An Experimental Study to assess the effectiveness of the Structured Teaching Programme on Knowledge of Traffic Safety among School Children at Selected Urban Schools in Ludhiana, Punjab

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ABSTRACT

Objectives:

1. To assess the pretest knowledge of Traffic Safety among school children of control and experimental group.
2. To assess the post test knowledge of Traffic Safety among school children of control and experimental group.
3. To compare the pretest and posttest knowledge of Traffic Safety among school children of control and experimental group.
4. To ascertain the relationship of structured teaching on knowledge of Traffic Safety among school children with selected variables such as age, gender, academic standard, father's education, exposure to mass media, type of vehicles use.

Material and Method: Experimental approach, true experimental design was used and the study conducted in Sargodha National public senior secondary school, field ganj and Shivalik Vidya Mandir School, Jamalpur. & Shivalik Vidya Mandir School Jamalpur, Ludhiana (Pb.) 64 school children were chosen by Non proportionate stratified random sampling. The data collected through self structured questionnaire. The data was analyzed by descriptive statistics (mean, median & mode) & inferential statistics (Chi square, F test, Correlation of coefficient & t test).

Results: The pretest mean knowledge score of experimental group was 19.66 and in post test 31.94 after carrying out the structured teaching programme. On other side control group mean knowledge score of pretest was 19.91 & in post test 21.41. Horizontal't' test findings between pre test and post test of experimental group was18.065 is highly significant at the level of $P<0.001$ & vertical't' test value between post tests of control and experimental group was 198.677 also highly significant at the level of $P<0.001$. it has shown that structured teaching brought valuable change in the knowledge of school children regarding traffic safety. Recommendations: the findings of the study shown that there is need to carry out the interventions to increase the knowledge of school children regarding traffic safety which further will help to reduce the accidents & secure the school children on the roads.

Keywords: *Experimental Study, Structured Teaching Programme, Traffic Safety, School Children*

INTRODUCTION

"If accident is a disease, education is its vaccine"[1]

Road traffic crashes are routine occurrences throughout the world. Thousands of people lose their lives on the roads every day. Many more left with disabilities or emotional scars that they will carry for the rest of their lives.[2] Children and young adults are more vulnerable. Every hour of every day, forty youngsters die as a result of road traffic crashes. This means that every day another one thousand families have to cope with the unexpected loss of a loved one.

Losing a child is never easy. Knowing that a child was lost to a preventable incident may add to the pain and suffering, and can leave families and communities with emotional wounds that take decades to heal.[3]

It is estimated that more than a quarter of injury-related deaths in the world occurred in the South-East Asia Region in 2000.[4] In fact, road traffic injuries alone ranked as the number one cause of the burden of disease among children between 5-15years. This portion of population comprises 17.5 % of world's total number of accidents. Which cause 15.6 deaths per 1, 00,000 population of this age group. This heavy burden at such an early age has long-term implications on the quality of life and economy of the nations.[5]

METHODS AND MATERIAL

Objectives

- To assess the pretest knowledge of Traffic Safety among school children of control and experimental group.
- To assess the post test knowledge of Traffic Safety among school children of control and experimental group.
- To compare the pretest and posttest knowledge of Traffic Safety among school children of control and experimental group.
- To ascertain the relationship of structured teaching on knowledge of Traffic Safety among school children with selected variables such as age, gender, academic standard, father's education, exposure to mass media, type of vehicles use.

Hypothesis

- $\mathbf{H_1}$ The posttest mean knowledge score of traffic safety among school children in the experimental group will be significantly higher than those of the control group school children as measured by structured questionnaire at 0.05 levels.
- **Rationale:** Researcher reported the improved crossing behaviors from pre-test to post-testing conditions after conducting walk safe education programme. A total of 2,987 tests were collected during the three different testing times. Significant differences were observed (p value <0.05) between pre- and post testing.[6]
- $\mathbf{H_0}$ There will not be statistically significant difference in posttest mean knowledge score of traffic safety among school children in control and experimental group as measured by structured questionnaire.

Research Approach and Rationale

An experimental research approach was adopted to accomplish the objective of the study to assess the effectiveness of structured teaching programme on traffic safety among school children in selected schools of Ludhiana Punjab. Experimental study is found appropriate for the study, this approach involves all three properties of these are control, manipulation and randomization. [7]

Research Design

An experimental design was prepared to develop a plan of strategy that would guide the collection and analysis of data.

Experimental group	0_1 X 0_2
Control group	0_1 0_2

O_1 –Pretest

X – Manipulation

O_2 - Posttest

Selection and Description of Setting

The present study was conducted in two schools i.e Sargodha National public senior secondary school, field ganj and Shivalik Vidya Mandir School, Jamalpur. Sargodha National Public Senior Secondary School is near college of nursing C.M.C & hospital. It was established in 1972. It is a co education school. The total strength of school is 1200. The total numbers of school children in age group of 12-15 years are 412. The Shivalik Vidya Mandir School was located at a distance of 5 kilometer from college of nursing C.M.C & hospital. Sargodha National Public Senior Secondary

School is 6 km away from the Shivalik Vidya Mandir School. It was established in 1998. The total strength of school is 1000 students. The total number of school children in age group of 12-15 years is 221. It is a co education school. The experimental group was selected from Sargodha National Public Senior Secondary School, Field Ganj and control group from Shivalik Vidya Mandir School Jamalpur.

Sample and Sampling Technique

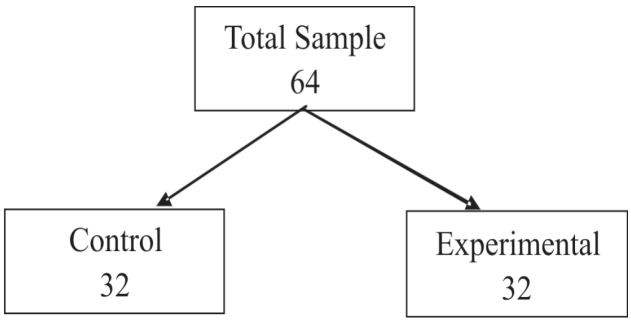

Fig. 1. (sample size & classification into control & experimental group)

Two schools were confirmed to conduct study. These schools were divided into control and experimental group with help of lottery method. Lists of names of all school children under the age of 12-15 year were taken from the school attendance register and age was confirmed by asking orally before making the lists. A total of 221, 412 school children of 12-15 year in control and experimental group considered as accessible population using defined inclusion criteria. The total 64 school children were selected from both groups by using stratified random sampling technique.

Description of tool

The tool consisted of two parts

Part1: Sample characteristics

This part consisted of 8 items for obtaining personal information i.e. age in year, gender, academic standard, family income, father's education, mother's education, channel of mass media exposure and type of conveyance used.

Part2: Questionnaire

This part consists of multiple choice questions on all aspects of school children regarding traffic safety. This questionnaire consisted of 40 multiple choice items, each item consist of one correct answer among the four choices and each correct answer carry one mark.

The questions were related to following aspects

Area	Items	Score
Introduction	3	3
Causes	4	4
Traffic Safety	12	12
Safety actions	21	21
Total Items	40	
Maximum score	40	
Minimum score	0	

Plan of Analysis

Analysis and interpretation of data was done by using descriptive and inferential statistics such as Percentage, Mean, Mean Percentage, Standard Deviation, Coefficient of Correlation, Chi Square Test, T Test and Anova. Bar diagrams were used to depict the findings.

Conceptual Framework

Conceptual model of the present study based on general system's theory by Ludwig Von Bertalanffy (1968). General system theory serve as a model for viewing man as interacting with the environment. One of the first theorists to develop systems theory was Ludwig Von Bertalanffy (1968). A system theory consists of interacting components within a boundary that exchange with the environment. Refers to the arrangements of parts at a given time and function is process of continuous exchange in system. The system uses input to maintain the system's equilibrium. (See Fig. No: 2)[8]

RESULTS

Mean post test knowledge score of school children was significantly higher than the mean pre-test knowledge score of school children in experimental group. There was significant relationship of structured teaching among school children with age, father's education, type of vehicle used & mass media exposure.

Table No. 1 Comparison for effectiveness of teaching by calculating Pretest and Posttest mean, SD, horizontal & vertical t test of Knowledge Scores among School Children Regarding Traffic Safety

N=64

Group	N	Knowledge Score				Df	T
		Pretest		Posttest			
		Mean	SD	Mean	SD		
Control Group	32	a19.91	3.622	c21.41	4.047	31	2.585^{NS}
ExperimentalGroup	32	b19.66	3.543	d31.94	3.426	31	18.065***
	Df	t		Df	t		
	62	2.441^{NS}	62	198.677***			

Maximum Score=40 *** at P<0.001

Minimum Score=0 NS Non Significant

Table 2: Frequency Percentage Distribution & sample matching table for cntrl and experimental group by calculating chi square N=64

Characteristics	Control group(n=32)		group(n=32) Experimental		df	X^2
	F	%	F	%		
Age in years						
12-13	7	21.9%	12	37.5%	1	1.871^{NS}
14-15	25	78.1%	20	62.5%		
Sex						
Male	14	43.8%	20	62.5%	1	2.259^{NS}
Female	18	56.3%	12	37.5%		
Academic Standard						
7-8	16	50%	16	50%	1	.000^{NS}
9-10	16	50%	16	50%		
Father's Education						
Illiterate	4	12.5%	**1**	3.1%	2	2.823^{NS}
Primary-10+2	22	68.8%	21	65.5%		
Graduation and above	6	18.8%	10	31.3%		
Vehicle use						
Cycle	16	50.0%	12	37.5%	3	1.771^{NS}
Two wheeler	13	40.6%	17	53.1%		
Four Wheeler	1	3.1%	2	6.3%		
Pedestrians	2	6.3%	1	3.1%		

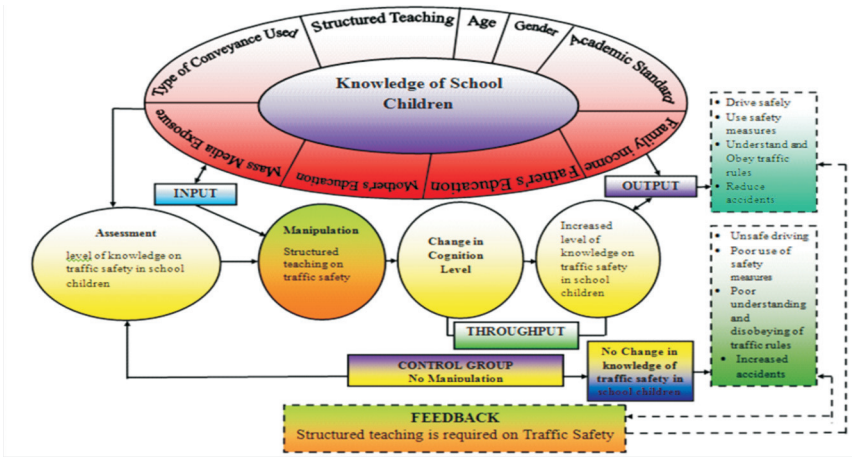

Fig. 2. Conceptual Framework Modified and Based on General System Model (Ludwig Von Bertalanffy,1968) Key Studied, — Not studied

DISCUSSION

Findings shows that structured teaching programme had excellent level of improvement in experimental group of school children as in control group it was average or below average. There is no relation between structured teaching programme & gender, academic standard, family income, mother's education, use of vehicles and type of vehicles but significant relationship has revealed with age, father's education, type of vehicle used and mass media exposure.

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Conflict: of Interest: Financial budget of study was borne by me and I did not find any financial difficulty to carry out this research study. There was not any hindrance to write an article and its publication.

Study Funded by: Self

Ethical Consideration: Though it was a knowledge study so it was not required.

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