

## Improving Female Students' Participation in Chemistry Class

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### ABSTRACT

Analysis of female student's participation being in school is important, however, participation has been well research and there is a separate concern on how girls and why are in school perform poor participation to boys, and this is the focus on the female student's participation. Numerous studies have been conducted on engaging students in classroom discussions. Here, previous research is pulled together to gain a comprehensive overview of the benefits of female student's participation, logistical issues in participation, female students confidence and personality traits in participation, the instructors influence on and suggestions for increasing female student's participation. In case of our country, the government takes different measures to enhance the development; one is by education. But our education system faces different challenges. The general objective of the research is to improve female student participation in Dr. Mohamed Sirad secondary. In short, female students are not actively participating in the classroom. To conduct the study interview, observation and group discussion are used as a data gathering tools to collect information about the female students' participation in the classroom. Different action strategies were taken like, advice; changing the seating arrangement, reinforcement, etc. From this intervention used by observations there around on average 74.8% of female students participated per day which is seen to be a great change in participation that existed before. In general, the study indicates that there is a great change in the behavior of female students to actively participate in the classroom.

**Keywords:** Participate; Reinforcement; Improving

### INTRODUCTION

Hill, et al. argued that globally educating females yields far-reaching benefits for girls and women themselves, their families' and their societies in which they live [1]. The benefits of investing in human capital are especially pertinent for women in developing countries where gender equity in education is often lagging behind. Without educating women, national endeavors can be less effective and the efforts of women are weaker. Equal opportunity of education for both sexes is equally important. In a number of developing countries, the participation of women in education is characterized by low and poor performance [2,3]. Education empowers the women to participate in the public and political life.

In Sub-Saharan Africa 36 million girls were missing from school. Those who have gained the access to education were poorly served and participate. At secondary and tertiary levels, the discrepancies between boys' and girls' education increased radically. Only 10

percent of girls as compared to 36 percent of boys attend secondary school, however, a large number of national budgets in many African countries are devoted to education [4]. With regard to the importance of educating women for poor countries like Ethiopia stated that in as much as women constitute at least one half of the total population of the nation, the question of women's education can no longer be ignored, and their involvement in the development process should not be left to be marginal [5]. After all, a developing country like Ethiopia, cannot afford the luxury of not using the brainpower, and talent of both sexes in the productive labor [6].

Odaga, et al. indicated that in Ethiopia more girls than boys repeat and dropout [3]. Low participation and poor academic achievement of female students at secondary level particularly in grade 10 (Ten) national examination indicates pertinent problems that need investigation. Though the analysis of female student's participation being in school is important, however, participation

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has been well research and there is a separate concern on how girls and why are in school perform poor participation to boys, and this is the focus of the rest of this research paper. Special attention will be given to women and to those students who did not get educational opportunities in the preparation, distribution and use of educational support input [7].

Since the beginning of modern education in Ethiopia, at the beginning of 20<sup>th</sup> c, different curricula had been designed in accordance with the contemporary education policies. After the “down of the Derg regime,” educational and training policy was shifted from teacher center to student centered method. In order to implement this student-centered method, teachers are expected to use different active learning methods; so without female students’ participation it is impossible to achieve the desired goal of the subject matter. One of the advantages of female student participation is that it offers the possibility of the variety of viewpoints exploring the particular individual view of female students as well as the general organizing principles that help to make the topic as a whole. It also provides an opportunity to share experience with other students and teachers. In this case the purpose of this study was to improve female student participation in Dr. Mohamed Sirad secondary school.

### Statement of the problem

During my teaching practice the female students are not participate in chemistry lessons actively. That is why the researchers chose this problem for my action research project. In order to carry out my action research project successfully, the researchers started observing the Female student’s participation every day. The researchers realized that most girls are not participated when it is time for chemistry class. As a result, the researchers decided to look into the matter myself. The level of female student participation in Dr. Mohamed Sirad secondary School is not active in different activities during the time of chemistry. Then it matters me to minimize the problem in my action research. The problem of low participation influence female student’s chemistry learning. To solve their problem, the researchers had identified the different aspects of the problem during my continuous observation, teaching in the class and asking question. As we all know participation is one of the essential elements in implementing active learning methods which make female students active participant in the teaching learning process and help them to learn more. But at chemistry in the selected Secondary School grade 9<sup>th</sup> C female students do not actively participate in chemistry class. Even, when the students are given some activities to be done in group, they do not do it; instead, they wait from their teacher. These make female students always to wait others rather than try to do by their own.

### General objective

The general objective of the research is to improve female student participation in Dr. Mohamed Sirad secondary school.

### Research question

- The research question is stated as the following?
- What is the level of female student’s participation in classroom during Chemistry class?
- What are the factors that affect female student participation?
- How to address female student participation in classroom

activity of Chemistry?

- Which teaching method is use to increase female student participation?

## METHODOLOGY

### Population group

The population group of my research was the grade 9<sup>th</sup> C female students. There are 25 female students in the class. Grade 9<sup>th</sup> C female students were selected because of the beneficiary from this study for the future. And also they were well suited for this study.

### Sampling technique

The sample technique of my research was purposive sample technique. From the total 24 female students 18 female students were purposively selected do to their low classroom participation.

### Source of data

The study primary data was used for this action research. The primary data was collected by data collection method.

### Data collection method

Data was collected by three different ways. Those were observation, interview and questionnaire.

**Interviews:** In this study conducted interview with grade nine at Dr. Mohamed Sirad secondary school.

**Observation:** The researchers observed the class room three times in week during practicum one, four times in one week during guide teaching and collected the most important information during block teaching. During this observation the researchers asked different question to evaluate the participation low achiever students in the class room.

### Data analysis method

The collected data was analyses through both qualitative and quantitative method. And finally described the qualitative data through thematic analysis but percentage and average was used for quantitative data.

## RESULTS AND DISCUSSION

### Data presentation and analysis

The finding of the research can be put in to four categories in relation to four specific questions that we find from the interview, observation and group discussion. The data collections are used to answer the research question as much as possible.

### Analysis of data obtain from interviews

The question that prepared for interview is related to the problem that affects low achiever students while they learned about factors affecting chemical equilibrium and gas laws. Depending on the question the researchers asked, the teacher gave the searchers his/her assumption and possible reasons for the factor that affect low achiever students as following.

Students lack of interest for the subject, not only for specific lesson as well. Some of students come to school because of fear their family.

Some of students come to school not for acquiring knowledge and skill, but for receive only grade 12<sup>th</sup> certificate. Lack of time for study, there are some students who learn by doing other job outside classroom time. Family situation of Students, life style and their economic levels are the major problems. Some students pass their time by cheating rather than the studying and also difficulty of the subject by itself. Some of students consider school as site of recreation are some of the problematic areas of the students.

### Analysis of data obtained from observation

Through the observation, the researchers seen that, there was group division among students in the classroom. Most of the time clever (fast learners) students seat and practice with clever students, medium achiever seat with medium achiever students and low achievers also seat with low achievers during group discussion, assignment, peer learning and other instructional activities. During this observation, also observed that the instructional between female and male students were very limited, female students sit on some rows in the class room and male students sit on the other row. This group division creates great difference among the students in the classroom, and these make some of the students are fast learners and high achiever, and some of the students are slow learners and finally make them low achiever in their academic performance. In addition to this through my discussion with students about factors affecting chemical equilibrium and gas laws in the classroom, also observed that except a few students, most of them have problem with this lesson.

### Level of female's participation

Day one only 11.1%, of female students is participated. Day two 27.8%, day three 18.8%, day four 22.2%, day five 11.8% participated respectively. From the above Table 1 averagely 18.3 female students were participated per day. And also, there are absent female students but, few in number (Tables 1 and 2).

**Table 1:** Levels of female student's participation checklists before intervention.

Day(s)	Number of female students participated	Number of female students not participated	Remark
Day 1	2	16	-
Day 2	5	13	-
Day 3	3	13	2 absent
Day 4	4	14	-
Day 5	2	15	1 absent

**Table 2:** Levels of female student's participation checklists before intervention.

Day(s)	Number of female students participated	Number of female students not participated	Remark
Day1	10	7	1-absent
Day 2	12	8	-
Day 3	13	4	1-absent
Day 4	16	2	-
Day 5	15	3	-

As shown on the above table, 58.8% of the female students were participated for the first day. The second day 66.7%, of the female students was participated. Day three 76.5%, day four 88.9%, day

five 83.35, female students were participated respectively. Averagely 74.8% of the female students were participated per day.

### Factors that affect female student's participation

There are many problems connect with poor female student's participation. Among those problem the most knows are most of them are seat at the back of the class. The female students low participate do too afraid of their in correct response. The female students also the have problem of English language. In other way the social back ground, cultural, and religion also affect female student's participation. The environment of the school, resource of the school, teachers itself, and teaching methods are affect the female student's participation. The female students are shay to express or answer what they want. The class size is making female students dominant if, it is large class size.

### Ways of addressing female students' participation

To address female student's participation, teacher use variety if interactive teaching method. Teacher will ask individual question and encourage individual attempt answering the question. With the clear instruction teacher will give up works, organize drama and debate to make female students active. Teacher will positively motivate female students with good response and improvements with good remark and indicate that he is interested in the progress of the female students. In order to influence the female students to actively participate, they must be informed that their participation and assessed as part of continues assessment. Teacher will reflect on his method of teaching and how the female students' participation encourages. Teacher will provide female students tutorial class to make them more participation the chemistry activity. Teachers should counselee female students to increase their participation. They should also help the weak and shy through group discussion and reading together. Educating the community to attend their female students what they learn, how they learn and how much they are participate in the classroom activity and help them the moral, emotional and material need [8].

### Teaching method to increase female student's participation

In case of teaching method, from the information I get by data collection for inactive students it has a great impact on the student's participation in a class and same female students account their inactivity the teaching method that teacher used. Even if the curriculum, select the active method for teaching, the instructor not implement correctly as it is planned. The female students said that, it would be better for them to use active teaching method so that they will be participating better in the classroom chemistry activity. Using active teaching method is one of the most things to increase female students' participation. Group discussion method is used to decrease afraid of the answering whatever they want and ask question. During the group discussion female students break their fear and discuss with their friends. Presentation is decrease fear and increase confidence [9]. Presentation, group discussion, demonstration, and practical learning, laboratory learning are basic teaching method to increase female student's participation than traditional teacher-centered method.

### CONCLUSION

In this study the research was found different factor that are directly related to low female student's classroom participation.

As it was seen in the data presentation and analysis part of this study most of female students are not participated on the chemistry lesson. Based on these problem and the objective improving female student's participation the research had been devised different action strategies, intervention is taken, positive reinforcement using active teaching method and giving advice for those female students are base of them. The outcomes of the research were the female students are less motivated to participate in chemistry class activity but, the school and chemistry teacher should have created a conducive environment for female students to have motivation for participation so as to achieve their goal.

## RECOMMENDATION

Based on the study the researchers recommend that the instructors to apply the all techniques that are given and other based specific class situation to motivate female students to participate in the classroom.

- Teacher attends the female students to participate in the classroom. Teacher advice, motivate and help the female students to make them more participate.
- Female students also attend their education and participate in the classroom activity.
- The school and the female student's parents help them to make the female students active participant.
- Teachers are at this front. Our profession braces the exposure to live and train human beings, especially young learners. Whatever you tend to do for human beings, you must have tested and confirmed your physical and mental capabilities or otherwise, you would fail to achieve what you intended. This is equally true when designing instructional objectives. Strategies to implement the objectives must set beforehand. As for the case of increasing female student's participation, the researchers suggest that teachers should practice these strategies to increase female students' participate effectively in classroom activities.
- Assess the students' motivation, attitudes, and the social pressures on them in order to build up a fuller picture of the as people.
- Scrutinize their methods and techniques in terms of the

amount of control you provide and the amount of students' led activity there is.

- Give more control and responsibility to the learners and think positively and communicate this to your students.
- Act as another participant in the teaching-learning process, rather than as a 'teacher'.
- Be less evaluative of learners' efforts, and allow them more time to be evaluative of their own.
- Give students the chance to discuss and evaluate the course, the language and their confounding factors like fears, frustrations, self-confidence and esteem and give students learning tasks that are easy-but-challenging to do and organize the students' seating arrangement to facilitate easy individual assessment of students' progress in learning.
- Finally, it may help for the next researcher a springboard.

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