



TEACHING EFFECTIVENESS OF MATHEMATICS TEACHER AT SECONDARY LEVEL

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Abstract:

The present study aims the teaching effectiveness of Mathematics teacher at secondary level. The present study was conducted on a sample of 20 regular and private in-service Mathematics teachers from Government and Private high schools of Guntur district of Andhra Pradesh. The study used a self-developed Tool. Descriptive and inferential statistics were used to draw inferences on the hypotheses. The findings of the study revealed no significant relationship between male and female maths teacher teaching effectiveness and locale has significant effect on teaching competence but Type of institute has significant effect on teaching competence.

Key Words: Teacher, Teaching Effectiveness, Gender, Type of institute and locale

INTRODUCTION:

Teaching competence is related to the proficiency of teaching and therefore to the duties of the teacher in the classroom. Teachers' competences involve the diverse roles of teachers at different levels of personal, school, local community, and professional networks, covering the entire spectrum of their profession (Hagger & McIntyre, 2006).

Teaching competencies include skills like communication and interpersonal skills, under which come competencies like acting as a role model to their students, having clear verbal communication skills, and assuming responsibility, etc. Next, under teaching competencies, comes organisation and planning, classroom management, facilitation and engagement, and assessment and coaching.

NEED OF THE STUDY:

Quality education is a pre-requisite for national, regional and global development. For delivery of quality education, we need quality teachers who are committed to teaching and equipped with necessary knowledge, skills and competencies for effective teaching. Quality teachers and teaching only can be the strong agent of national reconstruction and social re-engineering. Teachers are the person who could develop and mould the students as good citizens. So, for making good citizen for our future nation it is very much important that the quality education should be given to our students. For serving quality education teacher should teach effectively. Nobody can be born as a teacher, this is possible through training. Only academic qualification is not also criterion of the effective teacher. For being an effective teacher they should be professionally skilled

Review of Related literature:

Adevale Owodunni Saka (2022) Teacher Effectiveness of Some Selected Secondary Schools' Science, Technology, Engineering And Mathematics Subjects: Implication for Sustainable



Development Using Science Education. . The results revealed that teacher effectiveness of the selected STEM subjects' teachers was relevant. The results also indicated that teacher effectiveness of chemistry teachers was the best among the three categories of teachers. Furthermore, the findings revealed no significant gender difference in teacher effectiveness of the selected STEM subjects' teachers. The study discussed the implications of the findings for sustainable development using science education. Munmun Sadhukhan (2018) studied that a study on teaching effectiveness of secondary school teachers. This study reveals that the teaching effectiveness of secondary school teachers does not differ on the basis of gender or subject stream. But the effectiveness in teaching differs on the basis of teaching experience and the locality of school.

Kamalpreet Kaur Toor (2015) studied the teacher effectiveness, general intelligence and creativity of secondary school teachers. The sample consists of 850 secondary school teachers of 172 schools in 7 districts of Punjab. Teacher effectiveness scale by Kumar and Mutha, the Standard General Progressive Matrices (SPM) and Divergent Production Abilities by Sharma were administered for collecting information. The result of the study reveals that: There was no significant difference in teacher effectiveness of male and female secondary school teachers. There was significant difference in teacher effectiveness of government and private secondary school teachers.

STATEMENT OF THE PROBLEM:

Mathematics is one of the core subjects in secondary education different modern concepts and methods are introduced in the syllabus of mathematics at secondary stage. The curriculum revision is being undertaken by the state department of education (SCERT) and the central department of education (NCERT) constantly and all the modern mathematics is incorporated at the secondary stage. The teacher education programs for preparing mathematics teachers are also strength and during the past to ducats whenever the curriculum is changes different researching programs such as refresher courses, seminars, workshops etc., are conducted to make true teaching of mathematics more effective in secondary schools.

OPERATIONAL DEFINITIONS OF KEY TERMS:

Teaching Effectiveness: Teacher effectiveness is the impact that classroom factors, such as instructional practices, teacher expectations, classroom organization, and use of classroom resources, have on student achievement.”

Mathematics Teachers: A teacher who teach Mathematics at secondary level students

OBJECTIVES:

1. To find out the teaching effectiveness of mathematics teacher at secondary level
2. To find out the teaching effectiveness of mathematics teacher w.r.t.the following variables
 - a. Gender : Male / female
 - b. Locality of School : Rural / Urban
 - c. Type of Institute : Government / Private

HYPOTHESES:

1. There would be no significant difference between male and female secondary school Mathematics teachers in their teaching effectiveness. .
2. There would be no significant difference between rural and urban secondary school Mathematics



teachers in their teaching effectiveness.

3. There would be no significant difference between Government and private secondary school Mathematics teachers in their teaching effectiveness.

SCOPE AND DELIMITATIONS:

1. The scope of the demographic variables is Gender, Locality, Type of Institute,
2. The study is limited to the 20 secondary school Mathematics teachers in Guntur district only.

METHODOLOGY:

Survey method is used in this study. A simple random sample of 20 secondary school teachers in Guntur district. A researcher construct and standardized the Teaching competency of mathematics teacher. A tool consists of 30 items. the scoring procedure is likert 2 point scale YES (2 marks) , and NO (1 mark). Spilt half reliability is 0.86 and Test-retest reliability is 0.74 and the tool is valid. mean SD ; 't ' value were calculated.

ANALYSIS AND INTERPRETATION:

Objective -1: To find out the teaching effectiveness of mathematics teacher at secondary level.

Table-1
Table showing mean, % of mean, S.D of the Mathematics Teachers

Whole	Mean	SD	% of mean	1/5 th of Mean
20	42.97	10.04	71.61	9.288

From the table .1 that the Mean and Standard Deviation of teachers are 46.44 and 10.04 respectively which can be considered as a good scores in general. The percentage of mean is 71.610

Objective – 2: To find out the teaching effectiveness of mathematics teacher w.r.t.the following variables

- a. Gender : Male / female
- b. Locality of School : Rural / Urban
- c. Type of Institute : Government / Private

Hypothesis-1: There would be no significant difference between male and female secondary school Mathematics teachers in their teaching effectiveness.

Table – 2
showing mean, S.D. and 't' values of male and female teachers

Gender	No	Mean	SD	S.Ed	't'
Male	10	41.19	6.24	0.42	1.69 ^{NS}
Female	10	42.02	6.41		

NS- Not significant at 0.05 level

From the table 3. that the Mean and Standard Deviation of males are 41.19 and 69.24 respectively. Similarly, Mean and Standard Deviation of females are 42.02 and 6.41 respectively. The calculated t-value 1.69 is not significant at 0.05 level. Hence, the null hypothesis is accepted and it is concluded that there is no significant difference between the male and female secondary school Mathematics teachers in their teaching effectiveness



Hypothesis – 2: There would be no significant difference between rural and Urban secondary school Mathematics teachers in their teaching effectiveness

Table – 3

showing mean, S.D. and ‘t’ values of rural and urban teachers

Locality	No	Mean	SD	S.Ed	‘t’
Rural	10	40.52	4.01	0.48	4.20**
Urban	10	42.54	4.27		

** - Significant at 0.05 level

From the table 4 that the Mean and Standard Deviation of rural teachers are 40.52 and 4.01 respectively. Similarly, Mean and Standard Deviation of urbanteachers are 42.54 and 4.27 respectively. The calculated t-value 4.20 is significantat 0.05 level. Hence, the null hypothesis is rejected and it is concluded that there is significant difference between the rural and urban secondary school Mathematics teachers in their teaching effectiveness

Hypothesis-3: There would be no significant difference between Government and Private secondary school Mathematics teachers in their teaching effectiveness

Table – 4

showing mean, S.D. and ‘t’ values of Government and Private schoolteachers

Type of institute	No	Mean	SD	S.Ed	‘t’
Govt	10	42.44	4.08	0.49	2.75**
Private	10	41.09	4.13		

** significant at 0.01and 0.05 levels

From the table 5 that the Mean and Standard Deviation of government teachers are 42.44 and 4.08 respectively. Similarly, Mean and Standard Deviation of private teachers are 41.09 and 4.13 respectively. The calculated t-value 2.75 is significant at 0.01 level. Hence, the null hypothesis is rejected and it is concludedthat there is significant difference between the Government and Private secondary school Mathematics teachers in their teaching effectiveness.

FINDINGS:

1. 71.61% of secondary school teachers have a high level of teachingeffectiveness of mathematics teacher.
2. The variable gender is not significantly influenced the teachingeffectiveness of secondary school Mathematics teachers.
3. The variable locality is significantly influenced the teaching effectivenessof secondary school Mathematics teachers.
4. The variable type of institute was significantly influenced the teachingeffectiveness of secondary school Mathematics teachers.

EDUCATIONAL IMPLICATIONS:

These findings are expected to bring benefits for stakeholders who are Mathematics teachers in schools or involved in Mathematics teacher education inhigher education.



SUGGESTIONS FOR FURTHER STUDY:

1. A study can be taken up in the relationship of teaching competency and teaching attitude of higher secondary school teachers.
2. A similar study can be taken up for the higher education level.

CONCLUSION:

Teaching effectiveness is an important criterion of quality education. Effective teaching can make the learning easier and effective. The students can learn more easily and effectively when they get proper guidance from their teacher. So, only the higher qualification of a teacher is not necessary for effective teaching. The teachers should have the professional skill. Beside the professional skill the attitude towards the teaching profession, relation with the pupils is also important for effective teaching.

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