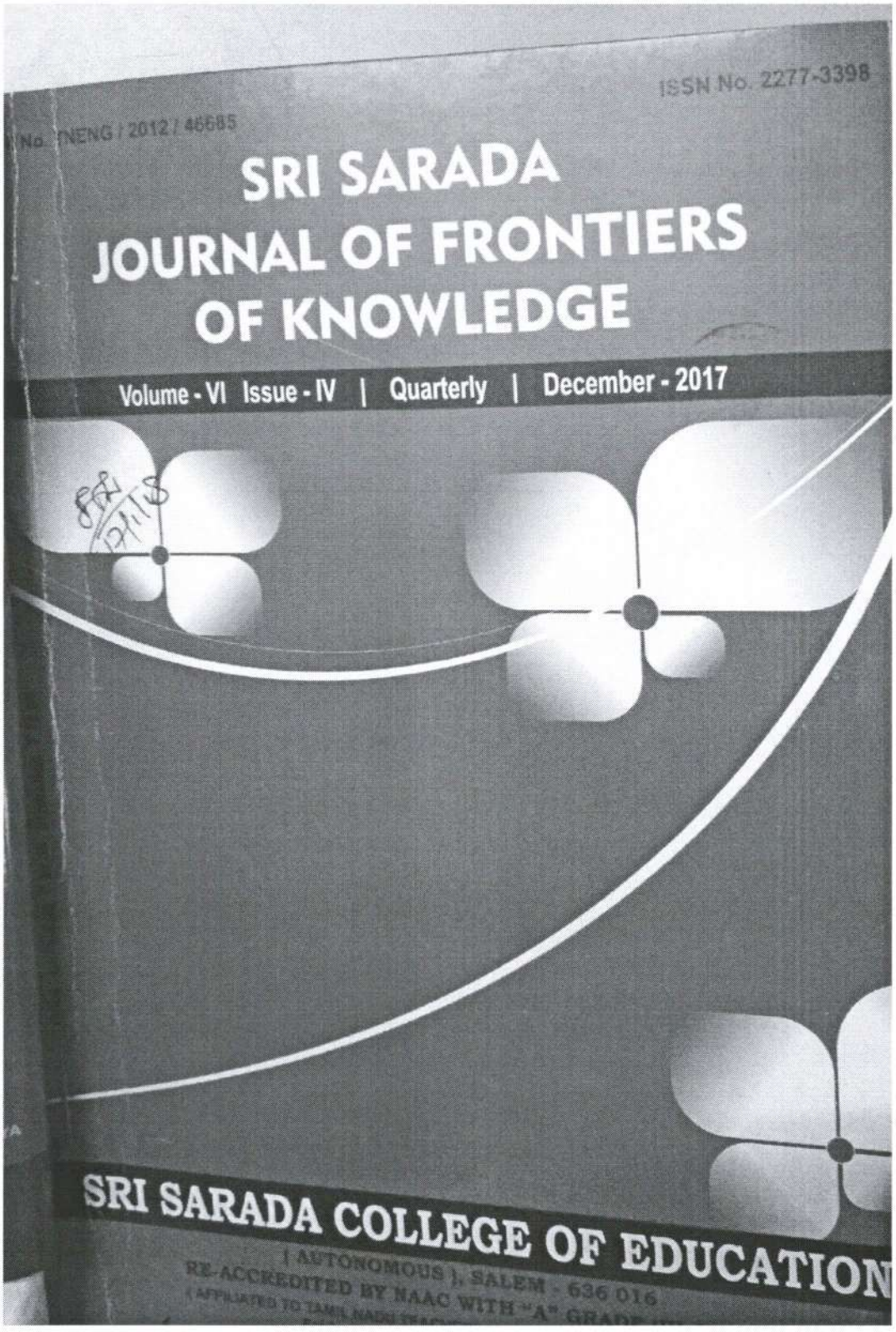

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SCIENCE TEACHING COMPETENCY OF PRIMARY SCHOOL TEACHERS

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ABSTRACT

The present study aims at investigating the Science teaching competency of primary sch teachers. The sample consists of 210 primary school teachers from Tenkasi Educational District were selected using stratified random sampling technique. The science teaching competency s prepared by Dr. P. Annaraja and V.L. Dorothy Rani was used for collecting the data. The sur method was used for the study. The data was analysed using percentage analysis,'t' test and 'F' t The major finding shows that there is significant difference between Government aided a Government school teachers in developing scientific attitude, exposing science through nat updating scientific knowledge and science teaching competency. Significant difference is fou between the primary school teachers who attended and not attended in-service training programme science teaching competency and its dimensions.

INTRODUCTION

Primary School Teachers are the teachers who are teaching classes from I std to V std. The primary school teachers are responsible for the foundations of the students. Teacher is the person who can knock at the doors of mind.

The Science teacher plays the vital role in spreading scientific knowledge and building up habits of thought and action and there by making the teaching of science efficient and effective.

Competency means adequacy and sufficiency. Teacher competencies are the skills, knowledge, values which a teacher possess; they are the tools of teaching. Only the teacher who possesses all the skills, knowledge and values can function effectively in a teaching situation and is said to be competent to teach in that situation.

SIGNIFICANCE OF THE STUDY

Primary education plays a vital role in the socialization of a child. It is crucial for a child because the basic 3R's and fundamentals in Science, Social studies and other vital subject experiences are provided. Science has helped the human being to acquire supremacy over nature. Science is fundamentally concerned with exploring and interpreting the physical world. Scien helps develop the power of thinkin reasoning curiosity, open-mindedness an ultimately develops scientific attitude. It expected that science education shoul develop well defined ability in cognitive affective and psychomotor domains. So th teachers of primary school can follow creative methods for making science as a interesting subject. The competency of the teacher is recognized in terms of skills acquired in presenting the lesson in the class. According to T.F. Green (1964) the act of teaching may be considered as those that a teacher comes on given consequence to certain professional rules for the principles. They are rational and deliberate deeds performed accordance with professional calling. The first step towards systematic classroom management is made when a teacher understands how to control his communication so that he can use his influence as a social force. According to Rabindiranath Tagore, "A teacher can never truly teach unless he is still learning himself. A lamp can never light another lamp unless it continues to burn its own flame". So the teachers have to up date their knowledge and skills in their subjects.

OBJECTIVES

1. To find out the significant difference, if any, in science teaching competency and its dimensions of primary school teachers with reference to type of school.
2. To find out the significant difference, if any, in science teaching competency and its dimensions of primary school teachers with reference to attended and not attended in-service training programme.
3. To find out the significant difference, if any, in science teaching competency and its dimensions of primary school teachers with reference to teaching experience.

HYPOTHESES

1. There is no significant difference in the science teaching competency and its dimensions of the primary school teachers with reference to type of school.
2. There is no significant difference in science teaching competency and its dimensions of primary school teachers with reference to attended and not attended in-service training programme.
3. There is no significant difference in science teaching competency and its dimensions of primary school teachers with reference to teaching experience.

METHOD USED FOR THE RESEARCH

The survey method was found suitable for this investigation.

POPULATION FOR THE STUDY

The population for the study is the primary teachers handling third, fourth and fifth standard of the primary schools of Tenkasi Educational District.

SAMPLE FOR THE STUDY

The investigator randomly selected 79 schools in Tenkasi educational district in Tirunelveli. From these schools the teachers are selected with the help of stratified random sampling technique. The sample consists of 210 primary school teachers.

TOOL

The tool used for collecting the data for the present study was Science Teaching Competency Scale. The tool is a standardized tool prepared by Dr.P.Annaraja and V.L.Dorothy Rani

STATISTICAL TECHNIQUES

For analyzing the data, statistical techniques like 't' test, and 'F' test were used.

ANALYSIS OF DATA

Null Hypothesis – 1

There is no significant difference in the science teaching competency and its dimensions of the primary school teachers with reference to type of school.

Table - 1

Difference between Government Aided and Government Primary School Teachers in their Science Teaching Competency

Science Teaching Competency and its dimensions	Government aided N = 109		Government N =101		Calculated value of 't'	Remarks at 5 % level
	Mean	S.D	Mean	S.D		
Arousing interest in science	12.22	2.63	11.89	2.19	0.99	NS
Providing scientific experience	14.39	2.67	14.43	1.89	0.13	NS
Developing scientific attitude	10.08	1.87	9.42	2.20	2.36	S
Exposing science through nature	10.50	2.73	9.71	2.81	2.07	S
Updating scientific knowledge	11.42	2.10	10.57	2.04	2.97	S
Science teaching competency	58.61	9.80	56.02	8.87	2.01	S

(At 5% level of significance the table value of 't' is 1.96)

It is inferred from the above table that there is no significant difference between Government aided and Government primary school teachers in arousing interest in science and providing scientific experience but there is significant difference between Government aided and Government school teachers in developing scientific attitude, exposing science through nature, updating scientific knowledge and science teaching competency. That is, the Government aided school teachers are better than the Government school teachers in their developing scientific attitude, exposing science through nature, updating scientific knowledge and science teaching competency.

Null Hypothesis – 2

There is no significant difference in the science teaching competency and its dimensions of the primary school teachers with reference to attended and not attended in-service training programme.

Table -2

Difference between the primary school teachers who attended and not attended in-service training programme in their science teaching competency

Science Teaching Competency and its dimensions	In-service Training Programme				Calculated value of 't'	Remarks at 5 % level
	Attended N =163		Not attended N = 47			
	Mean	S.D	Mean	S.D		
Arousing interest in science	12.38	2.39	10.96	2.27	3.74	S
Providing scientific experience	14.73	2.22	13.28	2.35	3.78	S
Developing scientific attitude	10.05	1.88	8.77	2.34	3.45	S
Exposing science through nature	10.47	2.77	8.94	2.55	3.56	S
Updating scientific knowledge	11.52	1.95	9.28	1.66	7.82	S
Science teaching competency	59.14	8.81	51.21	9.03	5.33	S

(At 5% level of significance the table value of 't' is 1.96)

It is inferred from the above table that there is significant difference between the primary school teachers who attended and not attended in-service training programme in arousing interest in science, providing scientific experience, developing scientific attitude, exposing science through nature, updating scientific knowledge and science teaching competency. That is, the teachers who attended in-service training programme are better than the in-service training programme not attended teachers in their arousing interest in science, providing scientific experience, developing scientific attitude, exposing science through nature, updating scientific knowledge and science teaching competency.

Null Hypothesis – 3

There is no significant difference in the science teaching competency and its dimensions of the primary school teachers with reference to teaching experience.

Table -3

Difference among the teachers of below 10 years, 10-20 years, and above 20 years teaching experience in their science teaching competency

Science Teaching Competency and its dimensions	Source of variation	Sum of squares	df	Variance estimate	Calculated 'F' value	Remarks at 5 % level
Arousing interest in science	Between Within	19.82 1226.38	2.00 207.00	9.91 5.92	1.67	NS
Providing scientific experience	Between Within	17.65 1122.95	2.00 207.00	8.82 5.42	1.63	NS
Developing scientific attitude	Between Within	21.58 872.52	2.00 207.00	10.79 4.22	2.56	NS
Exposing science through nature	Between Within	21.44 1621.34	2.00 207.00	10.72 7.83	1.37	NS
Updating scientific knowledge	Between Within	123.35 811.61	2.00 207.00	61.67 3.92	15.73	S
Science teaching competency	Between Within	794.88 17979.88	2.00 207.00	397.44 86.86	4.58	S

(At 5 % level of significance the table value of ' F ' is 2.99)

It is inferred from the above table that there is no significant difference among the teachers of below 10 years, 10-20 years and above 20 years teaching experience in arousing interest in science, providing scientific experience, developing scientific attitude and exposing science through nature but there is significant difference among the teachers of below 10 years, 10-20 years, and above 20 years teaching experience in updating scientific knowledge and science teaching competency While comparing science teaching competency of below 10 years, 10-20 years and above 20 years teaching experience of primary school teachers, the teachers with 10-20 years teaching experience (12.35) are better than others.

FINDINGS

1. No significant difference between Government aided and Government primary school teachers in arousing interest in science and providing scientific experience but there is significant difference found between Government aided and Government school teachers in developing scientific attitude, exposing science through nature, updating scientific knowledge and science teaching competency. While comparing the mean score the Government aided school teachers (10.08, 10.50, 11.42 and 58.61) are better than the Government school teachers (9.42,9.71,10.57 and 56.02) in their developing scientific attitude, exposing science through nature, updating scientific knowledge and science teaching competency.
2. Significant difference is found between the primary school teachers who attended and not attended in-service training programme in arousing interest in science, providing scientific

experience, developing scientific attitude, exposing science through nature, updating scientific knowledge and science teaching competency. That is, the teachers who attended in-service training programme are better than the in-service training programme not attended teachers in their arousing interest in science, providing scientific experience, developing scientific attitude, exposing science through nature, updating scientific knowledge and science teaching competency.

3. No significant difference found among the teachers of below 10 years, 10-20 years and above 20 years teaching experience in arousing interest in science, providing scientific experience, developing scientific attitude and exposing science through nature but there is significant difference found among the teachers of below 10 years, 10-20 years, and above 20 years teaching experience in updating scientific knowledge and science teaching competency. While comparing science teaching competency of below 10 years, 10-20 years and above 20 years teaching experience of primary school teachers, the teachers with 10-20 years teaching experience (12.35) are better than others.

INTERPRETATIONS

The 't' test results reveal that Government aided school teachers are better in developing scientific attitude, exposing science through nature, updating scientific knowledge and science teaching competency than Government school teachers. This may be due to the fact that it is definitely the quality and responsibility possessed and shouldered by the management, which constantly enforces on teachers to bring out better results which in turn denotes the prestige. More over, they will provide enough facilities for this progress.

The 't' results reveal that the teachers who attended in-service training programmes are better in arousing interest in science, providing scientific experience, developing scientific attitude, exposing science through nature, updating scientific knowledge and science teaching competency than those who did not attend in-service training programme. This may be due to the efficiency and quality of in-service programme organized by the authorities concerned. Further, the former had the opportunity of learning the latest techniques of teaching and counseling, through in-service programme.

The 'F' value shows that the teachers from 10-20 years teaching experience are better in updating scientific knowledge and science teaching competency than 10 years and above 20 years teaching experience teachers. This may be due to the fact that the 10-20 years teaching experience group realizes and are convinced of the need and necessity for updating scientific knowledge.

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