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A Study On Problem Solving Ability Of High School Teachers In Selected Southern Districts Of Tamil Nadu

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ABSTRACT

Problem solving ability is providing opportunities for school teachers to efficiently use their approaches and methods and to improve their creativity and it helps them to acquire higher degree of knowledge and improves their teaching, communication and cooperation and personal development. The results demonstrate that there exists significant difference amidst gender, age group and type of school of high school teachers and their problem solving ability and no significant difference exits amidst education and medium of teaching of high school teachers and their problem solving ability. The problem solving ability of high school teachers is positively, significantly and high related with transformational leadership of high school headmasters. Therefore, high school teachers should approach problems from different perspectives and find the best possible solution and they must assess the effectiveness of solutions. Besides, they should have all information that requires solving problems and they must also analyze the consequences of solutions for the problems.

Keywords: High School Teachers, Problem Solving Ability, Transformational Leadership

1. INTRODUCTION

Problem solving ability is a process involving in reaching the goal when no definite way to discover solutions to a specific problem (Anboucarassy, 2015) and it is the capacity of individuals to make structure and to think critically and interpreting solutions to problem and also to discover causes for problems and finding the solution to solve problem efficiently (Agnihotri, 2015). Problem

solving ability is the ability for judging, innovation and decision making for solving problems.

Problem solving ability is enhanced by adopting different types of methods and techniques. High quality teaching, favorable class room atmosphere and interaction(Tripathi et al 2013) are increasing problem solving ability of school teachers and it is also influencing by teaching and learning strategies(İlker, 2014). Problem solving ability is providing opportunities for school teachers to efficiently use their approaches and methods and to improve their creativity and it helps them to acquire higher degree of knowledge and improves their teaching, communication and cooperation and personal development (Al-khatib, 2012). Problem solving ability is the most significant aspect of high school teachers in their teaching effectiveness and it is also related with leadership in their high schools. Therefore, it is very important to study problem solving ability of high school teachers.

2. REVIEW OF RELATED LITERATURE

Pentang et al (2021) found that perspective elementary school teachers were possessing moderate degree of problem solving ability and their subject preference was positively and significantly affecting their problem solving ability.

Hiltrimartin et al (2020) concluded that in service teachers were having lower degree of problem solving skills in mathematics subject and significant difference was there amongst gender of in service teachers and their problem solving ability.

Maulyda et al (2019) revealed that primary school teachers were having moderate level of problem solving skills and urban primary school teachers had higher level of problem solving skills as compared to rural primary school teachers.

Karademir (2018) found that pre service teachers were moderate level of problem solving skills and significant difference was found amongst gender, department of pre service teachers and their problem solving ability.

Cakır (2017) concluded that perspective teachers had moderate level of problem solving ability and female perspective teachers were possessing higher degree of problem solving ability than male and gender, location and major subject were influencing their problem solving ability.

Bahtiyar and Can (2016) revealed that pre science teachers were having higher degree of problem solving ability and significant difference was found among juniors and sophomores in problem solving ability.

Karabacak et al (2015) found that teacher candidates were having moderate degree of problem solving ability and significant difference was found amongst gender of teacher candidates and their problem solving ability.

3. OBJECTIVES OF THE STUDY

1. To study difference amidst problem solving ability and gender and age group of high school teachers.
2. To examine difference amidst problem solving ability and education, medium of teaching and type of school of high school teachers.
3. To assess relation amidst problem solving ability of high school teachers and transformational leadership of high school headmasters.

4. HYPOTHESES OF THE STUDY

1. There is no difference amidst problem solving ability and gender and age group of high school teachers.
2. There is no significant difference amidst problem solving ability and education, medium of teaching and type of school of high school teachers.
3. There is no significant relation amidst problem solving ability of high school teachers and transformational leadership of high school headmasters.

5. METHODOLOGY

The present study is carried out in Madurai, Virudhunagar and Thoothukudi districts in South Tamil Nadu. Random sampling method is used to choose high school teachers and data are gathered from 505 high school teachers by employing survey method. Percentages are used to understand profile of high school teachers. Mean, standard deviation, t-test and ANOVA test are used to scrutinize difference amidst profile of high school teachers and their problem solving ability. Correlation analysis is applied to assess relation amidst problem solving ability of high school teachers and transformational leadership of high school headmasters.

6. RESULTS

6.1. PROFILE OF HIGH SCHOOL TEACHERS

The profile of high school teachers is given in Table-1.

Table-1. Profile of High School Teachers

Profile	Number(n=505)	Percentage
Gender		
Male	286	56.63
Female	219	43.37
Age Group		
25 – 35 Years	132	26.14
36 – 45 Years	268	53.07
46– 55 Years	105	20.79
Education		

UG with B.Ed.	167	33.07
PG with B.Ed.	204	40.40
PG with M.Ed.	134	26.53
Medium of Teaching		
English	289	57.23
Tamil	216	42.77
Type of School		
Government	192	38.02
Government Aided	111	21.98
Private	202	40.00

The results elucidate that 56.63 per cent of high school teachers are males, while, 43.37 per cent of them are females and 53.07 per cent of them are belonging to age group of 36 – 45 years, while, 20.79 per cent of them are belonging to age group of 46– 55 years. The results disclose that 40.40 per cent of them are holding PG with B.Ed., while, 26.53 per cent of them are holding PG with M.Ed. and 57.23 per cent of them are teaching in Tamil medium, while, 42.77 per cent of them are teaching in English medium and 40.00 per cent of them are working in private schools, while, 21.98 per cent of them are working in Government aided schools.

6.2. PROFILE OF HIGH SCHOOL TEACHERS AND THEIR PROBLEM SOLVING ABILITY

The difference amidst profile of high school teachers and their problem solving ability in high schools is given as below.

6.2.1. Gender and Problem Solving Ability

The difference amidst gender of high school teachers and their problem solving ability is given in Table-2.

Table-2. Gender and Problem Solving Ability

Gender	N	Mean	Standard Deviation	t-value	Significance
Male	286	148.48	10.43	3.645**	.000
Female	219	151.58	8.02		

** Significance in 1% level

Mean value for problem solving ability is 151.58 for female high school teachers and it is 148.48 for male high school teachers and it explicates that problem solving ability is higher for female high school teachers in comparison with male.

The t- value is 3.645 and it explains that there exists significant difference amidst gender of high school teachers and their problem solving ability. As a result, the null hypothesis is rejected.

6.2.2. Age Group and Problem Solving Ability

The difference amidst age group of high school teachers and their problem solving ability is given in Table-3.

Table-3. Age Group and Problem Solving Ability

Age Groups	N	Mean	Standard Deviation	F-value	Significance
25 – 35 Years	132	145.22	10.20950	22.460**	.000
36 – 45 Years	268	151.55	9.21127		
46– 55 Years	105	151.19	7.65870		

** Significance in 1% level

Mean value for problem solving ability is differing from 151.55 for high school teachings belonging to age group of 36 – 45 years to 145.22 for high school teachings belonging to age group of 25 – 35 years and it explicates that problem solving ability is higher for high school teachings belonging to age group of 36 – 45 years in comparison with rest of age groups.

The F- value is 22.460 and it explains that there exists significant difference amidst age group of high school teachers and their problem solving ability. As a result, the null hypothesis is rejected.

6.2.3. Education and Problem Solving Ability

The difference amidst education of high school teachers and their problem solving ability is given in Table-4.

Table-4. Education and Problem Solving Ability

Education	N	Mean	Standard Deviation	F-value	Significance
UG with B.Ed.	167	148,93	9.64	1.697NS	.184
PG with B.Ed.	204	150.73	9.96		
PG with M.Ed.	134	149.54	8.82		

NS Not Significant

Mean value for problem solving ability is differing from 150.73 for high school teachings holding PG with B.Ed. to 148,93 for high school teachings holding UG with B.Ed. it explicates that problem solving ability is higher for high school teachings holding PG with B.Ed. in comparison with rest of educational levels.

The F- value is 1.697 and it explains that there exists no significant difference amidst education of high school teachers and their problem solving ability. As a result, the null hypothesis is accepted.

6.2.4. Medium of Teaching and Problem Solving Ability

The difference amidst medium of teaching of high school teachers and their problem solving ability is given in Table-5.

Table-5. Medium of Teaching and Problem Solving Ability

Medium of Teaching	N	Mean	Standard Deviation	t-value	Significance
English	289	149.57	9.54	0.681[NS]	.496
Tamil	216	150.16	9.64		

[NS] Not Significant

Mean value for problem solving ability is 150.16 for high school teachers teaching in Tamil medium and it is 149.57 for high school teachers teaching in English medium and it explicates that problem solving ability is higher for high school teachers teaching in Tamil medium in comparison with English medium.

The t- value is 0.681 and it explains that there exists no significant difference amidst medium of teaching of high school teachers and their problem solving ability. As a result, the null hypothesis is accepted.

6.2.5. Type of School and Problem Solving Ability

The difference amidst type of school of high school teachers and their problem solving ability is given in Table-6.

Table-6. Type of School and Problem Solving Ability

Type of School	N	Mean	Standard Deviation	F-value	Significance
Government	192	149.16	9.52	3.372[*]	.035
Government Aided	111	148.57	11.31		
Private	202	151.14	8.41		

[*] Significance in 5% level

Mean value for problem solving ability is differing from 151.14 for high school working in private schools to 148.57 or high school working in Government aided schools and it explicates that problem solving ability is higher for high school working in private schools in comparison with rest of schools.

The F- value is 3.372 and it explains that there exists significant difference amidst type of school of high school teachers and their problem solving ability. As a result, the null hypothesis is rejected.

6.3. RELATION AMIDST PROBLEM SOLVING ABILITY OF HIGH SCHOOL TEACHERS AND TRANSFORMATIONAL LEADERSHIP OF HIGH SCHOOL HEADMASTERS

The correlation analysis is employed to assess relation amidst problem solving ability of high school teachers and transformational leadership of high school headmasters and the result is given in Table-7.

Table-7. Problem Solving Ability of High School Teachers and Transformational Leadership of High School Headmasters

Particulars	Correlation Coefficient
Problem Solving Ability of High School Teachers and Transformational Leadership of High School Headmasters	0.68**

** Significance in 1% level

The correlation coefficient amidst problem solving ability of high school teachers and transformational leadership of high school headmasters is 0.68 and it makes clear that they are positively, significantly and high related with each other. As a result, the null hypothesis is rejected.

7. CONCLUSION

The above results demonstrate that there exists significant difference amidst gender, age group and type of school of high school teachers and their problem solving ability and no significant difference exits amidst education and medium of teaching of high school teachers and their problem solving ability. The problem solving ability of high school teachers is positively, significantly and high related with transformational leadership of high school headmasters. Therefore, high school teachers should approach problems from different perspectives and find the best possible solution and they must assess the effectiveness of solutions. Besides, they should have all information that requires solving problems and they must also analyze the consequences of solutions for the problems.

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