian government set and facilitates a program to achieve this goal, the researcher has observed that many students, especially females, in Shashemane secondary schools don't perform properly towards these mathematics and science subjects of the supposed goal. So that most of these, female students used copying mechanism for each and every home works and tests in order to achieve more than 50% marks to promote to the next grade. As studies reveal that there is remarkable gender difference in achievement of mathematics and science subjects at a various educational levels (Assefa, 1992, Bedru and Tillaye, 2001, Seleshi, 2005 cited in Yosef Hailu, 2010:2). Further studies based on school records indicate mathematics has been the one in which females scored below boys on the national average (Genet, 1991, Tilaye, 2004 cited in Yosef Hailu, 2010:2)

What the researcher initiated to conduct research on the performance of female students is that through his experience in high school female students, once they pass eight grade national examinations, their only

target will be to complete high school by no means, and by any mechanisms. Such students fit nowhere for a job in this competitive 21st century civilized world. So that, they dream to migrate to Arab countries in search of job that require no skill or knowledge as their relatives do. Likewise, female students of Shashemane high schools, been pressured by their peers to accept the hardness of math and science subjects pessimistically and react poorly within these subjects. Some of these females, are also, possibly be abused sexually, so that their performance towards their education has been affected badly.

## 1.3 Research Questions

The main purpose of the study was investigating factors affecting the performance of female students in government and non-government secondary schools in Shashemanne High school. To achieve, this purpose, this study was guided by the following research questions:

- What is the performance of female students comparing to those of males in the subject area of mathematics and science?
- What are the major factors (School related) for poor performance of females in science and mathematics?
- What are the mains out-of-school factors that affect the performance of female in science and mathematics?
- How do migration and other factors affect the performance of girls in their education?

## 1.4 Objective of the Study

The general objective of the study is to analysis the problem of female students' poor performance in the subject area of mathematics and science at Shashemane secondary high schools. The specific objectives of the study are:

- To analysis factors that affect female student's performance and to provide possible solution;
- To provide information based on the situation of girls' performance of Shashemane high school to concerned body,
- To give an awareness of the reason for poor performance of girls in secondary education.
- To provide solutions as to how girls may be resolve their problem to perform well in their education at secondary level in the town.

## 1.5 Significance of the Study

The Researcher believes that this study is important to solve problem of female students' poor performance in learning mathematics and science in Shashemane high schools. Hence, the main importances of the study are as follows.

- To raise awareness of educational office of Shashemane, the problems of the female students and help them to prepare seminars and workshops to society and teachers.
- The knowledge that will be gained from this study would be use full in designing strategies that might help to increase the performance of the female students in mathematics and science at Shashemane high schools.
- To encourage other researchers to conduct further research on the topic.

## 1.6 Delimitation of the study

The study is delimited on grade 9 female student's poor performance in the subjects of science and mathematics education in Shashemane.

The research conducted on three high schools in order to:

1. Making the study more manageable,
2. To lay a ground for better achievement of females in science and mathematics, and,
3. There are no sufficient studies conducted to investigate performance of female students in mathematics and science in Shashemane.

It would be delimited to two government secondary schools and one non-government secondary school which is (the highly populated, culture, religious and represents of all other school) in Shashemane administrative town.

## 1.7 Limitation

The study is limited due to different reasons. In any activity, whenever one makes a study, there are certain ups and downs. The same is true for my study and the following are some of the hindrances that influence the result of my study. Lack (absence) of review of related literature, Shortage of time, and financial constraint are some of them.

## 1.8 Operational Definition

1. **Attitude** Female student's beliefs, feelings, and commitments
2. **Perception** The view/feeling of female students on mathematics and science subjects.

3. **Performance** Is the academic achievement of pupils in their schooling considered in relation to how successful they become.(by Taye Amsalu,2003)
4. **Repeater:** is a student who doesn't pass in to the next grade level in secondary Schools

## 1.9 Organization of the Study

The research thesis has been organized in to five chapters. The first chapter is introduction that consists of background of the research, statement of the problem, research question, objectives, significance, delimitation, limitation and definition of the study. The second is literature review. The third is dealing with the research methodology. The fourth covers the results of the study and the last chapter is about summary conclusions and recommendations while references and appendices are included in the last part of the document.

# CHAPTER TWO

## REVIEW OF RELATED LITERATURE

### 2.1 Girls Education

Education is a process by which human being acquires knowledge broadens his horizon and learn different skills. Education is a power for every individual or society to transfer from the previous experience and share the new arrivals and make them the integral part of it (Education encyclopedia America Vol. 19/1829).

Education helps to increase the basic physical and material wellbeing of the people of a given society's in economic, social and cultural development aspects. It also helps to increase the people of a given society's basic physical and material wellbeing of economic, social and material developments (UNESCO, 2002:17). In addition, educating girls enhance economic productivity, reduces fertility rates, lower infant and maternal mortality and improves the health and nutritional status of children. It also promotes sound management of environmental resources and is closely linked to the reduction of poverty through women's absorption in the economy as employees and in self – employment. Education is an indispensable means for effective participation in the society and economy's of the twenty-first century which is influenced by globalization (King, 1990:2). It has a direct and positive effect on earnings, farm productivity and human fertility, as well as intergenerational effect on child health and nutrition. Therefore, the education of females has particular significance to Ethiopia's effort to economic and social development.

## 2.2 Educational Value of Science and Mathematics

Science and mathematics are seen as functional in preparing both a body of future scientists who can play a key role in the development of the national economy and having the boarder purpose of developing scientifically literate citizens. Both subjects education are concerned with the developing of technologically literate citizens who understand how science, technology, and society influence one another and who are able to use this knowledge in their everyday activities. Reinhertf& Beach (1997) state the rationale of science education as follows; A study of science is important because it has the potential for improving the quality of life and making the world safer, empowers people, giving them greater control over their lives by providing path ways for finding answers to questions, taught in school for the betterment of society and the discovery of new technologies and economic benefit of their application are often the focus of bolstering science education. Supporting the above, Wallace and Loughran (2003:25) argue that the purpose of teaching science should not be just to teach knowledge for future classroom studies, but should be more relevant to the students' lives outside the classroom so that they can "think through issues that they are going to face."

The main aim of education is to acquire the individual's knowledge, skill and awareness in such a way that she/he becomes a contributory member of society (Kumar 1997:9). Even though, students in our area as a whole, female in particular don't understand yet, that mathematics and science subjects are the basic source of knowledge for individual character and a countries technological development.

## 2.3 How students Perceive of Mathematics and Science

In Shashemane town high schools, that I used to teach, individuals perceive mathematics and science specially physics as a difficult subject to learn. so that, as far as my knowledge is concerned as a mathematics and physics teacher for the last 6 years, I always used to see almost all females and some of male students, used to copy every little class work, home work, and assignment. As a result a sizeable proportion of student's contracts fear and anxiety in time of learning mathematics and physics. Anxiety in turn is associated with mathematics and physics performance, specifically poor achievement in the subjects.

Smith,1996;Sells,1978 cited in Santonino K.Banya,2004:1) argued that the established association between courses taken in high school and later educational out comes, resulting in to lower representation of females throughout science, mathematics and engineering pipe line, remains a cause for anxiety.

## 2.4 Female Students Attitude towards mathematics and science

The concept of attitude in relation to science is vague and inconsistent; however attitude is defined as person's directions in response to emotional affairs, peoples, places, events or ideas (Simpson and Oliver, 1990). So phrases like "I love science" or "I enjoy science", are considered as attitudes.

Adolescence is one of the most critical periods of human development. Achievement in science and mathematics as well as attitudes toward these subjects, therefore are of special concern to science educators during this time (Talton and Simpson, 1985).

The preliminary experience and orientation toward science affects attitude and commitment of students to science and their future potential science based activities (Simpson and Troost, 1982).
There are many factors that influence attitudes and achievement among adolescents. Some of the factors are associated with parental background and family environment. Other factors relate to individual characteristics such as self-concept, locus of control, and achievement motivation. Still other variables are associated with school influences such as class climate, teachers, and administrative styles (Talton and Simpson, 1985). According to Osborne et al. (2003) studies have incorporated a range of components in their measures of attitudes to science and mathematics including: the perception of the science teacher; anxiety toward science; the value of science; self-esteem at science; motivation towards science; enjoyment of science; attitudes of peers and friends towards science; attitudes of parents towards science; the nature of the classroom environment; achievement in science; and fear of failure on course.

For learning to take place effectively and for students to become successful, they should be ready and motivated to learn materials offered by their teachers. Student readiness and motivation refers to the extent to which they are willing to do assignments, and participate in practical projects and other tasks. No learning will take place unless the student is willing and committed. No potential will be realized unless the student responds to a challenge. No matter how good the curriculum, how cognitively correct the teaching methods, unless the teacher is able to motivate his/her students to enthuse about their science and make commitment in it, he/she will have given them little of lasting importance (Woolnough, 1994).

On the other hand, the most common problem is gender disparities of mathematics and science achievement. It has focused on attitude that students have towards these subjects. Several studies have reported that there are gender differences in attitude towards mathematics with girls showing more negative attitudes than boys. In general, most of the studies reported that, compared with boys, girls lacked confidence, had debilitating causal attribution patterns, perceived mathematics as a male domain, and were anxious about mathematics (Casey et al, 2001; Hyde et al, 1990; Ma, & Kishor, 1997; Sayers, 1994; Vermeer et al, 2000). The causes of the gender differences in mathematics attitude were found to be multifaceted. Researchers have identified parental and societal attitudes (Papanastatsiou, 2000; Wong, 1992), and students' classroom experiences. (Fisher & Rickards, 1998; Forgasz & Leder, 1996), as being influential in making girls internalizes the feeling that they are inferior to boys in mathematics. Studies that have considered classroom environments consider teachers' classroom behaviors to be a factor associated with students' attitudes.

## 2.5 Motivation

According to Michael Rost, (2006) the research on motivation defines motivation as an orientation toward a goal. (This orientation may be positive, negative, or ambivalent.) Motivation provides a source of energy that is responsible for *why* learners decide to make an effort, *how long* they are willing to sustain an activity, *how hard* they are going to pursue it, and *how connected* they feel to the activity. Because igniting and sustaining a source of positive energy is so vital to ultimate success, *everything* the teacher does in the science classroom has two goals. One is, of course, to further knowledge development in science, and the other is to generate motivation for continued learning.

Much of the research on motivation has confirmed the fundamental principle of causality: motivation affects effort, effort affects results, and positive results lead to an increase in ability. What this suggests, of course, is that by improving students' motivation we are actually amplifying their ability and fueling their ability to learn.

## 2.6 The Relationship between Attitude and Motivation

As cited in Spolsky (1989) Gardner and Lambert consider that motivation comes from attitude. That is, attitudes do not have direct influence on learning, but they lead to motivation, which has straight effect on learning performances. In Gardener and Lambert's words:

Motivation in the present context refers to the combination of effort plus desire to achieve the goal of learning plus favorable attitudes towards learning the subjects. Attitude itself is to be measured by asking a subject to evaluate an object: from an operational point of view, an individual's attitude is an evaluative reaction to some referents or attitude object, inferred on the basis of the individual's beliefs of opinions about the referent (as cited in Spolsky, 1989:149). Likewise, according to Fisher and Rickards (1998) found those students' attitudes towards mathematics tended to be more positive in classrooms where students perceived greater leadership and helping/friendly behaviors in their teachers, and more negative in classrooms where students perceived their teachers as admonishing and enforcing strict behaviors.

Nunan and Lamb (1996) also agreed with the point of view of Gardner and Lambert in that attitude is strongly linked with motivation. Actually it could be claimed that students' motivation will be mostly determined by their attitude toward the culture of interest group and learning surroundings.

## 2.7. Academic Performance in science and mathematics Education

Academic performance or educational achievement refers to what an individual knows and can do in a specified subject area as a consequence of instruction (Messick 1984).Presser and Triggwell(1990) attest that student achievement is usually defined in terms of the amount students learn in a particular course and assessment results obtained by students are the usual measure of the amount learnt. In line with this, Cary, et.al. (2008:229), defines academic achievement as

"*Performance on task with measures including comprehension, quality and accuracy of answers of tests, quality and accuracy of problem solving, frequency and quantity of desired outcome, time or rate to solution, time on task, level reasoning and critical thinking, creativity, recall and retention, and transfer of tasks.*"

Academic achievement refers to a doing well success or performance in particular subject area. It indicated as by grades, marks and scores of descriptive commentaries. Academic performance also refers to how students deal with their studies and how they cope with or accomplish different tasks given to them by their teachers in a fixed time or academic year (Hawis and Hawes, 1982). Ferla, (2009), use the notion of academic self-concept referring to individuals' knowledge and perceptions about themselves in academic achievements, and convictions that they can successfully perform a given academic tasks at designated levels. They further stated that academic self-concept represents a more past-oriented, aggregated and relatively stable judgment about one's self-perceived ability in a particular academic domain while academic self-efficacy represents a context specific and relatively future oriented judgment about one's confidence for successfully performing an upcoming subject-specific academic task.

## 2.8 Factors Influencing School Performance and Student Achievement

Rothstein (2000) cited in Tadesse shifferaw (2009:25) argues that; learning is not only the result of formal schooling but also of communities, families and peers. Socio-economic and socio-cultural forces can affect learning and thus educational achievement. A great deal of research on the determinants of school achievement has centered on the relative effects of home-related and school-related factors. As suggested in most research findings family background is an important determinant of school and the result of these factors will be negative attitude of students to achieve his/her goal.

Others argued that in various studies they indicated both home and school environments have a strong influence on performance of students (Griffith, 1999 cited in Tadesse Shifferaw 2009:25.)

### 2.8.1 Home related factors

#### 2.8.1.1 Cultural factors

Socio-cultural beliefs, customs, practices, and other traditions play a significant role in behaving inferior to that of male siblings and class mates. This perspective of the society provokes girls not to perform well in their education. This instead of participating, in every class activities, freely they feel ashamed to express their ideas and questions openly. This results them to achieve poorly.

Security and the needs for physical safety or protection are traditions that often demand special concern for girls' privacy and social reputation (Herz et al., 1991). In cultures where female seclusion is practiced, the

impact of that tradition on girl's enrolment after puberty is substantial. Odaga and Heneveld (1991) indicate that in some rural areas of Mozambique families keep daughters out of schools after their first menstruation and initiation rituals. The same is true in Shashemane woreda's society outlook. So; the girls who are attending class are expecting these problems to happen, so that female students in this area give no proper attention for their schooling.

Hence, initiation ceremonies mark the transition from childhood to adulthood among communities in Sub-Saharan Africa, including our country, Ethiopia; withstand parents to send them to school. Evidence indicates that initiation creates a lot of confusion and dilemmas for girls to perform actively in their schooling. In addition, Ceremony schedules usually overlap with the school calendar and that leads to absenteeism and dropouts, for girls are motors or activators for house hold activities. Although, communities accept the girls as adults, to behave and take care of their virginity, rather than encourage them to learn properly. The initiation of the parents, for their daughters, is that they have to prepare for marriage, in order to get bride price (fee).

*Due to emphasis placed on female virginity before marriage, these practices were perceived to increase economic returns to the family through bride wealth (Wamahiu, 1996).*

This in turn, plays a big role to deviate female students' performance of these woredas not to pay attention of their learning process.

In most of the least developing countries like Ethiopia the cultural barrier on female's education is a basic problem contributing to the low performance of females' achievement in mathematics and science. In almost all ethnic group there is a proverb saying, "kitchen is an only place for women." So that, there are some parents who don't encourage

and follow up, their daughters schooling and they would rather burdened them with house hold tasks.

Researches conducted by various scholars indicate that in less developed nations women's prestige is expressed through the activities like child bearing, child care and home maker which all are obstacles to their performance in education. According to Zewdie and Barbara 1990 in their study of women's work load and time use in four peasant associations found that women spent almost 15 hours a day on activities such as working on the farms, collecting fire wood and fetching water and preparing meals which are essential for family up-keep but mainly a burden left to the women. In general, in societies like this where girls are overburdened with domestic works, the female's achievement in mathematics and science is very poor. In Uganda, Nammuddu (1991 in Taddesse Shifferaw) argues that poor performance of girls has relations with the greater demand on their time to perform household chores including fetching water and wood, cooking and the care of younger siblings.

MOE (2004: 23) indicated that families tend to influence the upbringing of their daughters based on the cultural values and religious norms. At early age girls are taught to be quiet shy and most importantly obedient, hence, their inability to express themselves and interact with teachers and students in class make them isolated. Likewise, many students face difficulties in adapting the environment they are learning in which at the end causes poor academic performance.

#### 2.8.1.2 Economical Factors

The family's socio-economic status influences the daughter's educational performance. School fees, cost for books and stationary; indirect cost for

transportation, uniform, board or house rent matters schooling girls. The economic opportunity loss also affects families productive or business activities for they use labour, of their daughter. Families may assume that the costs of schooling of their daughters do not exceed the expected economic return unless parents do not want to send their daughters to school because education as an investment becomes unattractive to parents (King and Hill, 1993:24; Adetunde and Akesina, 2008:339; Glick, 2008:1623 in Taddesse Shifferaw).

Most of the research reports underline that resources, work and various opportunities are not equally allocated among family members. Parent, to get additional income for their household subsistence and to secure daily demanding basic need, women spend more time on income generating activities and domestic chores. The most clearly noticeable gender inequalities are visible in the societies where women are confined to the home (UNESCO, 2003:12).For these reasons, especially those poor family don't commit and will full to send their daughters in order to burden them at works which generate economy for their family need, so that, even if they allowed them to enroll to school, they would not perform properly as those of male students. In poor families decision to send a girl to school relies on parents' commitment and their willingness. Poorer parents prefer their daughters stay at home to help them in domestic work to generate money, as soon as they return back from school.

In Shashemane town high schools most students are from farmer families. These families are also small scale, subsistence farmers, who depend on their yearly products. These products are not sufficient enough for the whole family members yearly need. With these low income and lack of awareness of the use of education, especially for female, they can't provide the needed demands of education. According to Teshoma, 2003:5 in Tedassa Shiffaraw) the family's socio-economic status

influences the daughter's educational performance. The manifestation is that the financial and moral support provided to girls for schooling is limited as compared to boys. So that, when these female students came to school, with many shortages, they will feel inferior to those female students who came from the families of the haves. According to (Harris, 1998; Hartup, 1983 in Omotere tope 2011; 1), the peer group can influence what the child values, knows, wears, eats, and learns.

The extent of this influence, however, depends on other situational constraints, such as the age and personality of children and the nature of the group. Some females students are want to act like them and also designed to unprepared dating/sex to full fill their needs, by themselves and by peer pressure. This time they even deteriorate into poor learning performance. Participating in peer group activities is a primary stage of development and adolescents' identities are often closely associated with that of their peers (Santor et al 2000) because peer groups are a key part of the developmental process they can have a negative effect on young people due to peer pressure and peer conformity. Higher degree of peer pressure, which is the pressure from others to participate in certain activities, and peer conformity which is, the degree to which an individual adopts actions that are sanctioned by their peers group, have been shown to increase the likelihood of risk taking behaviors such as substance abuse and sexual activity (Santor et al,2000). These risk taking behaviors indirectly affect school performance in a negative way. (Santor et al,2000).

Through all these constraints, female students' loss confidence in their education to full fills theirs and their family economic shortage and poverty. So, they dream to migrate in search of job. Besides, their peer students from the haves family would easily be convince them, to

immigrate, especially to Arab worlds, and to overcome their and their family economic problems. so that rather than concentrating on their lessons, they simply try to copy other students work, both in home works and examinations, in order to complete grade ten.

### 2.8.2 School Related

As most of our schools are organized by Ethiopian teachers, who rise in Ethiopian society, profoundly they are orientated and grown up with the society's culture, psychological, make ups, and out looks, in general. Among these Ethiopian teachers there are some who undermine female students as their uneducated ancestors. So that, they reflect their beliefs towards female which demoralize them, especially those female students are not competent in the subjects of mathematics and science. They (teachers) even don't encourage and raise questions for females, for they believe females are incapable of these subjects. According to (Leka and Dessie, 1994 in Liyu Makonnen in 2007:22)" 60% of teachers believe that girls are weaker in subjects like math and science."

Teacher attitudes and teaching practices have important implications for the success and persistence of girls in schools. Studies from several countries in Sub- Saharan Africa indicate that both female and male teachers believe that boys are academically better than girls (Anderson-Levett et al,, 1994; Brock and Cammish, 1991; Long Fofanah, 1990; Davison and Kanyuka, l992 in Liyu Makonen, 2007). In many countries there are indications that teachers paid more attention to boys than girls in the classrooms. Palme (1993 in Liyu Makonen, 2007), reports from Mozambique that there is little communication between pupils and teachers, and that the higher rate of failure for girls might be due to inequality of treatment.

Sexual harassment has been an issue of special concern since the mass rape of 75 school girls in Kenya. Hallam, 1994 in Lishan Kassa (2004) indicates that there is a pandemic of sexual violence and harassment in educational institutions in Africa, and it is a real concern for students, parents and school authorities. Male students are mostly identified as offenders and their acts include verbal abuses, cartooning, harassing, beating and raping. Anderson-Levott et al. (1994) report that in Guinea boys are very aggressive towards girls and that they used physical force, threatened and teased girls to silence them in the class.

Teachers also prey on their female students, threatening to fail them, or publicly humiliate them, to prod them into sexual liaisons. Teachers are also reported to reward female students who 'co-operate', with grades and tuition waivers.

The very constraint that female students in government school faced is that of class size. In these schools a class is allotted with 80 to 90 students and this create difficulty for teachers to follow up each individual students work and to motivate them according to their poor performance. So that, these constraints, will result in female students' poor performance and achievement.

So, in our context, shashemane, these constraints of all schools, class size, boy students' attitude and harassment, and above all, some teachers inadequate skill, approach, and methodology towards female students to draw their attention, participation and build their courage and self-confidence make female students, of these woreda achieve much more less results than that of male students.

### 2.8.2.1 Distance from the School

Distance from school has been a determinant factor for females poor achievement in their education, in many countries Odaga and Heneveld (1995:30) by referring to a large number of studies in the region reported that, the long distance girls have to travel has two major problems. One relates the length of time and energy has to spend to cover the distance, often on an empty stomach, the other relates the concerns parents have for the sexual safety of their daughters. The number of schools in most African countries has not kept pace with population growth. Pupils and students sometimes have to travel long distances before they get to school. In many secondary schools when girls are day students, traveling long distances before arriving in school decreases their productivity since they arrive in school already tired. Performance in any subject is then hampered.

In Oromia region Shashemane woreda, students traveling long distances, mostly without breakfast and this still is an issue specially in high school, long distance from school promotes lateness and truancy among students however, girls arrive at school late, most of the time, missing the first period of the day (usually mathematics or science), these subjects are sequel, so that, even if they will happen to attend the next class, they will be more confused rather than following the lesson with full understanding. The problem of distance from school also has implications for the motivation of girls to stay at school up to the last period. In Guinea, studies show that close proximity of schools had a positive motivating impact on girls' participation in schools while in Mali, most girls stated that living far away from school and having to walk discourages them (ibid).

The other problem due, long distance, in Shashemane from home to school is truancy. at high school age, most girls are in the age of, puberty and they have been told or warned by their parents to take care of themselves while going to and from school, so they will be afraid of being harassed or raped and will leave the last period in order to reach home early and safe (mostly in the afternoon shift). Psychologically, especially for rural girls in puberty, distance actual threats of high way rapists, this by itself contributes to divided attention for persistence and decreasing performance. (Amanuel and Mulugeta,1999.)

As the result of cultural, economic, and distance problem, in addition to chores at home, affects female students, not to have enough time for them to do their home works and studying, instead their problem for them to copy from their class mate male students.

# CHAPTER THREE

# METHODOLOGY

## 3.1 Research Design

This research has been designed to investigate factors that affect female students' performance in science and mathematics in high schools of Shashemane. The study involves both qualitative and quantitative research methods, which mean a mixed type. More specifically, the study focused to analyze the problem of female's poor performance in both subjects. To do so the researcher used qualitative and quantitative instruments. Quantitative instrument has been used to collect data about the background and characteristics of females' academic performance. The qualitative part constitutes FGD with the document analysis and interview. The survey approach was employed as a method for the study. Because it is a type of research that attempt to present the state of issues as they exist. According to MOE (1986) Survey research method was used to describe the current picture of the situation.

## 3.2 Sampling Techniques

The total numbers of grade 9 female students, in the sample schools, were 2200. Three schools (Shashemanne high school, Selam high school, and Kuyera high school) were purposively selected on the basis of the assumption that these schools are highly populated and represent all other six high schools in the town. A total of 327 female students from these schools were randomly selected. In the public high school of Shashemanne only, there are 1388 female students in grade 9, of which 206 or 63% were selected to this research. In Selam high school there are 281 female students and, 43 or 13% of them are included, and from Kuyera high school, 78 or 24 % were selected out of the total number of

531 female students in grade nine according to their population proportionally using accidental random sampling procedure from each school and sections.

To obtain female students performance, outside their classes, Parents were selected, purposely from parent-teacher- Association (PTA), 3 from each school, three directors, and 30 teachers are also selected by their subjects, from the three schools as a sample population of the study from each by using availability sampling technique, in order to get detailed information. Hence the total sample size of this study was 369 totally.

## 3.3 Data Gathering Tools

To obtain sufficient information for the study, data collection tools were employed. These were; questionnaires, interviews and Focus Group Discussions (FGD) with document analysis. The reason why these instruments were employed is that, they are of great help to secure relevant information of opinions and perceptions in a structural framework from respondents and could cover broad range. To have better understanding with students and their parents, Amharic and Afan Oromo languages are used as medium of communication. That means questions were translated from English language to these two languages.

The questionnaires were set differently for two types of respondents; female students and school teachers. The questionnaires were both open ended and close- ended types. Using close- ended questions, the respondents were requested to assess the extent to which the problems affect the performance of female students in science and mathematics. The open ended questions were used to get further information for the study. Interview was held with school principals and parents. Both

structured and semi-structured interviews were developed and used. Focus Group Discussion was held with female pupils, girls club chairperson (teachers) and parents. In the FGD, both structured and semi- structured questions were used. The interview and the FGD enable the investigator to cross check and enrich the information gathered through questionnaire.

## 3.4 Data Collection Procedures

The questionnaires used has three parts: part one is general instruction of the questionnaire, part two contains background information of respondents and part three has general questions about factors that affect female students' performance in science and mathematics in these sample schools. Thirty questionnaires consisting of both open and close ended items were set as a pilot test and were distributed to teachers and two educational experts, to ensure its clarity and understandability, before it was distributed to the respondents of Shashemane high schools.

The questionnaire prepared for female students was administered in their respective schools during regular class /periods. Students were made to fill the questionnaire without time limit. They were made not to discuss on the items, to protect the response of one student, not to influence others. Before the students start to fill out the questionnaire, the purpose of the study was explained by the researcher. In addition to the specific and general directions in the questionnaire, oral instructions were also used. All the questionnaires were administered to 327 students who filled properly and returned to the researcher. The questionnaire for teachers was distributed in the sample schools, and they filled and returned on time, the next day.

The focus group discussions, with female students, were made in the sample schools during break times. During the interview and focus group discussions tape recorder and writing note were used.

## 3.5 Method of Data Analysis

The data gathered through questionnaires were presented and analyzed by using tables and discussions. For the sake of convenience, related questions were treated simultaneously. Percentage is one of the tools of summarizing the data from questionnaires. Chi- square ($x^2$) was also employed in order to examine the significance of the result of some data in relation to the factors affecting performance of female students in secondary schools of Shashemane. In this case, the obtained difference was tested for statistical significance at 0.05 levels. Data from interviews and Focus Group Discussion were involving narrative approach including quotations from respondents.

# CHAPTER FOUR

# PRESENTATION AND INTERPRETATION

This chapter deals with factors that affect girl students' performance in science and mathematics education at Shashemane secondary high school, in west Arsi zone of Oromia. The results and discussion are based on the data collected from the school documents, questionnaires, and from focus group discussions. The first part of this chapter gives description of the respondents while the second part of the chapter states the information of the background of sample respondents and builds up the finding.

## 4.1 Characteristics of the Population

The respondents of this study are categorized into three groups.

- The teaching staff including the principals of secondary school
- Girl students and
- Parents

Regarding teachers, on the table1, 4 (16.67%) were females while 20 (83.3%) were males. This shows that there is insignificant number of female mathematics and science teachers in these high schools. This unequal number of female teachers may also attribute to female students poor performance. The ages of the majority of respondent teachers are in between 26-30 and above 35 years of age.

***Table: 1. Background of sample mathematics and science teachers***

| Category | Items | Respondent | |
|---|---|---|---|
| | | **No** | **%** |
| Sex | Female | 4 | 16.67 |
| | Male | 20 | 83.3 |
| | **Total** | **24** | **100** |
| Age | 20-25 | 3 | 12.5 |
| | 26-30 | 7 | 29.2 |
| | 31-35 | 4 | 16.7 |
| | Above 35 | 10 | 41.7 |
| | **Total** | **24** | |
| Teaching Experience | 1-5 | 4 | 16.7 |
| | 6-10 | 4 | 16.7 |
| | 11-15 | 6 | 25 |
| | Above 15 years | 10 | 41.7 |
| | **Total** | **24** | |
| Qualification | 12+1 | - | 0 |
| | Diploma/12+3/10+3 | - | 0 |
| | BA/BSC | 24 | 100 |
| | MA/MSC | - | 0 |
| | **Total** | **24** | **100** |
| Marital status | Married | 10 | 41.7 |
| | Un married | 14 | 58.3 |
| | **Total** | **24** | **100** |

Regarding the work experience of teachers on the same table 16 (66.6%) of them, ranged from 11 and above years of work span and this indicates that respondents had accumulate professional knowledge. So that, they may provide important information about the prevailing condition of girls educational performances in their school. As to teachers marital status, 10 (41.7%) of them are married. 100% of respondents have bachelor's degree. Since 10(41.7%) of participant teachers was married, they possibly participate in socio – economic and cultural affair of the community. Thus, their responses are considered matured and relevant enough to the study.

***Table: 2. Characteristics of female students respondents***

| **Character** | **School** | **Respondents** | |
|---|---|---|---|
| | | **n** | **%** |
| Grade level 9th | Shashemane | 206 | 63 |
| | Kuyera | 78 | 24 |
| | Selam | 43 | 13 |
| | Total | 327 | 100 |
| **Female students age** | Bellow 15 years | 10 | 03.1 |
| | 15 - 17 years | 231 | 70.6 |
| | 18 years and above | 86 | 26.3 |
| | **Total** | **327** | **100** |

The total numbers of female students, in sample school 2004 E.C, academic year in the study town was 2200, of these 327 (14.8%) was selected for the study. From table 2, one can observe that 63%, 24% and 13% of the girl respondents were from the schools of shashemane, Kuyera and Selam private school respectively. The variation of numbers occurred due to the schools population of female students. Hence, the responses obtained from them may increase the relevance of the data in

relation to girls' education in science and mathematics at secondary level. In terms of the respondents' age, the majority of girls about (70.6%) were found to be at age interval of 15-17 years, this also, considered as a problematic time of age level, in both biological and psychological aspects. On the other hand 26.3% of the girls were above the official school age (15-17) years to attend secondary level education. The possible reasons for this could be late entry to school due to lack of family awareness and financial capacity.

## 4.2 Factors Affecting the Performance of Science and Mathematics

In this part, the researcher wants to describe based on the themes of data issues related with safety to travel to school, distance from school, economic status of parents, households activities of girls, school facilities and their influence on the performance of female students of the sample schools.

### 4.2.1 Safety to Travel to School

**Table: 3. Students view about their safety to travel to/from school**

| **Items** | | **Respondent** | |
|---|---|---|---|
| | | **n** | **%** |
| Do you face any safety problem on the way to/from school from your residential place or in the school compound in relation to your sex? | Yes | 157 | 48 |
| | No | 170 | 52 |
| | Total | 327 | 100 |
| If your answer to question number "1"is yes, what is the nature of the problem? | Abduction | 10 | 30.8 |
| | Sexual harassment | 120 | 36.7 |
| | Other | 106 | 32.5 |

| | | | |
|---|---|---|---|
| | **Total** | **327** | **100** |

As shown on table 3 above, 157(48%) of respondents said that they had some problems on their way to/ from school. Out of these respondents 101 (30.8%) of them mentioned that rape or abduction is the major problem they face. 120(36.7%) of them also faced sexual harassment on their way to school and back home. The rest (32.5 %) of the respondents said that they sometimes blocked on the way, which make them absent from the school. In addition to this interviews of directors and FGD explained that, abduction and sexual harassment are prevalent in the study area.

As their explanation, distances to school and security problem are some of the factors that hinder the performance of girls in their education, especially in science and mathematics.

Serious reason put forward by some interviewee girls is security /safety/ problem. As one of female students from Kuyera high school explained how a boy in her school constantly threatens and beats her, for her refusing to be his girl friend.

Not only that kind of fellow student who harasses female students but also male teachers and young men, outside the school, as well. One student interviewee said that:

> *"In previous semester exam, I found my physics result was not correct, as I compared it with my friends result, it was less than I had scored, so I asked the teacher to correct it. He told me to bring the exam paper. I took it, but he asked me to go Awasa with him and have sex I refused and thus remain with poor result."*

In such situation parents are unwilling to send their daughters to school. On the other hand, most girl students are psychologically disturbed and unable to attend their schooling properly because they are exposed to

sexual harassment, including various kinds of violence, which they are actually face in school, or on their way to or from school.

Obviously, this situation will further aggravate the problem of girls' educational low performance. This, in turn causes high tension and leave female students with low performance in their education than those of male students. In general, the results of this study indicate that security problem, in the way to/from school, is one of the major factor for female students poor performance in their education.

### 4.2.2 Distance from School

The distance between home and the school, as a functional variable, plays its part, especially rural girls not to enroll, stay in school and not to perform satisfactorily. Table 4 below presents students view of the time they took traveling to and from schools.

**Table 4: Time required by students to travel to/from school**

| **Items** | | **Respondent** | |
|---|---|---|---|
| | | **n** | **%** |
| How long it takes to travel from your resident to the school? | more than 1:00 hour | 52 | 15.9 |
| | 1hour | 88 | 26.9 |
| | 20-30 minutes | 121 | 37 |
| | less than 15 minutes | 66 | 20.2 |
| | **Total** | **327** | **100** |
| Have you ever been late? | often | 53 | 16 |
| | Seldom | 170 | 52 |
| | Never | 104 | 32 |
| | **Total** | **327** | **100** |

Table 4 shows that 66(20.2%) of the respondents have to walk for less than 15 minutes and 121(37%) have to walk for 20 to 30 minutes. 88 (26.9%) of the respondents should walk for an hour and 52(15.9%) of these female students should walk for more than 1:00 hour. This shows that, though, 15.9% of the students are forced to walk more than an hour to reach at school. So, the majority of the students, 84.1% are needed a little less than, or solid an hour for a single trip from home to school, and the same time span back home.

As can be seen in the table 4, 53(16%) of respondents were regular late comer and 170(52%) of them have been seldom late comer, as data gathered from questionnaire, interview and focus group discussion, distance plays a big role on the constraint of female students educational performance especially on those who comes from the rural areas.

**Distance and safety problem**

Distance from the school to home has direct relation with that of security which means, as distance from home to school increases their securities will be endanger. The following data explain the relation between these two factors in detail.

**Table 4i Students view about the influence of distance &security problem**

| Time required between Distances and residence | Security problem | | | | Total | | Chi-square |
|---|---|---|---|---|---|---|---|
| | Yes | | No | | | | |
| | N | % | N | % | n | % | |
| More than a hour | 50 | 32 | 2 | 1.2 | 52 | 15.9 | |
| One hour | 62 | 39.4 | 26 | 15.3 | 88 | 26.9 | |
| 20-30 minutes | 35 | 22.2 | 86 | 50.5 | 121 | 37 | |
| Less than 15 minutes | 10 | 6.4 | 56 | 33 | 66 | 20.2 | |
| **Total** | **157** | **100** | **170** | **100** | **327** | **100** | $\chi^2$**=112.2** |

As shown on the above table 50(32%) and 62(39.4%) of respondents disclosed that the distance between home and school takes more than an hour and an hour respectively. During this time they faced security

problem. Whereas, 35(22.2%) and 10(6.4%) of them said that they take less than 20-30 minutes to walk to/from the school. this time, they face much less security problems than those who came from afar.

From the above one can understand that as the distance between home and school increase female students faced more security problem than those students who live near the school. Besides this, as it is noted in the table above, the value of chi-square is significant since it is ($\chi^2$ =7.81 for 3 degrees of freedom at 5 percent level of significance) is less than the calculated value of chi-square (i.e., $\chi^2$ =112.22). The result implies that, distance between home and school and risk of security of female students are highly associated. As a result they feel fear and discomfort on the issues that might pose risk on their ways. Here, one can easily sense tensed and unstable mind set up of students. Thus, the writer believes that within this frustrating environment females may not perform well in their educations, especially in mathematics and science subjects.

Many scholars argue that female students who come from long distance exposed to different problem. According to, (Kelly, 1989) Absence of school within not more than a distance of 3 kilometers from their home limits girls' performance as compared to boys because of parents' concerns about their daughters' safety where they are vulnerable to harassment, abduction or rape. Moreover, MOE (2005) stated that distance is especially an obstacle for female students in so far as it means expending much needed time and a consequent fatigue or exhaustion, impinging on actual school time expenditure. Again, as various scholars mentioned, in rural areas where schools were far from residential areas, there was a difficult situation for girls who were found threatened by the dangers of abduction and to pregnancy. Likewise,

female students of this sample schools face these problem, especially the majority those who are from the outback of Shashamane.

### 4.2.3 Economic Status of Parents

As we know, economic pressures affect the provision of education and the ability of parents to pay fees for all of their children.

Thus, the following discussions with the respondents are based on the above views.

**Table: 5. Influence of female student's economic status on performance of science and mathematics**

| Items | | Respondent | |
|---|---|---|---|
| | | n | % |
| Is there economical constraint for you not to perform well in your education? | yes | 142 | 43.4 |
| | No | 185 | 56.6 |
| | Total | 327 | 100 |
| Do you have part time job, to full fill your economic shortage? | yes | 129 | 39.4 |
| | No | 198 | 60.6 |
| | **Total** | **327** | **100** |

As shown on the table 5, out of 100% of female students 142(43.4%) are exposed to economic obstacle to their education, this indicates that the problem affects their schooling performances and agitates them to immigrate abroad to full fill their and their family economical needs as well.

Table 5,shows that 129(39.4%) of respondents have part time job; like washing clothes, cooking for bachelors, and some destining Arake etc… to full fill their needs for schooling, and 13 respondents who have this

problem have no job. in general, this much students consume their study time on part time job.

Interviewed parents, directors and FGD in addition to questionnaire explained in detail that, Low economic status of parents is an obstacle to female's educational performance. As indicated by teacher respondents the parent's low economic status affects highly females' education.

MOE stated that, on average, an Ethiopian house hold is poor. Even if school tuition is free, the indirect cost of schooling is burden to the household. The average yearly income may not be enough to sustain the house hold life let alone help cover school expenses. More importantly, their low income position is likely to cause high expenditure on girls. Likewise, most parents of Shashemane woreda are poor peasants and cannot satisfy their children educational need fully. So, those female students from poor families do not get every necessary material needed, this in turn, make them feel inferior, and then their attention can be diverted toward the materials they lack rather than fully concentrating on their education.

In general, low economic status of parents in the area under study does have a considerable influence on the performance of females in their education than those of male students.

### 4.2.4 Household Activities of Girls

Heavy household tasks were the major reason given by all respondents groups for girl's low performance in their education. To investigate the house hold work load of school girls in more detail, girl respondents were asked to state their chores. The sample students were asked through the questionnaire "Is there a burden of house hold tasks on you?" and

considerable number of them, 138(42.2%), noted they have a burden of house hold family tasks at home.

Similarly most teacher respondents have indicated that parents need of their daughters labor very high in the area. Moreover parent interviewees said that they need the help of their daughters at home and outside home for different activities. As, parents, suggested that daily routine work of school girls are making coffee, preparing and serving food, fetching water and set fire wood are the main tasks. As part of their morning routine girls set fire. After school in the afternoon, they have to continue preparing food for the evening and meal for the next day; backing enjera, making wot (sauce) and coffee and serving dinner are some of times consuming hardship activities.

All the above activities are some of the factors that hinder the performance of girls in their education, especially in science and mathematics, because as it consume their time and for the subjects require sequential follow ups. One girl from FGD asserted this by saying:

> *"As I am elder daughter of my family it is my duty to assist mother at home and my father at the field. I can't go to school before I complete my household activities. Thus due to such heavy workload at home, I am not attending my education as I was in primary."*
>
> *(*A girl from Shashemanne high school*).*

In addition the school principals have also explained during the interview that labor burden of female students is high. This result also coincides with the findings of the research conducted by Tena, 2006 in Liyu, 2007. He noted that men and women have different roles and responsibilities most of which are culturally constructed. Women's numerous responsibilities ranging from house management to productive activities,

child care also gives hard time to women in the rest of their time. Such a burden limits their acquisition and full implementation of new knowledge. Thus, household activities of girls are a serious deterring factor for their school performance.

Bowman and Anderson (1982:22) and UNESCO (2003:122) cited in Kassa Shurke , 2006 , proved that the time spent by girls working in the garden, fetching water and fire wood, carrying or helping in marketing activities, or doing home processing products for sale can be especially important in poorer families where the perception of benefit from the schooling of girls are dimmer. From this point, it is possible to conclude that girls are the main sources of income for their family especially for poorest ones, and the need for their physical labor (income generating activities) is often given priority over their education.

To sum up, household activities of female students in the area under study do have considerable impact on their school performance; those girls who have such difficult household activities take lot of their energy and time that affecting their school attendance and performance.

## Table:6. Students views about classroom culture

| **Items** | | **Respondent** | |
|---|---|---|---|
| | | **n** | **%** |
| Is there any cultural constraint on your education? | yes | 94 | 29 |
| | No | 233 | 71 |
| | Total | 327 | 100 |
| Do you have equal participation with male students in the classroom? | yes | 147 | 44.9 |
| | No | 180 | 55.1 |
| | **Total** | **327** | **100** |

As shown on the table 6 above 180(55.1%) of respondent female students have no equal participation as their male class mate students. As a reason for this, they claim that, the teachers approach is discouraging and most of them are not treating girls equally as they treat male students. Some teachers, even, insult female students for each and every little fault they make. In addition, as one of the FGD respondents pointed out, that the language barrier is one of her a problem that does not invite her to participate as others in her class.

**Table: 7. Girl students' idea on their activity in the class**

| Item | | Respondent | |
|---|---|---|---|
| | | n | % |
| What will you do if you don't understand the lesson in the class room? | I will ask the teacher for explanation | 102 | 31.2 |
| | I will ask my class mates | 125 | 38.2 |
| | I will be keep quite | 100 | 130.6 |
| | Total | 327 | 100 |

As shown on the table 7, 100(30.6%) and FGD of the female respondents don't rise questions for the points that is not clear for them. According to their response, the reason for this fear and lack of confidence, for not wanting to be laughed at if they make any mistake, is the major constraint.

### 4.2.5 School Facilities

School characteristics and the school environment could enhance or retard female performance and attainment. These characteristics include, teaching methodology and approach and the school physical facilities. All three schools have necessary facilities, such as library,

laboratory, water and female toilet. But, from the fact that obtained from observation questionnaire and interview the function of these schools facilities, as labs and libraries, are not in their full activity.

The school principals also approved this during the interview, said that these facilities, labs and libraries, are not yet fully organized as needed. For this reason they didn't work on encouraging female students to develop using libraries and their reading culture, in order to improve their performance and achievement through their education.

**Table: 8. Female students activity during exam and home works**

| **Items** | | **Respondent** | |
|---|---|---|---|
| | | **n** | **%** |
| How do you face mathematics and science homework (Assignment)? | Do it myself | 118 | 36.1 |
| | Do it with friends | 117 | 35.8 |
| | Copying from others | 92 | 28.1 |
| | Total | 327 | 100 |
| How do you act on your tests and exams? | By myself | 134 | 40.9 |
| | Copying from others | 44 | 13.5 |
| | Copying only some questions which are hard for me to answer | 149 | 45.6 |
| | **Total** | **327** | **100** |

As shown on table 8 above, 92(28.13%) of female students are copying assignments and home works from their class mates, rather than challenging it by themselves. This indicates that the problem was deep rooted and, for they are in grade 10 by now, it is too late and too hard for them to be redemption. The same table, also shows that 44(13.5%) of the

respondents are used to copy from other students in time of examination (the answer of the exam). The above idea, too, explained in FGD.

The sample students were asked a question **"**What streams will you chose if you pass grade ten national exam?" where about 177(54%) of the respondents said that they will choose social science rather than natural science. This contradicts the 70: 30 ration to natural science and social science set by MOE. Because, these female students have no free time to study at home, for they will be busy at home task chores, and at school they have not approached by their teachers equally as their male class mates, and the schools, too, have not set that much programs as how to help female students in guidance and counseling and tutorial class in mathematics and science subjects.

**Table: 9. Activities of female students after failing grade 10 national exam.**

| **Items** | | **Respondent** | |
|---|---|---|---|
| | | **N** | **%** |
| What will you do if you failed to pass grade 10 national exam? | I will live with my parents | 39 | 11.9 |
| | I will marry and be house lady | 40 | 12.2 |
| | I will be employee in any filed I can. | 139 | 42.5 |
| | I will be migrate to Arab world in order to help my parents and myself | 109 | 33.3 |
| | **Total** | **327** | **99.9** |

As shown on the table 9, 109(33.3%) of respondents want to migrate abroad in searching of job. So that, most female students of Shashemane, be it Christian or Muslim, would prefer to immigrate to different Arab countries. As one secretary of emigration agency in

Shashemane said that, 370,000 people, from Ethiopia, migrate this year, (2004 E.C) to different Arab world. Out of these 80% are females at the age of 14-24. This secretary of emigration agency in Shashemane affirmed that:

> *"These females, who emigrate to Arab countries, claim that they would rather emigrate to the Arab countries and collect money while they are young, than spending long time in education, which they have no understanding what the outcome will be."*

So that, these female students, as their elder siblings, would rather dream to immigrate to Arab countries. Even these days, they made south Sudan as their destiny.

### 4.2.6 Performance of Girls

Within this topic of the study the major concern of the researcher is to answer the performance and academic achievement of girls as compared to their sex encounters at secondary high school level especially in mathematics and science subjects, in Shashemene. To meet the intended purposes the schools roasters have been analyzed and compared to determine their achievement.

#### 4.2.6.1 The Level of Performance

This study also assessed, from the enrollment list, grade 9 female students who were detained more than a year. It is obvious that these students consume resources which may have been used for other citizens. Repetition implies wastage of resources of the public school facilities, too. Therefore, the magnitude and trend of repetition and number of repeaters from, 2000-2003 E.C, over a period of four years, were collected from the rosters and analyzed, as follows.

**Table: 10. a) Repeaters of girls and boys for 2000 -2003 E.C**

**(In numbers)**

| School | 2000 | | 2001 | | 2002 | | 2003 | |
|---|---|---|---|---|---|---|---|---|
| | *Girl* | *Boy* | *Girl* | *Boy* | *Girl* | *Boy* | *Girl* | *Boy* |
| *Shashemane* | *179* | *160* | *215* | *169* | *204* | *201* | *155* | *97* |
| *Kuyera* | *55* | *43* | *48* | *35* | *52* | *35* | *29* | *18* |
| *Selam* | *3* | *2* | *2* | *4* | *3* | *3* | *0* | *0* |
| **Total** | **237** | **205** | **265** | **208** | **259** | **239** | **184** | **115** |

**Source: (Shashemane, Kuyera, Selam) high school record office**

As shown in the table 10 a) above, the roster reveals that the total number of repeater girls between the years 2000 and 2003 is higher than that of boys in shashemane and Kuyera high schools. When we see table 10a) (data collected from roster of sample schools) after four years, however, the rate of repeater varies from year to year and from school to school. According the director from Selam School,

*"The student registered if they have good result and after they enrolled in our school we guide them neatly. These students who want to come here are from the haves, so, they easily full fill their needs economically and do their schooling well. Whereas most students in the public schools are from the low income family, even majority of them are from small scale farmers and illiterate families that do not have educational background in addition to economy."*

So, most of the people who have better economy may facilitate things for their children schooling and other necessity too. This makes the number of repeaters varies from school to school in the effect of the sample schools. That is why, the number of repeaters in Selam private school is decrease, up to null in the year 2003, whereas, in the public schools, the

number of repeaters, if not increasing were decreasing in small variations.

**Table: 10. b) Total repeater students in sex from 2000 -2003 E.C in each school**

| Schools | Repeater Students in sex | | | | Total | | Chi-square |
|---|---|---|---|---|---|---|---|
| | Female | | Male | | | | |
| | N | % | N | % | n | % | |
| Shashemane | 753 | 79.7 | 627 | 81.7 | 1380 | 80.6 | |
| Kuyera | 184 | 19.5 | 131 | 17.1 | 315 | 18.4 | |
| Selam | 8 | 0.8 | 9 | 1.2 | 17 | 1 | $\chi^2$=1.933 |
| **Total** | **945** | **100** | **767** | **100** | **1712** | **100** | |

According to the data on table 10, b) in 2000-2003 E.C in all three schools 945(55.2%) of the girls and 767(44.8 %) of the boys failed to obtain 50% average and repeated. Even though, the total number of repeaters varies from gender to gender and from year to year, there is no significant difference among the repeaters of the schools on the basis of their sexes. Since, the calculated value 1.933 is less than critical value 5.99 at 5 percent level of significance and 2 degrees of freedom. It implies that, the number of repeaters between female and male students, in three sample high school, is comparable. This, according to some teachers' opinion, is because of that most male students pay not good attention to their education and achievement. But, female students, as mentioned before have so many constraints not to work hard in their education.

Moreover, the interview made with directors of the schools has disclosed that, female students are overburdened with an additional house hold responsibility; this lends them less time to study, which leads them to fail. One interviewee director mentioned some of the factors that decrease female students performance and poor achievement as "house hold demand of female labor, peer group influence and lower self esteem of girls"

### 4.2.6.2 Rate of Performance

This study investigates the rate of performance between girls and boys, by questioning 24 teacher respondents, and the result is as shown in table 11 below.

**Table 11: Teachers view of students Performance**

| Items | Respondent | |
|---|---|---|
| | n | % |
| What is your point of view about girls and boys in their educational performance? | | |
| Girls exceed boys | 0 | 0 |
| Boys exceed girls | 11 | 45.8 |
| Both compete equally | 13 | 54.2 |
| **Total** | **24** | **100** |

There is the overarching traditional belief said that girls are weaker than boy's, both physically and mentally - and girls failure to progress in school may have an account as justification for this belief. The highlight of the above view, on table 11, respondents were asked to compare the school performance of girls and boys. From 100% of the respondents 11(44%) of the teacher replied boys exceed than girls.

In support to the above findings respondents were asked to compare the performance of girls to that of boys. All interviewees responded that few girls have excellent achievement record and some performed as good as average boys. However, they all believed that girls performed less than boys in the course of tests and semester examinations. At a group discussion, held with teacher, a female teacher has indicated that:

> *"If not on an equal footing with boys, girls participate in class activities. But in comprehending the lessons, girls lag somewhat behind boys. As far as I am concerned, girls perform poorly and*

*attain low grades in examinations, than boys, because of fear and lack of confidence."*

This was also supported by another teacher at Kuyera secondary school who said:.

*"Boys take notes while most girls sit by their hands. Even if they take notes, they forget what they have learned, not because of they are females, but because they do not pay attention when the teacher explain the lesson."*

Generally, it could be concluded that female students are not participating equally as boys due to society, including teacher's point of views. This makes them lack of confidence towards their educational performance, especially on science and mathematics.

### 4.2.7 Classroom Situations and other Issues as Perceived by Teachers

In the teacher's questionnaire, there was an item, which requires the response towards the activities of girls and boys in class, in order to obtain information about the behavior of female students in class. The information obtained is shown below:

## Table: 12. Teachers opinion of the activities of female and male students in class relatively

| Statement | Category of students | | Teachers opinion | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | Male | | Female | | Total | |
| | | | N | % | N | % | N | % |
| Attend regularly class | Male | Frequently | 1 | 4 | 1 | 4 | 2 | 8.3 |
| | | Seldmly | 15 | 62.5 | 3 | 12.5 | 18 | 75 |
| | | Relatively good opinion | 16 | 66.6 | 4 | 16.6 | 20 | 83.3 |
| | Female | Frequently | 3 | 12.5 | 0 | 0 | 3 | 12.5 |
| | | Average | 10 | 41.6 | 1 | 4 | 11 | 45.8 |
| | | Seldmly | 7 | 29.16 | 3 | 12.5 | 10 | 41.6 |
| | | Relatively good opinion | 13 | 54.16 | 1 | 4 | 14 | 58.3 |
| Do home work and assignment | Male | Frequently | 1 | 4 | 1 | 4 | 2 | 8.3 |
| | | Average | 15 | 62.5 | 3 | 12.5 | 18 | 75 |
| | | Seldmly | 4 | 16.6 | 0 | 0 | 4 | 16.6 |
| | | Relatively good opinion | 16 | 66.6 | 4 | 16.6 | 20 | 83.3 |
| | Female | Frequently | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Average | 3 | 12.5 | 1 | 4 | 4 | 16.6 |
| | | Seldmly | 16 | 66.6 | 3 | 12.5 | 19 | 79.16 |
| | | Relatively good opinion | 3 | 12.5 | 1 | 4 | 4 | 16.6 |
| Ask questions in class | Male | Frequently | 4 | 16.6 | 0 | 0 | 4 | 16.6 |
| | | Average | 12 | 50 | 2 | 8.3 | 14 | 58.3 |
| | | Seldmly | 4 | 16.6 | 2 | 8.3 | 6 | 25 |
| | | Relatively good opinion | 16 | 66.6 | 2 | 8.3 | 18 | 75 |
| | Female | Frequently | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Average | 4 | 16.6 | 3 | 12.5 | 7 | 29.16 |
| | | Seldmly | 16 | 66.6 | 1 | 4 | 17 | 70.8 |
| | | Relatively good opinion | 4 | 16.6 | 3 | 12.5 | 7 | 29.16 |
| Pay attention good | Male | Always | 6 | 25 | 1 | 4 | 7 | 29.16 |
| | | Average | 12 | 50 | 3 | 12.5 | 15 | 62.5 |
| | | Seldmly | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Relatively good opinion | 18 | 75 | 4 | 16.6 | 22 | 91.6 |
| | Female | Always | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Average | 7 | 29.16 | 1 | 4 | 8 | 33.3 |
| | | Seldmly | 13 | 54.16 | 3 | 12.5 | 16 | 66.6 |
| | | Relatively good opinion | 7 | 29.16 | 1 | 4 | 8 | 33.3 |
| Feel independent in participation class | Male | High | 5 | 20.8 | 2 | 8.3 | 7 | 29.16 |
| | | Average | 9 | 37.5 | 2 | 8.3 | 11 | 45.8 |
| | | Seldmly | 4 | 16.6 | 0 | 0 | 4 | 16.6 |
| | | Relatively good opinion | 14 | 58.3 | 4 | 16.6 | 18 | 75 |
| | Female | High | 0 | 0 | 0 | 0 | | |
| | | Average | 4 | 16.6 | 3 | 12.5 | 7 | 29.16 |
| | | Seldmly | 16 | 66.6 | 1 | 4 | 17 | 70.8 |
| | | Relatively good opinion | 4 | 16.6 | 3 | 12.5 | 7 | 29.16 |
| Misbehave in class | Male | Frequently | 3 | 12.5 | 3 | 12.5 | 6 | 25 |
| | | Average | 7 | 29.16 | 1 | 4 | 8 | 33.3 |
| | | Seldmly | 10 | 41.6 | 0 | 0 | 10 | 41.6 |
| | | Relatively bad opinion | 10 | 41.6 | 4 | 16.6 | 14 | 58.3 |
| | Female | Frequently | 1 | 4 | 1 | 4 | 2 | 8.3 |
| | | Average | 8 | 33.3 | 2 | 8.3 | 10 | 41.6 |
| | | Seldmly | 12 | 50 | 0 | 0 | 12 | 50 |
| | | Relatively bad opinion | 9 | 37.5 | 3 | 12.5 | 12 | 50 |

As it is shown on the table12, 20 (83.3%) teachers indicated that male students attend class regularly and do their homework and assignment frequently. Whereas, 14(58.3%) and 4(16.6%) respondents indicated that female students attend class regularly and do their home work and assignment respectively, of whom some used to copy their home work and assignments from their male class mates. From this one can understand that most of female students don't do pay good attention to their education.

Moreover, 7(29.16%) teacher respondents indicated that few female students are independent and ask questions for clarification, while the rest are kept quiet, even if, they don't understand the lesson. This shows that social and cultural status has considerable influence on the female students shyness, for not participating freely as those of male students. At the same time, they don't have time to do their homework and to study, due to their chores at home.

Generally, it has been found that girl students show comparatively poor performance in education. A large number of girls fail than boys, every year. The number of girls who continue to grade 10 was not as expected. Even those who have succeeded have also different hurdles. To this end, girls and parents respondents were asked to what should be done to improve girls' performance in education. In relation to this issue open-ended question was distributed to the sample teachers. Thus, some of the responses were as follows.

Work on parents to encourage their attitude towards their daughters education, Teachers have to help female students in tutorial class, they have to be motivated by open discussion with their parents, teachers and concerned stack holders, and there should be girls model school.

According to these respond gather, from the teacher respondents, female students in Shashemane town/woreda and its surroundings, as most female students of Ethiopia, have home related, school related, teacher attitude and females own attitudinal problems are discouraging females to perform well and achieve good results in their education.

# CHAPTER FIVE

# Summary, Conclusions and Recommendations

This chapter deals with the summary, the conclusions drawn from the major findings of the study, and the recommendation made on the basis of the findings.

## 5.1 Summary

The main objective of the study was investigating the factors that affect the performance of female students on the subjects of mathematics and science education. In order to attain the desired objectives, relevant literatures on the topic; including certain factors such as home related, and school related factors were discussed.

The study was carried out in three secondary high schools of Sheshamanne town, which were selected using purposive sampling technique. The subjects of the study were female students of grade 9, teachers, school directors and parents, from parents- teacher association (PTA) members.

In order to carry out the study, the qualitative and quantitative approach of survey method was adopted. To gather the required information from the sample population, questionnaires were distributed to sample female students and teachers. Moreover, structured and semi- structured interviews were made with school directors and parents. In addition to these focus group discussions were made with female students, girls club chair person (female teacher) and parents.

The data obtained from questionnaires were handled by using statistics such as frequency counts and percentages. Data secured from interviews and focus group discussions were described by using narrative approach including quotations from respondents.

This study has a great similarity with the researchers performed before, about female educational constraints, except that most female students dream to migrate to Arab countries in order to find job that require no good knowledge or skill, so this dream also has its own impact on females attitude as not to pay good attention to their education.

### 5.1.1 Main Findings

The study attempted to examine major factors affecting performance of female students' secondary education in school and out of school related factors. For instance, lack of economy, lack of studying time because of home related, distance of school, and shortage of school facilities (i.e. library, laboratory, and school counseling & guidance service), teachers' partial treatment of students, repetition and absenteeism are some of the major that causes failure of female students in shashemane high schools not to succeed in science and mathematics education.

- There are school related constraints of female student's education. Among which distance from the schools are the major one. School facilities, such as lack of guidance and counseling, laboratories, teachers attitudes towards female students and the language barrier are also included.
- There are also peer pressure, that makes them involved in premarital sexes, and fantasizing them for emigrating business, in order to get a job that require no skill or knowledge.

- Females have less experience to participate in science and mathematics education than males in the class since the chances for females to perform well in school are restricted due to some unwilling teachers and poor background.
- Repetition, being late, truancy and absenteeism are the other main causes for girls' poor academic performance as the respondents of the sample population of the study confirm it.
- Labor division at home, is higher and time consuming as compared to boys. This left them with lack of enough time for their study.
- Because of all these constraints, female students try to copy their home work and tests of mathematics and science rather than challenging it by themselves.
- In addition to the above constraints, their dream to migrate abroad is also another factor I found for them not to perform well in their education.
- The sum of all these above mentioned constraints, make most female students of Shashemane high school desperate towards succeeding in their education.

## 5.2 Conclusion

Based on the findings of this research, it can be concluded that, female's performance, in Shashemene town high schools, towards mathematics and science subjects, is much poorer than those of male students. The study indicates that this is resulted due to the home and school related factors. Most of all, the pro founded factor for this is that they developed un founded fear of these subjects hardness, and concluded that it is difficult for them to deal with the challenges.

Socio-economic and cultural constraints, too, plays a role on female's performance and poor achievements. School related problems, and

teachers approach and attitudes towards female students have also impacts on the result.

From the previous test administration, it has been possible to realize that there is significant difference in achievement between female and male students. The study also assesses copying acts too. However, it seems, these students who used to copy, do not know yet that it will take them nowhere.

## 5.3 Recommendation

In this paper attempts have been made to dig out the major factors that affect the performance of female students on mathematics and science. The researcher suggests the following basic recommendation in order to minimize the problems and help to improve female students educational performance.

1. Gender equality awareness training/orientation should be carried out for the society, to make them help and encourage their daughters towards their education.
2. Teachers, guidance and counseling officers should help female students to build self-confidence, and abolish unfounded psychological fear of the subjects and related problem.
3. The school administration and subject teachers should organize and set schedule to help female students through tutorial class.
4. Office of education and the school should co-ordinate and invite successful role model women, to the school to share their experiences and encourage female students.

5. Awareness should be rise, in the society, about entrepreneur ship and job creativeness, in their country, rather than sending their daughters abroad, especially to the Arab world.

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# ADDIS ABABA UNIVERSITY
## INSTITUTE OF EDUCATIONAL RESEARCH

This questionnaire is to be completed by government and non government Students' of secondary schools.

**To the Respondents:-**

This questionnaire is prepared for the purpose of conducting a study on '*factors that affect the performance of female students in science and mathematics: the case of Shashemane high schools*'. To achieve the purpose, your cooperation in completing this questionnaire is highly appreciated. The success of this study by and large depends on your honest and sincere responses to the question items. The data you provide will be kept confidential and will not be disclosed to any third party**.** You are, therefore, kindly requested to provide the required information.

***Thank you in advance for your cooperation***

**II. Background Information**

**Instruction: -** Some characteristics of students are given below. Please

Respond either by filling in the blank space or by circling the letter of the appropriate response.

1. Name of school ……..
2. Grade……
3. Sex a. Male b. Female
4. Age _____

**III. Items related to Factors affecting female Students' Academic Achievement**

1. Do you face any safety problem on the way to/from school from your residential place or in the school compound in relation to your sex? A. Yes B. No
2. If your answer to question number "1"is yes, what is the nature of the problem?
   A. Abduction B. Sexual harassment C. Other --------
3. How long it takes to travel from your resident to the school?
   A. more than 1:00 hour B. 1hour C. 20-30 minutes
   D. less than 15 minutes
4. Have you ever been late? A. often B. Seldom C. never
5. If your answer for Q.4 is A or B.
   Why?_____
   _____

6. What is your parents support towards your education?
   A. very good  B. good  C. low D. very low
7. If your answer for Q. 6 is “C” or “D” what is their reason?

_____

_____

_____

8. Is there economical constraint for you not to perform well in your education?
   A. yes  B. No
9. Do you have part time job, to full fill your economic shortage?  A. yes  B. No
10. If yes what kind of job

_____

_____

_____

11. Is there a burden of house hold tasks on you? A. yes  B. No

12. If your answer for Q. 11 is “A” is there any constraint that your burdens create on your education?

    _____

    _____

    _____

13. Is there any cultural constraint on your education? A. yes B. No
14. If your answer for Q. 13 is “A” what kind of constraint does the culture create on your education?

_____

_____

_____

15. Do you have equal participation with male students in the class room?
    A. yes  B. No
16. If your answer for Q.15 is, “B” what do you think, is the reason?

_____

_____

_____

17. What will you do if you don’t understand the lesson in the class room?
    A. I will ask the teacher for explanation
    B. I will ask my class mates
    C. I will be keep quite
18. If your answer for Q. 17 is “C”  why?

    _____

_____

_____

19. What is the situation of the facilities mentioned bellow, in your school?

| Facilities | Well Organized | Poorly Organized | No any |
|---|---|---|---|
| Library | | | |
| Laboratory | | | |
| Sport field and materials | | | |
| Water | | | |
| Latrine | | | |

20. How do you face your home work (Assignment)?

A. do it myself B. do it with friends c. copying from others

21. How do you act on your tests and exams? A. by myself B. copying from others C. copying only some questions which are hard for me to answer

22. What is your total result of 1st semester, in the year 2004?

A. great B. average C. low D. very low

23. If your answer for Q.22 is "C" or "D" what do you think is the reason?

_____

_____

_____

24. What is your performance towards mathematics and science?

_____

_____

25. What streams will you chose if you pass grade ten national exam?

A. science B. Social science

26. Why?

_____

_____

27. What will you do if you failed to pass grade 10 national exam?

A. I will live with my parents B. I will marry and be house lady C. I will be employee in any filed I can. D. I will be migrate to Arab world in order to help my parents and myself

**በአዲስ አበባ ዩኒቨርስቲ**
**ትምህርት ጥናት ና ምርምር ትምህርት ክፍል**

**በሸሻመኔ ሁለተኛ ደረጀ ትምህርት ቤቶች ሴት ተማሪዎች የሚሞላ መጠይቅ**

ይህ መጠይቅ የተዘጋጀዉ ለሪሠርች አገልግሎት ብቻ ነዉ፡፡የመጠይቁ ዓላማ በሸሻመኔ ሁለተኛ ደረጀ ትምህርት ቤቶች ያሉ ሴት ተማሪዎች የሳይንስ ና ሒሳብ ትምህርት ክንዋኔና ብቀተቸዉን ሊያጠናክሩ ወይንም ሊያዳክሙ ስለሚችሉ ሁኔታዎች ለመገምገም ነዉ፡፡መረጃዉ የሚያገለግለዉ በቀጥታ ለጥናቱ ሥራ ብቻ መሆኑን እየረጋገጥኩ ዉድ ጊዜያችሁን መስዋዕት በማድረግ ስለምትሰጡኝ መረጃ በቅድሚያ አመሰግናለሁ፡፡

ስም መፃፍ አያስፈልግም፡፡

አጠቃላይ መረጃ በተሰጡት ክፍት ቦታዎች ላይ አስፈላጊዉን መረጃ ሙይ ወይም ከተሰጡ ምርጫዎቹ ምረጭ

ሀ. የትምህርት ቤቱ
ስም_____
_____
ለ. ዖታ ሀ. ወ ለ. ሴ
ሐ. ዕድሜ_____

1. ከቤት ወደ ትምህርት ቤት ስትማጪና ስትማላሽ በሴትነትሽ የሚያገጥሙሽ ችግሮች አሉ
   ሀ. አዎን ለ. የለም
2. ለ1ኛዉ ጥያቄ መልስሽ "ሀ" ከሆነ ምን አይነት ችግር
   ሀ. የጉልበት ጥቀት
   ለ. የዉስብ ትንኮሳ ሐ. ሌለ ከሆነ ይጠቀስ

_____
_____
_____
_____

3. ከቤትሽ ትምህርት ቤት ድረስ የለዉ ርቀት ምን የህል ሰዓት ያስኬደል፡፡
   ሀ. ከ1 ሰዓት በላይ ለ. 1 ሰዓት ሐ. ከ20-30 ደቂቃ መ. ከ15 ደቂቃ በታች

4. አርፈደሽ ታዉቂያለሽ ሀ. ሁልጊዜ ለ. አልፎ አልፎ ሐ. በጭራሽ
5. የ4ኛዉ ጥያቄ መልስሽ "ሀ" ወይም "ለ" ከሆነ
   ለምን_____
   _____

_____
_____

6. ትምህርትሽን በደንብ እንድትከታተይ የቤተሰብሽ ድጋፊ ምን ያህል ነዉ፡፡ ሀ. በጣም ጥሩ ለ. ጥሩ ሐ. ዝቅተኛ መ. በጣም ዝቅተኛ

7. ለ6ኛዉ ጥያቄ መልስሽ "ሐ" ወይም "መ" ከሆነ
ለምን_____
_____
_____
_____

8. ትምህርትሽን እንዳትከታተዪ የሚያደርግ የገንዘብ ችግር አለብሽ ሀ. አለ ለ. የለም
9. የገንዘብ ችግር ካለብሽ ችግሩን ለመቅረፊ በትርፊ ሰዓትሽ የምትሠሪዉ ሥራ አለሽ ሀ. አዎ ለ. የለኝም
10. ለ9ኛ ጥያቄ "ሀ" ከሆነ ምን አይነት
ሥራ_____
_____
_____
_____

11. ትምህርትሽን እንዳትከታተዪ የሚያግድ የቤት ዉስጥ የሥራ ጫነ አለብሽ ሀ. አለ ለ. የለም
12. የ11ኛዉ ጥያቄ መልስሽ "ሀ" ከሆነ ምን አይነት ጫነ አሳደረብሽ
_____
_____
_____
_____

13. የአካባቢዉ ህብረተሰብ ባህል በትምህርትሽ ላይ ያሳዳረብሽ ተፅዕኖ አለ ሀ. አለ ለ. የለም
14. የ13ኛዉ ጥያቄ መልስሽ "ሀ" ከሆነ ምን አይነት
ተፅዕኖ_____
_____
_____
_____

15. በትምህርትሽ ከወንዶች እኩል ተሳትፎ ታደርጊያለሽ ሀ. አዎን ለ. አይደለም
16. የ15ኛዉ ጥያቄ መልስሽ "ለ" ከሆነ
ለምን_____
_____
_____
_____

17. በክፊል ዉስጥ ትምህርቱ ከልገባሽ ምን ታደርጊያለሽ ሀ. አስተማሪ እጠይቃለሁ ለ. ገደኞቼን እጠይቃለሁ ሐ. ዝም እላለሁ

18. የ17ኛው ጥያቄ መልስሽ “ሐ” ከሆነ
ለምን_____
_____

19. በትምህርት ቤተችሁ ውስጥ ከዚህ በታች የተጠቀሱት ነገሮች ምን የህል ይገኛል

| | በቂ ነዉ | በቂ አይደለም | የለም |
|---|---|---|---|
| ቤተ-መፃሕፍት | | | |
| ለቦራቶሪ | | | |
| የስፖርት ሜዳ | | | |
| ዉኃ | | | |
| የሴት ሽንት ቤት | | | |

20. የቤት ሥራ የምትሠሪዉ እንዴት ነዉ ሀ. ብቻዬን ለ. ከገደኞቹ ጋር ሐ. በመኮረጅ
21. ቴስትና ፈተና የምትሠሪዉ ሀ. በራሴ ለ. በመኮረጅ ሐ. ያቃተኝን ብቻ በመኮረጅ
22. የ2004 ትምህርት ዘመን የ1ኛ ሴሚስተር ዉጤትሽ እንዴት ነበር ሀ. ከፊተኛ ለ. መሀከለኛ ሐ. ዝቅተኛ መ. በጠም ዝቅተኛ
23. መልስሽ “ሐ” ወይም “መ” ከሆነ ለምንድ ነዉ
ትያለሽ_____
_____
_____
_____

24. በሒሳብና ሳይንስ ላይ ያለሽ ብቃት ምን የህል ነዉ
_____
_____
_____
_____

25. 10ኛ ክፊልን ካለፊሽ ምን ትመርጫለሽ ሀ. ሣይንስ ለ. ማህበረዊ ሳይንስ
26. ለምን_____
_____
_____
_____

27. የ10ኛ ክፊል ማለፊያ ዉጤት ከልመጣልሽ ምን አቅደሻል ሀ. ከቤተሰቦቼ ጋር እኖራለሁ ለ. ትደር ይገፍ የቤት እመቤት እሆናለሁ ሐ. በምችለዉ ተግበር ተቀጥሬ እሠራለሁ መ. ወደ አረብ አገር ሄጀ ራሴንና ቤተሰቦቼን እረዳለሁ::

**ስላደረግሺዉ ትብብር ምስጋናዬ የላቀ ነዉ::!**

# Yunivarsiitii Finfinnee
# Muumme Barnoota Qo'anno fi Qoranno

Kabajamoo Hirmaattoata Qo'annoo kanaa, Kaayyoon qo'annoo kanaa rakkoolee barattoota dubaraa gahumsa barnoota Saayinsii fi Herregaa irratti geessan irratti ta'a. Qaamni qo'annaa kana raawwatu, gargaarsi isin asirratti gootan gayee guddaa taphatuu qofa osoo hinta'in, yaada isin kennitanii fi hirmaannaa keessan malee qo'annoon kuni fiixan bayuu hindanda'ua jedhee amana.
Hirmaannaa keessaniif ammoo Galata guddaa isinii galchaa, gaafiiwwan asii gadii kana deebisuuf qabxiiwwan kanniin irratti akka xiyyeeffatan isin hubachiisa.

1. *Maqaa keessan katabuu hinbarbaachisu.*
2. *Yaanni isin kennitan Qaama biraatiif dabarfamee hinkennamu. Icciitiin qabama.*
3. **Gaafiiwwan Filannoo qabaniif deebii sirrii ta'e qofa filatuudhaan deebisaa. Filannoo ka hinqabneef ammoo, gabaabinnumaan katabuun deebisaa.**

II.**Gaafiiwwan haala Hirmaattotaa ibsu**

1. Umrii: _____
2. Saala: a) Dhiira b) Dhalaa
3. Maqaa mana barnoota_____

1. Gara mana barnootaa yeroo dhuftuuf deebituu dubartumma keetiin rakkoon sirra gahu ni jiraa? A Eeyye B. miti
2. Yoo gaafii lakk.1 tiif deebiin kee "A" ta'e rakko akkamiiti?A.miidhaa humnaa B.lakafaa/tutuqaa C. rakko biraa yoo ta'ee ibsii_____
3. Mana jiraattu irraa hanga mana barnoota sa'aa meeqa deemsisaa?A.sa'aa tokko ol B. Sa'aa tokko C.Daqiiqaa 20-30 D. daqiiqaa 15 gad aanaa
4. Barfattee beektaa? A. yeroo hunda B. darbee darbee C.Gonkumaa
5. Deebiin lakk.4 "A" yoo ta'e maliif?

_____
_____
_____

6. Barnoota kee haalan akka hordoftuu gahe maatii keessanii hangam?A.Baay'ee gaarii B,Gaarii C.gad aanaa D. Baay'ee gad aanaa
7. Deebii lakk. 6 "C" ykn "D" yoo ta'e maliif sitti fakkaataa?

_____
_____

8. Barnoota kee akka hinhordofne kan si dhoorgu rakko qarshii qabdaa?A,Eeyye B. miti
9. Rakko qarshii yoo qabaate rakko kana furuuf hujiin ati hojjataa barattu jira? A. jira B. hinjiruu
10. Gaafii lakk.9 yoo jiraa ta'e hujii akkamiiti?

_____
_____

11. Barnoota kee akka haalan hinhordofne hujiin mana keessa kan si dhoorgu jira? A. Jiraa B.Hinjiruu

12. Yoo jiraate rakko akkamii sirra geese?

_____
_____

13. Aadaan hawaasa naanno kanaa barnoota kee irratti rakkoon geese jiraa?
    A. Jira  B. Hinjiruu
14. Filannoon kee lakk.13 “A” yoo ta’e maalii?

_____
_____

15. Barnoota kee irratti dhiiran qixaa hirmaattaa?A. Eeyyan B. miti
16. yoo deebiin kee lakk.15 miti ta’e maliif?

_____
_____

17. Daree keessatti barnootni yoo si hingalle maal goota?A.Barsiisaa gaafadha
    B. Hiriyoota koo gaafadha  C.caldhisee itti dhiisa
18. Gaafii 17 deebiin kee “C” yoo ta’e maliif

_____
_____
_____

19. Mana barnoota keessan keessatti wanttootni armaan gadii hangam jiraa?

| | Gaha dha | Gaha miti | Hin jiru |
|---|---|---|---|
| Mana kitaaba | | | |
| Labiraatorii/shaakala | | | |
| Dirre kubbaa | | | |
| Bishaan | | | |
| Mana fincanii dubaraa | | | |

20. Hujii manee akkamitti hojjatta?A. Qofaa Koo B. Hiriyyoota koo wajjin
    C. korojuun
21. Qormaata fi Assaayimeentii hoo akkamitti hojjatta?A. Ofi kootiin B. Nama irraa korrojuun C. kan natti ulfaate qofa korrojuun
22. Qabxiin semisteera 1$^{ffa}$ bara 2004 akkam?A.Ol’aanaa B. Jiddugaleessa C. Gad aanaa D. Baay’ee gad aanaa
23. Deebiin kee yoo “C” ykn “D” ta’e maliif
24. Herreggaa fi saayinsii irratti gahumsii kee maal fakkaata?

_____
_____

25. Kutaa 10 yoo darbitee filannoon kee saayinsii kam?A. Saayinsii Umamaa
    B. Saayinsii Hawaasaa
26. maliif_____
_____

27. kutaa 10 yoo qabxiin sii dhufuu dhabee maal goota?
A. Maatii koo wajjin jiraadha  B. Heerumee haadha manaa ta’a  C. Hujii argametti qacaramee hojjadha D. Biyya Arabaa deemee maatii kotiif ofi jijjiira

***Deeggarsa keetiif sigalatoonfanna.***

# ADDIS ABABA UNIVERSITY
## Department of IER
Questionnaire for Teaching Staff

The aim of this questionnaire is to study on factors that affect female students' performance on mathematics and science in shashemane high schools. The study is expected to contribute to an awareness, of the importance of searching for specific local reason and solution. So your response to each item in the questionnaire is appreciated.
Thank you for your co-operation.

**Introduction**

1. Write the answer in the blank space
2. Mark"X" choices

**II. Background Information**

1. Age ____
2. Sex A. Male _ B. Female _
3. Qualification _____
4. Marital Status _____
5. Service Year _____

**III. General questions about factors that affect female students' performance in science and mathematics in Shashemane secondary high schools.**

1. What is your stand on gender issues in education?

_____
_____
_____

2. What is your point of view about girls and boys in their educational performance?
   A. Girls exceed than boys B. Boys exceed than girls C. Both compete equally

3. If you were given a chance to choose between males and females to teach, whom do you prefer most? Why?

_____
_____
_____

4. What is the achievement of female students compared to those of males, in the subject you teach? A. high B. medium C. low

5. why do you think female students achievement has been so?(from your perspective)

_____
_____
_____

6. What is the performance of female students towards your subject?

_____

_____

_____

7. What do you think of the factors for female students' attitude and poor performance towards mathematics and science?

8. Rate the following activities of girls and boys in class

| | **Activities** | **Girls** | | | **Boys** | | |
|---|---|---|---|---|---|---|---|
| | | **High** | **Average** | **Low** | **High** | **Average** | **Low** |
| 8.1 | Attending class regularly | | | | | | |
| 8.2 | Doing home work and assignment | | | | | | |
| 8.3 | Ask questions during class | | | | | | |
| 8.4 | Pay good attention during class | | | | | | |
| 8.5 | Feel independent in class participation | | | | | | |
| 8.6 | Misbehave in class | | | | | | |

9. What factor do you think is the most associated with the failure of female students to perform well in education?

_____

_____

_____

10. What do you suggest should be done to improve females' performance?

_____

_____

_____

11. Do parents support and encourage their daughters equally with their sons due education? A. yes B. No
12. If your answer, for question No.11 no, why does you think they do so?

_____

_____

_____

13. From your experience, what did you observe of female students activity after completing grade10 with low result?

_____
_____
_____

Thank you so much
For your cooperation

## Interview of Directors

I. Introduction
Greeting

Introduce yourself and Objective of the study.

We are going to talk about factors that affect female students in mathematics and science. The purpose of this discussion is for you to share your ideas, perceptions and experiences about the performance of female students in mathematics and science subjects and their problems that affect not to do properly, so that we can explore and identify the real causes for the problem and produce /find for the solution accordingly.

_ Please give me some time?

_Consent to tape or note taking. Shall I continue?

II. Questions for interview.

1. How many teachers are there in your staff?
2. Can you tell me educational status of your staff?
3. How do you see the performance of female students in science and mathematics?
4. Can you tell me the factors that affect female performance in science and mathematics?
5. Is there any facility shortage in your school? If yes, like what?
6. Is there guidance and counseling in your school? If no why?

Thank you!

## FOCUS GROUP DISCUSSION

(10 members from each school and from different professions)

I. Introduction

_ Welcome

_ Introduction of moderator and observer

_ Objective of the focus group

We are going to talk today about causes of poor performance of female students in mathematics and science.

The purpose of this discussion is for you to share your ideas perceptions and experiences about why female students do not achieve mathematics and science subjects properly, so that we can explore and identify the real causes for the problem.

**_ Participation**

There is no right or wrong answers to the questions I'll be asking you. Please feel free to answer exactly as you feel.

**_ Confidentiality, respect for each other**

Anything you say here will be kept private and confidential. We'll never mention your name

Outside of this room. If you prefer not to answer any particular question, that's fine. If you

need to leave at any time, that is okay.

_ Consent to tape/note taking.

_ Introduction of participants (name, school, etc.)

II. Points on which to be discussed (Questions).

1. What is your parent job?
2. How long it takes to travel from your resident to the school?
3. How do you explain what a burden of house hold tasks on you?
4. What is your parents support towards your education
5. Are there any economical constraints for you not to perform well in your mathematics and science education?
6. What is the problem seen during your learning mathematics and science education?
7. Do you have equal participation with male students in the class room?
8. What streams will you chose if you pass grade ten national exam?
9. What will you do if you failed to pass grade 10 national exam?

**III. Wrap Up: Explore feelings during discussion**

_ How did you see our discussion today? Have you ever talked with anyone about the subjects we discussed today? How did you feel it?

Thank you!!