

Comparative Analysis of Problem-Solving Skills Among School-Going Students: A Study of Residential Ashram Schools and Traditional Schools

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Abstract

In this given paper researcher wants to study the problem-solving skills among school-going students about their gender, age, level of education, stream, habitat, and two different educational settings. For the present study researcher selected 360 school-going students from traditional and residential ashram schools. For collecting data researcher used a tool 'problem-solving. Collected data analysis through descriptive statistics, factorial ANOVA, and T-test (IBM SPSS-20). The researcher found the result that there is a significant difference in problem-solving skills among traditional and residential ashram school' students about their class, gender, medium, and types of school. There is no significant difference in problem-solving skills among school-going students about their caste, family income, and habitat.

Keywords: problem-solving skill, Residential Ashram Schools, Traditional Schools

Introduction:

Psychosocial self-sufficiency skills are effective skills for actualizing other life domains and capabilities through which people can enhance their ability to cope with the changes and events in life through communication skills, positive attitude, problem-solving skills, problem-solving skills, interpersonal skills, and adaptation. The ability to enhance these skills assists people in addressing difficulties, exploiting opportunities, and overcoming issues in a non-violent more appropriate way; these skills are thus vital for accompanied stability and daily life competency. Psychosocial recovery involves certain aspects of life skills that are relevant to behavioral change, subjective well-being as well as resilience. Based on WHO (1994), life skills that are essential for children and adolescents include self-management, relationship management, decision-making and problem-solving, communication skills, interpersonal understanding, analysis, synthesis, affect management and stress management. Of these skills, problem-solving is the most important as the lack of a solution to problems is a source of mental stress

and physical strain in approaching the challenges in one's life. In the present society and the world in general, it requires life skills to cope with day-to-day problems, improve on one's health standards, and embrace the realities of life.

Educated in Residential Ashram Schools where an academic education is accompanied by learning values and skills inherent to life, the graduates are quite distinct from the children educated in the Traditional Schools where education is a competitive process that takes place under limited conditions. Such differences in the philosophies of education may cause variations in how the students can develop problem-solving skills. This article aims to compare the problem-solving skills of students from Residential Ashram Schools and Traditional Schools in India in an attempt to find out how these learning settings foster or hinder the development of such competencies. Thus, this research will clarify the advantages and limitations of each of the above models to make methodological suggestions to education as well as contribute to the desired preparation of students for the 21st century. The work not only analyzes the differences in problem-solving abilities of students from different learning environments but also identifies the specific factors that may lead to these differences, and provides suggestions for improvement of problem-solving education in various school settings.

Rational of the study:

According to the WHO, and the NIMH life skills education is very important for a healthy life, and school-going age is the most developmental period. Among these skills, problem-solving is especially critical for students to effectively deal with the rising academic and other challenges. When learning and performing in different roles and with many expectations, problem-solving is crucial in arriving at the right decisions. Thus, teachers, parents, and other educational authorities are encouraged to promote problem-solving skills in students and include them in teaching-learning processes.

The main focus of this work is to compare and contrast the effects of learning environments in India's Residential Ashram Schools and Traditional Schools on the development of problem-solving abilities. Residential Ashram Schools are designed for tribal and Other backward classes applicable to SCs and STs in India, which are value-based education with innovative built-in cultural norms for character building and education in all-round development along with a bias towards problem-solving attitude. Traditional Schools on the other hand are schools that have traditional standardized curriculums for learning that provide an education based on achievement, that makes use of educational functions to teach analytical and logical thinking.

Comparing these two educational environments of learning, hence, this study seeks to address the following research question: This study therefore seeks to contribute to the existing knowledge by identifying how diverse environments affect problem-solving. The studies could assist educationists and policymakers in customizing the learning process and practices for the students so that no child is left behind or unable to develop the required skills in problem-solving for successful future endeavors. This might also contribute towards the formulation of composite learning models as a combination of the strong features of both models to enhance learning models to enhance learning systems.

Statement of the problem:

Based on the findings of the literature review and the broad research inquiry of the existence of problem-solving skills among School Going Students, the present researchers specified and stated the problem as **“Comparative Analysis of Problem-solving Skills Among School-going Students: A Study of Residential Ashram Schools and Traditional Schools”**

The objective of the study:

The following objectives were identified-

1. To compare the problem-solving skills between Traditional and Residential Ashram schools.
2. To find out the problem-solving skills concerning their Educational Settings, Class, Gender, Sibling, Medium, and Habitat.
3. To implement problem-solving skills among the students in all schools for this much aware all teachers, deference educational settings, the higher authority of education, and parents also.

Hypotheses:

In keeping with the problem formulated and objectives stated earlier, the following hypotheses were proposed to be tested:

⁰H₁: There is no significant difference between Traditional & Residential Ashram school students in terms of their problem-solving skills.

⁰H₂: There is no significant difference between students studying through different mediums of instruction under Residential Ashram School Educational Settings in terms of their problem-solving skills.

⁰H₃: There is no significant difference between male and female students studying in traditional Schools in terms of their problem-solving skills.

⁰H₄: There is no significant difference between male students of Residential Ashram Schools and female students of Traditional Schools in terms of their problem-solving skills.

⁰H₅: There is no significant difference between male students of Traditional Schools and Residential Ashram Schools in terms of their problem-solving skills.

⁰H₆: There are no significant differences among the students of class VII, class VIII, and class IX, in terms of their problem-solving skills.

⁰H₇: There are no significant differences among the students from rural, semi-urban, and urban areas, in terms of their problem-solving skills.

⁰H₈: There are no significant differences among the students who have no sibling, one sibling, and more than one sibling, in terms of their problem-solving skills.

⁰H₉: There are no significant differences in problem-solving skills among the students concerning their level of class (VII, VIII & IX) and different Education settings (Traditional Schools & Residential Ashram Schools), when considered together.

⁰H₁₀: There are no significant differences in problem-solving skills among the students concerning their habitat (Rural, Semi-urban, Urban) and different Education settings (Traditional Schools & Residential Ashram Schools), when considered together.

⁰H₁₁: There are no significant differences in problem-solving skills among the students concerning their number of siblings (No, One, more than one) and different Education settings (Traditional Schools & Residential Ashram Schools) when considered together.

Study design:

A cross-sectional survey study was carried out among Traditional & Residential ashram schools' secondary level (vii-ix) students. Entire Traditional & Residential ashram school students studying in classes vii, viii, & ix within the age group of 11-15 years of the district of South 24 Pargana & Hooghly in West Bengal are considered as a population of the study. For this study, researchers adopted a purposive sampling strategy. Samples were chosen prospectively from Traditional & Residential ashram schools of South 24 Pargana and Hooghly. The total number of samples consists of 360 school-going secondary level students of Traditional (180) & Residential Ashram (180) Schools, studying in classes vii, viii & ix.

Within the samples of Traditional Educational Settings schools (180), 120 were male and 60 were female students and 180 samples of Residential Ashram schools were male students.

Variables – In the present study researchers wanted to find out the difference in existing problem-solving skills among the school-going student based on various indicators. the following variables were identified and used.

- Independent Variable – Deferent educational settings School (Traditional & Residential ashram schools), Gender (Male, Female), Medium of instruction (Bengali, English), Class (VII, VIII & IX), Habitat (Rural, Semi-Urban & Urban), Siblings (No, One, more than one) were used as independent variables in the study.
- Dependent Variable – In this study “problem-solving skill “among the ten core life skills was chosen as the Dependent variable.

Tool - The researcher has used a self-made questionnaire consisting of 14 items with five possible alternatives (never, rarely, sometimes, usually, always) to measure the most accurate aptitude of problem-solving skills from the target students. The items of the tool are divided into two categories (positive & negative), 10 items (1, 2, 3, 4,6,7,8,9,10 &14 no question) are related to positive category, and 4 items (5, 11, 12, &13 no question) are related into negative category. The scoring of the positive category question is 1,2,3,4,5 and the negative category question are 5,4,3,2,1 respectively to the participant’s choice of alternatives.

Data were tabulated in Microsoft Excel 2007 and analyzed with the help of descriptive statistics like- mean and SD etc. and inferential statistics like- T-test, ANOVA, and Factorial ANOVA using Statistical Package for the Social Sciences (SPSS) version 20.0 software. For inferential statistics 0.05 and 0.01 levels of significance were taken to analyze whether the study was significant or not.

Analysis and interpretation:

Descriptive statistics and graphical presentation were used for the assessment of problem-solving skills among the students at the secondary level. Parametric inferential statistics, viz. T-test, ANOVA, and Factorial ANOVA were used to predict the problem-solving skills among the higher education students under six independent variables.

Table 1: Different Educational settings wise problem-solving skills among school-going students.

Gender	Different Educational settings	N		Mean		Std. Deviation		Std. Error Mean	
Male	Traditional Schools	120	180	54.80	55.04	6.457	6.329	.589	.472
Female		60		55.53		6.088		.786	
Male	Residential Ashram Schools	180		57.92		5.416		.404	
Total		360		56.48		6.055		.319	

It was found that though both traditional & Residential Ashram Schools students achieved competence in problem-solving skills in Residential Ashram Schools ($M=57.92$, $S.D= 5.416$) students' average score on problem-solving skills is higher than traditional Schools students ($M=55.04$, $S.D= 6.329$).

Figure 1: Pie-chart of percentage distribution of participants.

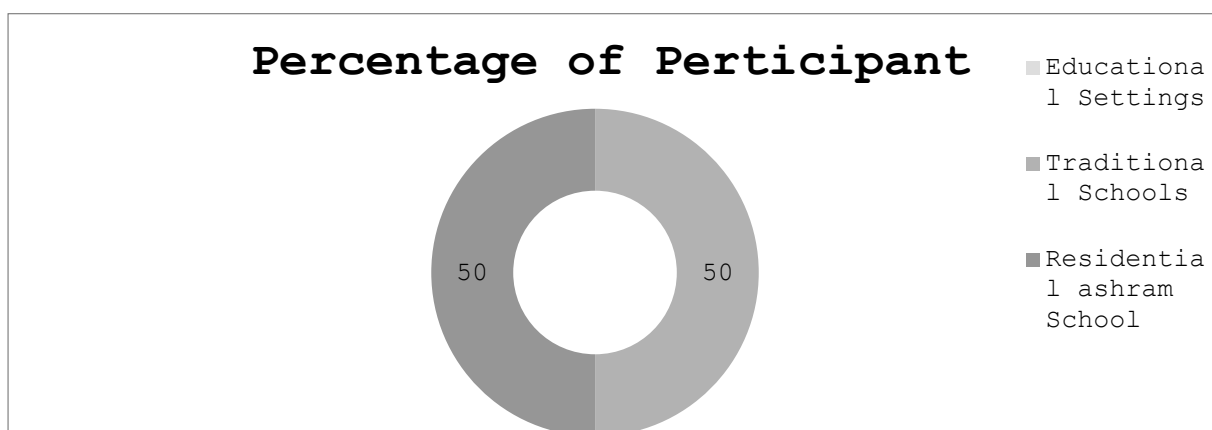


Table 2: T-test showing the different independent variable-wise comparisons of problem-solving skills.

Variable	Levels	N	Mean	S.D	t-value	df	p-value	Remarks
Educational Settings	Residential Ashram Schools	180	57.92	5.416	-4.626	358	.000	S*(P<0.05 level)
	Traditional Schools	180	55.04	6.329				
Medium	Bengali	90	57.96	5.526	.096	178	.924	NS** (P>0.05 level)
	English	90	57.88	5.333				
Gender	Male	120	54.80	6.457	-.732	178	.465	NS** (P>0.05 level)
	Female	60	55.53	6.088				
Gender (Male/Female)/ Educational Settings (Residential Ashram Schools/ Traditional Schools)	Male (Residential Ashram Schools)	180	57.92	5.416	2.860	238	.005	S*(P<0.05 level)
	Female (Traditional Schools)	60	55.53	6.088				
Gender (male)/Educational Settings (Traditional Schools / Residential Ashram Schools)	Male (Traditional Schools)	120	54.80	6.457	-4.518	298	.000	S*(P<0.05 level)
	Male (Residential Ashram Schools)	180	57.92	5.416				

*S: Significant, **NS: Not Significant.

Table 3: ANOVA showing class (VII, VIII & IX) wise comparison of problem-solving skills of secondary school students.

ANOVA of class-wise problem-solving skill						
Source of variable	Sum of squares	df	Mean square	F	Sig.	Remarks
Between Groups	181.422	2	90.711	2.495	.084	NS* (p>0.05 level)
Within Groups	12980.442	357	36.360			
Total	13161.864	359				

The above table shows that the calculated value of the F ratio (ANOVA) is lower than the critical value of the F ratio at both levels of significance i.e. no significant difference was found in problem-solving skills among the secondary-level students based on their class [F(2,357); 2.495, p>0.05]. Hence, it can be said that there is no significant difference in problem-solving skills among the students concerning their (VII, VIII & IX) class.

ANOVA of habitat-wise problem-solving skill						
Source of variable	Sum of squares	df	Mean square	F	Sig.	Remarks
Between Groups	160.568	2	80.284	2.205	.112	NS* (p>0.05 level)
Within Groups	13001.296	357	36.418			
Total	13161.864	359				

The above table revealed that there is no significant difference in problem-solving skills among the students concerning their (Rural, Semi-urban, & Urban) habitats.

ANOVA of siblings wise problem-solving skill						
Source of variable	Sum of squares	df	Mean square	F	Sig.	Remarks
Between Groups	109.305	2	54.652	1.495	.226	NS* ($p > 0.05$ level)
Within Groups	13052.559	357	36.562			
Total	13161.864	359				

From the above table, it can be concluded that there is no significant difference in problem-solving skills among the students concerning their (No, One & more than one) siblings.

Descriptive statistics of Class & Educational Settings problem-solving skill				
Class of the students	Educational Settings	Mean	Std. Deviation	N
VII	Traditional Schools	54.07	5.495	80
	Residential Ashram Sch	57.00	4.885	59
	Total	55.52	5.385	119
VIII	Traditional Schools	54.28	6.104	60
	Residential Ashram Sch	59.05	4.815	61
	Total	56.69	5.969	121
IX	Traditional Schools	56.78	7.030	60
	Residential Ashram Sch	57.67	6.302	60

	Total	57.23	6.663	120
Total	Traditional Schools	55.04	6.329	180
	Residential Ashram Sch	57.92	5.416	180
	Total	56.48	6.055	360

Factorial ANOVA of class & Educational Settings wise problem-solving skill						
Source	Type III	df	Mean Square	F	Sig.	Remarks
	Some of the squa					
Corrected model	1147.578	5	229.516	6.763	.000	
Intercept	1148081.337	1	1148081.337	33828.128	.000	
Class	177.437	2	88.718	2.614	.075	
Educational Sett	736.527	1	736.527	21.702	.000	
Class *Educational Se	227.241	2	113.621	3.348	.036	
Error	12014.286	354	33.939			
Total	1161581.000	360				
Corrected total	13161.864	359				

A 3 (Class) \times 2 (Educational Settings) between- subject's factorial ANOVA was calculated comparing the problem-solving score of the students who study in either one class and under either one Educational Settings. The main effect for the class was not significant [$F(2,354) = 2.614, p > 0.05$]. A significant main effect for Educational Settings was found [$F(1,354) = 21.702, p < 0.05$]. Students who study in Traditional Schools Educational Settings school have significantly lower problem-solving scores ($M = 55.04, sd = 6.32$) than students studying in Residential Ashram Schools Educational Settings schools ($M = 57.92, sd = 5.416$). The interaction between class and Educational Settings was significant [$F(2,354) = 3.348, p < 0.05$]. Therefore, despite not having a significant effect on students' problem-solving scores alone, the effect of the class was influenced by what type of Educational Settings students were studying under.

Descriptive statistics of Habitat & Educational Settings wise problem-solving skill				
Educational Settings of Students	Habitat of the students	Mean	Std. deviation	N
Traditional Schools	Rural	61.00	7.211	3
	Semi-Urban	51.36	9.178	25
	Urban	55.53	5.496	152
	Total	55.04	6.329	180
Residential Ashram Schools	Rural	58.50	4.549	24
	Semi-Urban	57.85	6.197	66
	Urban	57.81	5.048	90
	Total	57.92	5.416	180
Total	Rural	58.78	4.790	27
	Semi-Urban	56.07	7.661	91

	Urban	56.38	5.437	242
	Total	56.48	6.055	360

Factorial ANOVA of Habitat & Educational Settings wise problem-solving skill						
Source	Type III sum Of squares	df	Mean Square	F	Sig.	Remark
Corrected Model	1233.995	5	246.799	7.325	.000	
Intercept	261252.892	1	261252.892	7753.566	.000	
Educational Setting	87.691	1	87.691	2.603	.108	
Habitat	366.797	2	183.398	5.443	.005	
Educational Settings*Habitat	329.989	2	164.995	4.897	.008	
Error	11927.869	354	33.695			
Total	1161581.000	360				
Corrected Total	13161.864	359				

A 3(Habitat) \times 2 (Educational Settings) between-subjects factorial ANOVA was calculated comparing the problem-solving score of the students who live in either Rural, Semi-Urban, or Urban and under either one Educational Settings. The main effect for Habitat was significant [F (2,354) = 5.443,

$p < 0.05$]. Students who live in rural areas have significantly higher problem-solving scores ($M = 58.78$, $S. D = 4.790$) than students who live in semi-urban ($M = 56.07$, $sd = 7.661$) and urban ($M = 56.38$, $sd = 5.437$) area. The main effect for Educational Settings was found [$F(1,354) = 2.603$, $p > 0.05$] to be not significant. The interaction between Habitat and Educational Settings was significant [$F(2,354) = 4.897$, $p < 0.05$]. Therefore, despite not having a significant effect on students' problem-solving scores alone, the effect of Educational Settings was influenced by what type of habitat the students belonged to.

Descriptive statistics of Siblings & Educational Settings Problem-solving skill				
Educational Settings of students	No siblings of the students	Mean	Std. Deviation	N
Traditional Schools	No	54.84	6.375	73
	One	54.85	6.748	86
	More than one	56.57	3.982	21
	Total	55.04	6.329	180
Residential Ashram Schools	No	58.16	5.214	104
	One	57.24	5.745	67
	More than one	60.11	4.885	9
	Total	57.92	5.416	180
Total	No	56.79	5.936	177
	One	55.90	6.420	153
	More than one	57.63	4.499	30
	Total	56.48	6.005	360

Factorial ANOVA of Siblings & Educational Settings wise problem-solving skill						
source	Type III Sum of squares	df	Mean Square	F	Sig.	Remarks
Corrected Model	878.370	5	175.674	5.063	.000	
Intercept	559959.988	1	559959.988	16137.577	.000	
Educational Settins	410.845	1	410.845	11.840	.001	
Siblings	115.339	2	57.670	1.662	.191	
Educational Settings*Siblings	20.110	2	10.055	.290	.749	
Error	12283.494	354	34.699			
Total	1161581.000	360				
Corrected Total	13161.864	359				

A3 (Number of Siblings) \times 2 (Educational Settings) between-subjects factorial ANOVA was calculated comparing the problem-solving score of the students who have Zero, one, or more than one sibling and study in either one Educational Settings. A significant main effect for Educational Settings was found [$F(1,354) = 11.840, p < 0.05$]. Students who study in Traditional Schools Educational Settings school have significantly lower problem-solving scores ($M = 55.04, sd = 6.32$) than students studying in Residential Ashram Schools Educational Settings schools ($M = 57.92, sd = 5.416$). The main effect for siblings was not significant [$F(2,354) = 1.662, p > 0.05$]. The interaction between no of siblings and Educational Settings was not significant [$F(2,354) = .290, p > 0.05$]. Therefore, the effect of number of siblings was not influenced by the type of Educational Settings students were studying under.

Discussion and Conclusion:

The major findings that emerged through the present study help us to improve our understanding of the rate of prevalence of problem-solving skills among the students of different educational Settings like Traditional Schools and Residential Ashram Schools in West Bengal concerning their demographic variables educational Settings, class, gender, medium of instruction, siblings, habitat of the students. It was found that though the average score of problem-solving skills among Traditional Schools students (M=55.04, S. D= 6.329) is lower than the score of Residential Ashram Schools (M=57.92, S.D= 5.416) students both Educational Settings students achieved the competence on problem-solving skill. The study showed that the effect of Educational Settings on problem-solving skills was statistically significant in favor of Residential Ashram Schools Educational Settings. This indicates that Residential Ashram Schools Educational Settings students demonstrate higher problem-solving skills compared with Traditional Schools Educational Settings students of West Bengal.

It was observed in the study that; problem-solving skill development is affected by so many demographic and social factors that were may or may not accounted for in our day-to-day living. Making the transition from high school to university is both an exciting and challenging time for students. As intelligence is crucial for living, problem-solving is also very important for healthy living. Therefore, every student should develop their problem-solving skill in per individual capacity. Society and educational institutions should come forward and join hands in between to provide opportunities and experiences that will help the students develop problem-solving skills better than ever. This should be our conclusion to this study.

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