



## GENDER DIFFERENCE ON ACHIEVEMENT IN CHEMISTRY THROUGH DEMONSTRATION TEACHING AT SECONDARY LEVEL IN THENI DISTRICT.

**V.Sudharsan**

Research Scholar, Department of Educational Psychology, Tamil Nadu Teachers Education University, Karapakkam, Chennai – 97.

**Dr. P.N.Lakshmi Shanmugam**

Assistant Professor, Department of Educational Psychology, Tamil Nadu Teachers Education University, Karapakkam, Chennai – 97.

**ABSTRACT** The present investigation was intended to study the Gender Difference on Achievement in Chemistry at Secondary level through Demonstration Teaching. The sample consisted of 70 students from Standard IX, Palaniyappa Memorial Higher Secondary School in Theni District, Tamil Nadu. It was found that Demonstration Teaching has significant gain in Achievement and there was no significant difference between boys and girls on their Achievement in chemistry in Unit 1 and Unit 2.

**KEYWORDS** : Secondary Level, Demonstration Teaching, Achievement in Chemistry.

### INTRODUCTION

“Swami Vivekananda” defines education as the manifestation of the perfection already in man. “Education for him means that process by which character is formed, strength of mind is increased, and intellect is sharpened, as a result of which one can stand on one's own feet. (Imran Saleem and Ashraf Iman, 2012). Secondary Education is a crucial stage in the educational hierarchy as it prepares the students for higher education and also for the world of work. It is significant that overall growth and development of child is manifested under the guidance of secondary school curriculum. (Dr. Narayan Barik, Kunjalata Das, 2002). Education is the process by which people learn: instruction refers to the facilitating of learning, usually by a teacher. (Sadhika Rawat and Rangarajan, 2014).

Secondary or high school teachers instruct students in grades 9 to 12. Subjects become even more specialized than in middle school. For example, instead of teaching a general science class, he might teach biology, chemistry, physics, or earth science. (Lauren Starkey, 2007). The teacher is vital to the communication process in providing the context, the means engaging the learner, in responding to the individual learner's progress and in adapting the learning environment to suit, and in providing the learner a means of connecting to other related experience. (V.K. Rao, 2003) Learning occupies an important place in everybody life. Learning is a lifelong process by which the learner acquires knowledge, attitudes and skills. (G. Aruna Mohan, S.Dandapani, 2011, Reprint). Students learn more from active than from passive teachers and from teachers with a strong emotional tone, whether this tone is positive or negative. Plan carefully and extensively, but view each lesson as a hypothetical construct rather than as the one and only path. Effective planning uncovers many alternative paths. (Uttam Kumar Singh and Nayak, 2006). There are some age old methods like lecture, discussion, etc., which are followed invariably in most of the class rooms, particularly at the stage of higher education. But group discussion, simulation exercises, buzz group techniques, etc., are efficiently adopted in small groups. Activity, method, Heuristic method, project method, Traditional Method, Demonstration Method, Multimedia, etc., can promote practical skills and abilities. Hence, variety and multiplicity of method should be encouraged in classroom practices. (Jayaprakash Reddy, 2009). Demonstration is the process of teaching through examples or experiments. For example, a science teacher may teach an idea by performing an experiment for students. A demonstration may be used to prove a fact through a combination of visual and associated reasoning. Demonstrations help to raise student interest and reinforce memory retention because they provide connections between facts and real – world applications of those facts. (Dr.Milan T. Mistry, 2013). A Demonstration class needs, of course, a regular conference time between the master teacher and his observers in order to take stock and to establish guidelines for the future. (S.K.Pandey and R.S.Sharma, 2008)

### NEED OF THE STUDY

The investigator is working as the Teacher Educator since 2009. During his experience, he faced a lot of problems to learn chemistry by the students. He noticed Gender differences, Less Creativity,

Chemistry Concept Knowledge, etc. Even his students performed their best teaching, but still there is a lack in lower level of Chemistry Concept Knowledge. This makes the investigator to find the reason behind their lacking. So there is a need of common interest and Concept Teaching to the students. In Chemistry, students show more interest in Lab than in theory. This shows that both Men and Women students show equal interest in Live Experiments. So the investigator planned to introduce the method of Demonstration in teaching for the students to get better science knowledge.

### OBJECTIVE OF THE STUDY

1. To find out the difference between boys and girls on achievement in chemistry through Demonstration at secondary level in Theni district.

### HYPOTHESES

1. Girls have better Achievement through Demonstration teaching than Boys at secondary level in Theni district.

### METHODOLOGY

Experimental method was used in this study. The sample is drawn by applying quota sampling technique and it consisted of 70, IX standard students from Palaniyappa Memorial Higher Secondary School in Theni District, Tamil Nadu. Four Lessons from two Units of IX standard Samacheer kalvi Syllabus was taught in 9.30 hours to these students. The investigator constructed and validated the Achievement in chemistry. It consisted of 100 multiple choice questions (50 from each Unit) these were selected on the basis of higher values of discrimination indices above 0.20 and difficulty indices between 25% to 75%. After the experimental treatment, a post-test was given to the samples. The statistical techniques used in this study was 't' - test.

### Results and Discussion:

#### Differential Studies:

Hypothesis 01: Girls have better Achievement through Demonstration Teaching than Boys at Secondary Level in Theni District.

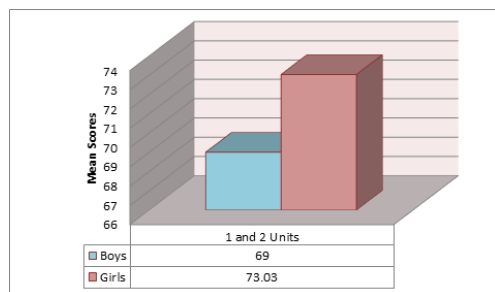
**Table – 1 Boys Vs Girls (Post Test)**

Unit	Group	N	Mean	S.D	't'
1 and 2	Boys	39	69	10.15	1.94
	Girls	31	73.03	7.17	

The calculated value for the difference in the mean scores of the Boys and the Girls in their Post-test scores is 1.94 (as seen in Table - 1). This shows that there is no significant difference between Boys and Girls when teaching through Demonstration. Figure-1, furnishes the bar diagram depicting the post – test performance of the Boys and Girls through Demonstration teaching.

Due to students (Boys and Girls) common interest in Demonstration. Demonstration Teaching provides a better understanding of chemistry to the students. Thus, teaching chemistry through Demonstration gives a fruitful result.

Figure – 1 Boys Vs Girls (Post Test)



### CONCLUSION

Demonstration Teaching provides students a better understanding of subjects. Live working models, Working Charts, Dummy Models, etc were seen as significantly more useful additional interest for students. It increased the cognitive abilities of students. So that Boys and Girls have no significant difference in Achievement in chemistry through Demonstration Teaching. This gives us a common interesting method to teach the students to get equal attention in this Modern world.

### References

1. Dr. Imran Saleem and Ashraf Iman. 2012. Education in Emerging Indian Society. APM Publishing Corporation, New Delhi.
2. Dr. Narayan Barik, Kunjalata Das. 2002. Current Trends in Education, Kunal Books, New Delhi.
3. Sadhika Rawat and Rangarajan. R. 2014. Teaching of education. Pacific Books International. New Delhi.
4. Lauren Starkey, 2007, Change your Career: Teaching as Your New Profession, Kaplan Publishing, New York.
5. V.K. Rao, 2003, Educational Technology, A.P.H. Publishing Corporation, New Delhi.
6. G. Aruna Mohan, S.Dandapani, 2011, Reprint, Understanding the Learner & Classroom Management, Neelkamal Publications PVT. LTD., New Delhi.
7. Uttam Kumar Singh and Nayak, Teaching of Science, 2006, Commonwealth Publishers, New Delhi.
8. Jayaprakash Reddy.R.(2009),Methods of Teaching, APH Publishers, New Delhi.
9. Dr.Milan T. Mistry, 2013, Educational Measurement and Evaluation, Paradise Publishers, Jaipur.
10. S.K.Pandey and R.S.Sharma, 2008(Volume - 6), "Encyclopaedia of Modern Techniques of Teaching" – Teaching of Modern Languages, Common Wealth Publishers, New Delhi.