



# A Study on Self-Efficacy of Mathematics Teachers in Relation to Gender and Type of Management

S Surekha

Research Scholar, Department of Education, Osmania University, Hyderabad, Telangana

**Prof. A Ramakrishna**

Head Department of Education Osmania University, Hyderabad, Telangana

## Abstract:

The present study was conducted to find and compare Self-Efficacy of mathematics teachers. 200 Government and private School teachers were selected by using random cum stratified sampling technique. Teacher Self - Efficacy Scale developed by N. Ashraf and S. Jamal was used for data collection. The data was subjected to statistical treatment by using percentage, Mean, Standard Deviation, and 't' test. Results revealed that male and female teachers differ significantly, Male Teachers were found better Self-Efficacy as compared to Female teachers. Further, self-efficacy of teachers may not have been significantly affected by the management of their respective schools.

**Key words:** Self efficacy, Mathematics Teachers, Gender and Type of Management

Education is one of the important stages about formation of society. As education is the whole system in which morality, attitude, information and skills are given. We need institutions for constructing these human being behaviors. To achieve this this, education system needs a institution (school) and staff (teachers) .Nothing is permanent on this earth except change. Teachers' personal values drive their goals and behaviors at school. Moreover, values can support subjective well-being and an individual sense of self-efficacy. The class teacher's role has a huge impact on the learning process of students. Basically, teachers are vital for success or failure of an educational system; they implement the policies of an education system on the ground. Thus, the more competent the teachers are, the more effective is the educational system. If the teachers are competent, they will impact students' performance. Teacher competency is based on self-efficacy (beliefs on own abilities) and lack of self-efficacy causes many psychological problems such as low confidence level and low self-esteem. Bandura (1997) defines self-efficacy as the organization of social, technical, and behavioral skills to achieve targets. Self-efficacy in

the context of teaching refers to the ability to determine the outcomes of the students' work. Traditionally, teacher education programmes have the primary goal of developing preservice teachers' knowledge such as content knowledge, pedagogical knowledge, and pedagogical content knowledge (Shulman, 1987). In addition to these types of knowledge, teachers' beliefs about teaching efficacy have been found as an important ingredient for teachers to be effective. Borko and Putnam (1995) stressed that teachers must have a rich content knowledge, pedagogy, and pedagogical content knowledge so as to develop certain beliefs in each academic domain. The concept of self-efficacy was pioneered by Albert Bandura (1925) who characterized self-efficacy as the extent to which individuals believe they can organize and execute actions necessary to bring about a desired outcome. Self-efficacy is fundamentally concerned with the execution of control rather than the outcome which the action produces. Self-efficacy is the extent or strength of one's belief in one's own ability to complete tasks and reach goals. Self-efficacy affects every area of human endeavour. By determining the beliefs a person holds regarding his or her power to affect situations, it strongly influences both the power a person actually has to face challenges competently and the choices a person is most likely to make. Teacher self-efficacy cannot be easily defined, because teaching is complex and constantly evolving, and self-efficacy involves a great many traits and factors. Ashton argued that the teacher influences students, and that the intensity and ability of teachers represents their self-efficacy. Hoover-Dempsey, Bassler and Brissie defined teacher self-efficacy as including three aspects: 1) teaching effectively oneself; 2) learning abilities; and 3) professional knowledge.

### **Statement of the problem**

A Study on Self-Efficacy of Mathematics Teachers in Relation to Gender and Type of Management

### **Objectives of the study**

The following objectives were framed in the present study.

1. To study and compare Self efficacy of Male and Female mathematics teachers.
2. To study and compare Self efficacy of Government and private school mathematics teachers.

### **Hypothesis of the study**

1. "There is no significant difference between men and women Mathematics teachers in terms of their self-efficacy."
2. "There is no significant difference among the Mathematics teachers working in different types of management with regard to their self-efficacy."

### **Methodology of the study**

This is a quantitative study which explores self-efficacy of mathematics teachers. Having understood of the background of the problem and also what necessitates the Researcher to undertake a study on the felt problem, the

Researcher finds the Descriptive Survey form of research to be beneficial to realise what is being questioned. Therefore, the Researcher chooses to adopt the descriptive form of research

### Sample of the study

The sample for the present study consisted of 200 High school teachers dealing Mathematics subject. The stratified random sampling was applied for 200 teachers eight Urban Mandals and eight Rural Mandals are selected for the study. By adopting Stratified Random Sampling technique

### Tools for the study

1. Teacher Self - Efficacy Scale (TSES): To have a better understanding of the various things that create difficulties for teachers in their routine activities, a standardized tool developed by **N. Ashraf and S. Jamal.(2016)**

### Statistical techniques used

The Statistical techniques employed in this study were:

- 1 Arithmetic Mean and Standard Deviation, were used to assess the level of dependent variables.
- 2 't' test for independent and large sample was used to find the significance of differences between two means.

### Analysis and interpretation of data

**Hypothesis 1:** "There is no significant difference between men and women Mathematics teachers in terms of their self-efficacy."

**Table 1**

**Difference between Men and Women Mathematics Teachers interms of their Self-efficacy**

Gender	N	Mean	SD	't' Value	Level of significance
Male	100	122.60	15.82	2.09	Significant at 0.05 level.
Female	100	118.46	14.54		

According to Table 1 the 't' values for Self-efficacy as a (2.09), are higher than the Table value (1.96) at 5% level. Therefore, it is inferred that there exists a significant difference in the teachers' level of self-efficacy based on their gender. The study reveals that men teachers have more self-efficacy than their Female counterparts. Hence the hypothesis, "There is no significant difference between men and women Mathematics teachers in terms of their self-efficacy," is not accepted.

**Discussion:**

This significant difference in the self-efficacy level of male and female mathematics teachers implies that the nature of self-efficacy is gender-specific, i.e., men are likely to have higher levels of self-efficacy than women. Consequently, the result of this study supports the idea that gender has an effect on self-efficacy and that female teachers need to be provided with additional support and encouragement to maintain their self-efficacy levels in the field of mathematics. This can be achieved through initiatives like gender-specific programmes that focus on boosting self-efficacy for female teachers.

**Hypothesis 2:** “There is no significant difference among the Mathematics teachers working in different types of management with regard to their self-efficacy.”

**Table-2**  
**Different types of management in terms of their self-efficacy**

Type of Management	N	Mean	SD	‘t’ Value	Level of significance
Government	100	122.11	14.02	0.82	Significant at 0.05 level
Private	100	124.60	14.31		

According to Table 2, the calculated ‘t’ values for Self-efficacy as a (0.82) are less than the Table value (1.96) at 5% level of significance. Hence the hypothesis, “There is no significant difference among the Mathematics teachers working in different types of management with regard to their self-efficacy,” is accepted. This is a significant result as it implies that there is no statistically significant difference in self-efficacy among the mathematics teachers working in different types of management.

**Discussion:**

This is a significant result as it implies that there is no statistically significant difference in self-efficacy among the mathematics teachers working in different types of management. Even though the self-efficacy of teachers may not have been significantly affected by the management of their respective schools, there may still be other factors that could influence their confidence and motivation levels in teaching mathematics.

**Conclusion**

Hence it is concluded that there is significant difference in self-efficacy amongst Mathematics Teachers with respect to gender and self-efficacy of teachers may not have been significantly affected by the management of their respective schools.

## Educational implications

- ✓ Teaching is the most crucial and challenging profession in the world. Teachers are the builders of the nation. For facilitating teaching learning process and in making teaching more successive, effective and efficient teachers play a very important and central role. It is the teacher who holds the key role to success of any education system and teachers are accountable for successful human development of the nation and for preparing the foundation for social, political and economic development.
- ✓ The present study has accessed the self-efficacy of mathematics teachers. Self-efficacy of both male and female government and private teachers needs to be enhanced by building up their self-esteem and boosting their confidence.
- ✓ It is important for the administrators to take care of the personal problems of the teachers and see that they develop good and active inter-personal relations.
- ✓ The administrators must ensure good organizational climate and effective working conditions for teaching. They should strive towards providing a clean and efficient administration. It is important to develop efficacy for optimum utilization of school recourses, efficacy in decision-making and ultimately creating a positive school climate.
- ✓ Teacher education programmes must be redesigned and enriched accordingly. These programs can empower teachers with high self-efficacy beliefs and self-regulation of learning.

## Suggestions for further research

This study could be extended to college and University level teachers.

1. A comparative study can also be conducted between two states or more than two districts of the same state
2. The present piece of research was confined on variables, Self efficacy in relation to gender and Type of management. Therefore, similar investigations are recommended to be carried out on the variable of demographic profiles, socio-economic status, length of service and marital status etc.

## References:

1. Pokharel, Jagat Krishna. (2018) "Effectiveness of Teacher Training in Teaching Mathematics in Secondary Level Schools." International Journal of Educational Science and Research (IJESR) 8.4 (2018):9-14
2. Etyang, Patrick Philip, and Ursulla Okoth. (2018) "Class Teachers" Role in Maitaining Students" Discipline in Secondary Schools in Teso South District, Kenya." International Journal of Human Resources Management (IJHRM) 7.3 (2018): 1-8.
3. Meyer, J.P., and Herscovitch, L. (2001). Commitment in the workplace: Toward a general model. Human Resource Management Review, 11(3), 299-326.
4. O'Reilly, C., and Chatman, J. (1986). Organizational commitment and psychological attachment: The effects of compliance, identification, and internalization on prosocial behavior. Journal of Applied

- Psychology, 71, 492- 499.
5. Penley, L.E., and Gould, S. (1988). Etzioni's model of organizational involvement: A perspective for understanding commitment to organizations. *Journal of Organizational Behaviour*, 9, 43–59.
  6. Porter, L.W., Steers, R.M., Mowday, R.T., and Boultian, P.V. (1974). Organizational commitment, job satisfaction, and turnover among psychiatric technicians.
  7. Johnson, R. (2013). The top 10 characteristics of healthy organization. *Houston Chronicle*. Retrieved from <http://smallbusiness.chron.com/top-10-characteristics-healthyorganization20452.html>
  8. Varia, vishal. "A Study of Permanent and Contractual Secondary School Teachers for their Professionalism." *International Journal of Humanities and Social Sciences (IJHSS)* 5.5 (2016):27-38
  9. Bandura, A. (1997). *Self-efficacy: The Exercise of Control*. New York: W.H. Freeman and Company.
  10. Bandura, A., (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, New Jersey: Prentice Hall.
  11. Ghaith, G. & Shaaban, K. (1999). The relationship between perceptions of teaching concerns, teacher efficacy and selected teacher characteristics. *Teaching and Teacher Education*, 15, 487-496.
  12. Selaledid, K. (2008). *Teacher efficacy in the Free State Province of South Africa*. Department of Educaiton, Vista University, Welkom Campus, P.B.: 1881, Welkom, 9460,
  13. France. Kumar, S. D. & Papaiah, K. (2009). Self-efficacy of high school teachers. *Research & Reflections on Education*, 7, 4, 18.
  14. Nneji, L. M. (2013). Examining the effect of teaching practice on pre-service basic science teachers' science teaching efficacy beliefs. *Indian Streams Research Journal*, 3(5), 1-9.
  15. Dehghani M., Sani H.J., Pakmehr H. and Malekzadeh A. (2011). Relationship between Students' Critical Thinking and Self- Efficacy Beliefs in Ferdowsi University of Mashhad, Iran. *Procedia Social and Behavioural Science*, 15, 2952-2955.
  16. Kaur, K. (2013). *Professional Commitment of Secondary School Teachers of Punjab In Relation to Self-Efficacy and Motivation*. Unpub.Ph. D. Education, Punjabi University, Patiala.