Effectiveness of Play Therapy on Memory Among School Age Children in Selected School, Erode

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ABSTRACT

School can be some of the highest memory demands we will experience during students lives. Memory affects so many aspects of a student's learning process in the classroom, such as reading comprehension, writing composition, and even classroom participation. The objectives of the study to assess the effect of play therapy on memory among school age children in selected school. The design was used in the study True experimental one group pre test and post test with control group design. At Panchayat Union Middle School, Alamedu. The Selection criteria was School age children who are studying 2nd to 7th standard of both gender and are present during data collection period. A study was conducted on 30 school age children, 15 of them are under control group and 15 of them under experimental group. The result of the study shows that, pre and post test scores reveals that, in control group, the pre test mean score was (54 ± 6.5), which is 55% whereas in post test the mean score was (55 ± 6.6), which is 56% showing a difference of 1% on the level of memory. In experimental group, the pre test mean score was (50 ± 4.5), which is 55%, whereas in post test the mean score was (84.2 ± 2.5), which is 86%. It shows a difference of 31% on level of memory. It depicts that play therapy was highly effective in improving the level of memory among school age children in the experimental group. Chi- square was calculated to find out the association between the post test scores of control group on memory among the school age children and their demographic variables regarding play therapy. It reveals that there was no significant association between the post test scores of control group when compared to age, sex, standard, scholastic performance, $(P > 0.05)$. Hence the differences observed in the mean scores values were only by chance and not true difference. It seems that play therapy was effective to all the school age children irrespective of their demographic variables. Hence, it can be interpreted that there is no significant association. **Conclusion:** The study findings revealed that administration of play therapy was highly significant in improving the memory among school age children.

Keywords: Play therapy, memory, school age children.

INTRODUCTION

The experience of being sent to a hospital can be upsetting for both adults and children, since they are forced to leave familiar surroundings and people they care about, as well as being refrained from participating in favourite activities like playing **(Favara-Scacco et al., 2019).**

When children and their families are taken away from their homes and placed in the unsettling environment of a hospital, they are filled with anxiety and tension that can be exhausting. **(S. Smeltzer et al., 2016)**

In the presence of a chronic or severe and potentially life-threatening disease, these negative emotions are exacerbated. Among the most prevalent causes of these experiences appear to be anxiety about medical checks, pain, demise, estrangement from one's parents, and feelings of uncertainty, lack of freedom, and security **(Sahler et al., 2021).**

Neuroscience has disclosed that the greater part of the Memory development is maximum during the first five years of the life in a child, and the medium of play has a significant contribution in the growth of intertwining between the neurons. These neuronal connections have a very important role in development of a child's life such as knowledge, peer influence, emotions and recall. There is a very vital role of the medium of play, particularly for the positive development of children who have suffered traumatic incidents or previous shocks. Most of the effects of pain and shock occupy space in the non-communicative parts of the brain – the hippocampus, amygdala, thalamus, and the brain stem – an individual's capability to convey and understand unpleasant problems occupies space in the brain's frontal lobes. This leads to difficulty for a child undergone or undergoing distress and shock to convey toothers that are in need of help. The method of play therapy involving tangible and role-playing acts has proven to be highly influential in aiding the painful trauma and distress to be shifted from the non-communicative sections in the brain to the frontal lobes for memory development. **(Landreth, 2022).**

STATEMENT OF PROBLEM

"Effectiveness of play therapy on memory among school age children in selected school, Erode."

OBJECTIVES

1. To assess the level of memory among school age children before and after play therapy in experimental and control group
2. To determine the effectiveness of play therapy on memory among school age children in experimental and control group
3. To find out the association between post test scores of memory among control and experimental group of school age children with their demographic variables.

MATERIALS AND METHODS:

The design used for this study, true experimental one group pretest and post-test with control group design 30 samples (15 experimental, 15 control) were selected by stratified sampling technique, experimental group at Government Secondary School, Alamedu and control group in Government Secondary School, Pallakkapalayam, Namakkal, After selection of sample the play therapy provided to experimental group, after that with help of Modified P.G.I memory assessment scale.

DEVELOPMENT OF THE TOOL
There are two sections of tools which were used. They are;
Section A: Demographic variables of the school age children.
It consists of demographic characteristics of school age children such as Age, Gender, standard and scholastic performance.
Section B: Modified P.G.I memory assessment scale.
It contains 10 subsets. It is a standardized tool used to assess the memory among school age children.

SCORING PROCEDURE

Table 1. Level of memory based on percentage of scores.

Level of memory	Actual scores	Percentage
Poor memory	0 – 24	0 - 25
Average memory	25 – 48	26 - 49
Good memory	49 – 72	50 - 73
Excellent memory	73 – 98	74 - 100

Ethical Consideration
1. Written permission was obtained from Director and Principal of Dhanvantri College of Nursing at Namakkal District.
2. Written permission was obtained from Head Master at Panchayat Union Middle School, Alamedu and Government Middle School, Pallakkapalayam.
3. Prior informed consent was obtained from students in selected school.

VALIDITY
The content validity of the demographic variables, modified P.G.I memory assessment scale and content of play therapy was validated with guide and experts. The experts were Child Health Nurse Specialist, psychologists and statistician. The tool was modified according to the suggestions and recommendations of the experts.

RELIABILITY
The reliability of modified P.G.I memory assessment scale was tested by implementing the tool on 5 school age children in Government Secondary School, Erode, which is other than the sample area. A test re-test method was used to test the reliability of modified P.G.I Memory Assessment Scale. The tools modified P.G.I Memory Assessment Scale ($r1 = 0.96$) were found to be reliable.

Period of data collection
The data was collected from 2.04.2024 – 30.04.2024. The investigator collected for both pre and post test data from both the groups.

Pre test
The pre test was conducted from 2.04.2024 – 4.04. 2024 by using modified P.G.I memory assessment scale to assess the level of memory among school age children.

Implementation of Play therapy
The Play therapy was implemented to the school age children with the duration of 15 – 20 mins.

Post test

Post test was conducted at the end of month, by using the same assessment technique.

Data Analysis

There are two sections of tools which were used. They are;

Section A: Demographic variables of the school age children. It consists of demographic characteristics of school age children such as Age, Gender, standard and scholastic performance.

Section B: Modified P.G.I memory assessment scale. It contains 10 subsets. It is a standardized tool used to assess the memory among school age children.

Table– 1 DESCRIPTIONS OF SAMPLES CHARACTERISTICS

Frequency and percentage distribution of control and experimental groups of school age children's according to their demographic variables *(N1= 15, N2=15)*

Demographic variables	Control group		Experimental group	
	Frequency(N1)	Percentage(%)	Frequency(N2)	Percentage(%)
1. Age in years				
a) 6–8 years	1	6	3	20
b) 9-10years	7	46	6	40
c) 11-12 years	7	48	6	40
2. Gender				
a) Male	6	40	5	33
b) Female	9	60	10	67
3. Standard				
a) 2–3rd standard	2	13	3	20
b) 4-5th standard	9	60	7	47
c) 6-7th standard	4	27	5	33
4. Scholastic performance				
a) Good				
b) Average	6	40	5	33
c) Poor	6	40	8	54
	3	20	2	13

Table-2 Frequency and percentage distribution of the control group pre and post test scores of memory among school age children (N1=15)

Level of memory	Control group			
	Pretest scores		Posttest scores	
	Frequency(N)	Percentage(%)	Frequency(N)	Percentage(%)
Poor memory	-	-	-	-
Averagememory	4	27	3	20
Good memory	11	73	12	80
Excellent memory	-	-	-	-

Table-3 Frequency and percentage distribution of the experimental group pre and post test scores of memory among school age children(N2=15)

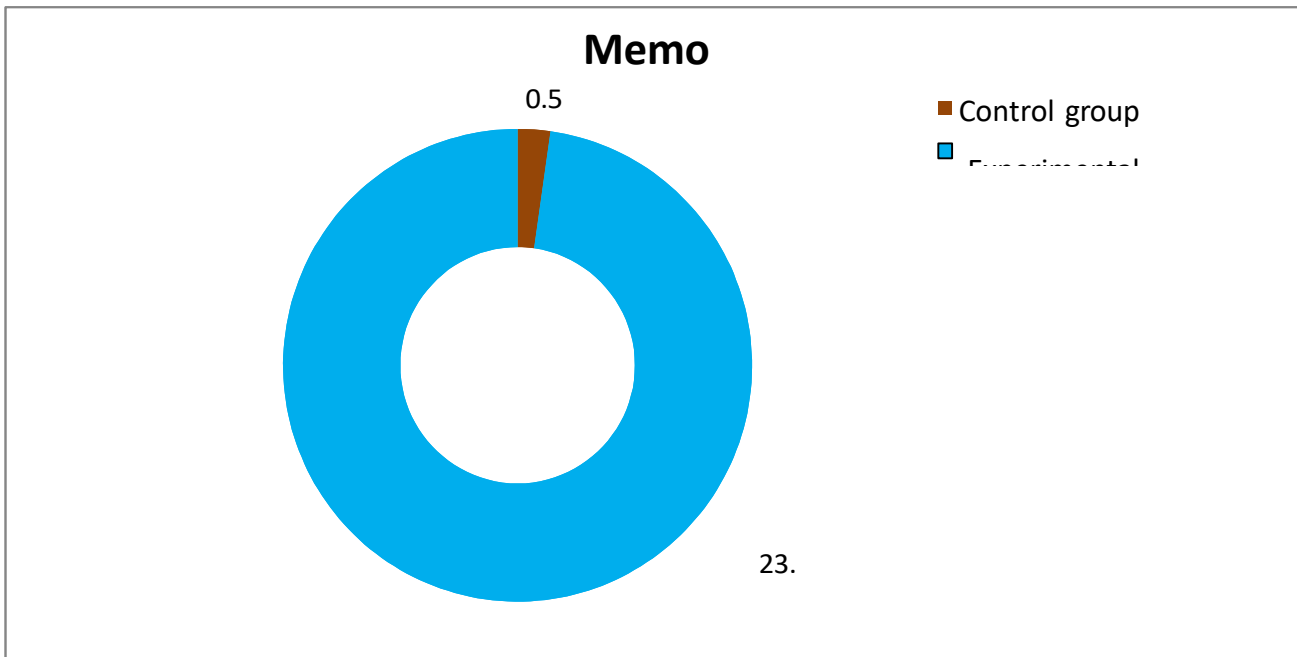| Level of memory	Experimental group			
	Pretest scores		Posttest scores	
	Frequency (N)	Percentage (%)	Frequency (N)	Percentage (%)
Poor memory	-	-	-	-
Averagememory	2	13	-	-
Good memory	11	74	-	-
Excellent memory	2	13	15	100

Table-4. Frequency and percentage distribution of the control and experimental group post test scores of memory among school age children

(N1=15, N2=15)

Level of memory	Posttest Scores			
	Control group		Experimental group	
	Frequency (N1)	Percentage (%)	Frequency (N2)	Percentage (%)
Poor memory	-	-	-	-
Averagememory	3	20	-	-
Good memory	12	80	-	-
Excellent memory	-	-	15	100

Table – 5 Paired 't' test value of pre and post test scores of memory in control and experimental group

| School Age Children	Paired't'value	Table value	Level of significant(P)
Control group	0.54	2.15	P>0.05Notsignificant
Experimental group	23.7	2.15	P<0.05Significant

Paired 't' test was calculated to analyze the effectiveness between pre and post test scores of memory among school age children in control and experimental group. From the above table, in control group, the calculated value of 't'(0.54) is lesser than the tabulated value of 't' (2.15) at 5% level of significance whereas in the experimental group, the calculated value of 't'(23.7) is higher than the tabulated value of 't' (2.15) at 5% level of significance. This shows that there was a significant difference in the level of memory among school age children in the experimental group than the control group. It seems that play therapy was highly effective in improving the level of memory.

Fig.1: Doughnut diagram showing the paired 't' value of memory among school age children in control and experimental group.

Table–6 Area wise comparison of mean, SD, and mean percentage of memory in control and experimental group pre and post test scores

School Age Children	Maxscore	Pre-Test			Post-Test			Difference in mean %
		Mean	SD	Mean %	Mean	SD	Mean %	
Control group	98	54	6.5	55	55	6.6	56	1
Experimental group	98	50	4.5	55	84.4	2.5	86	31
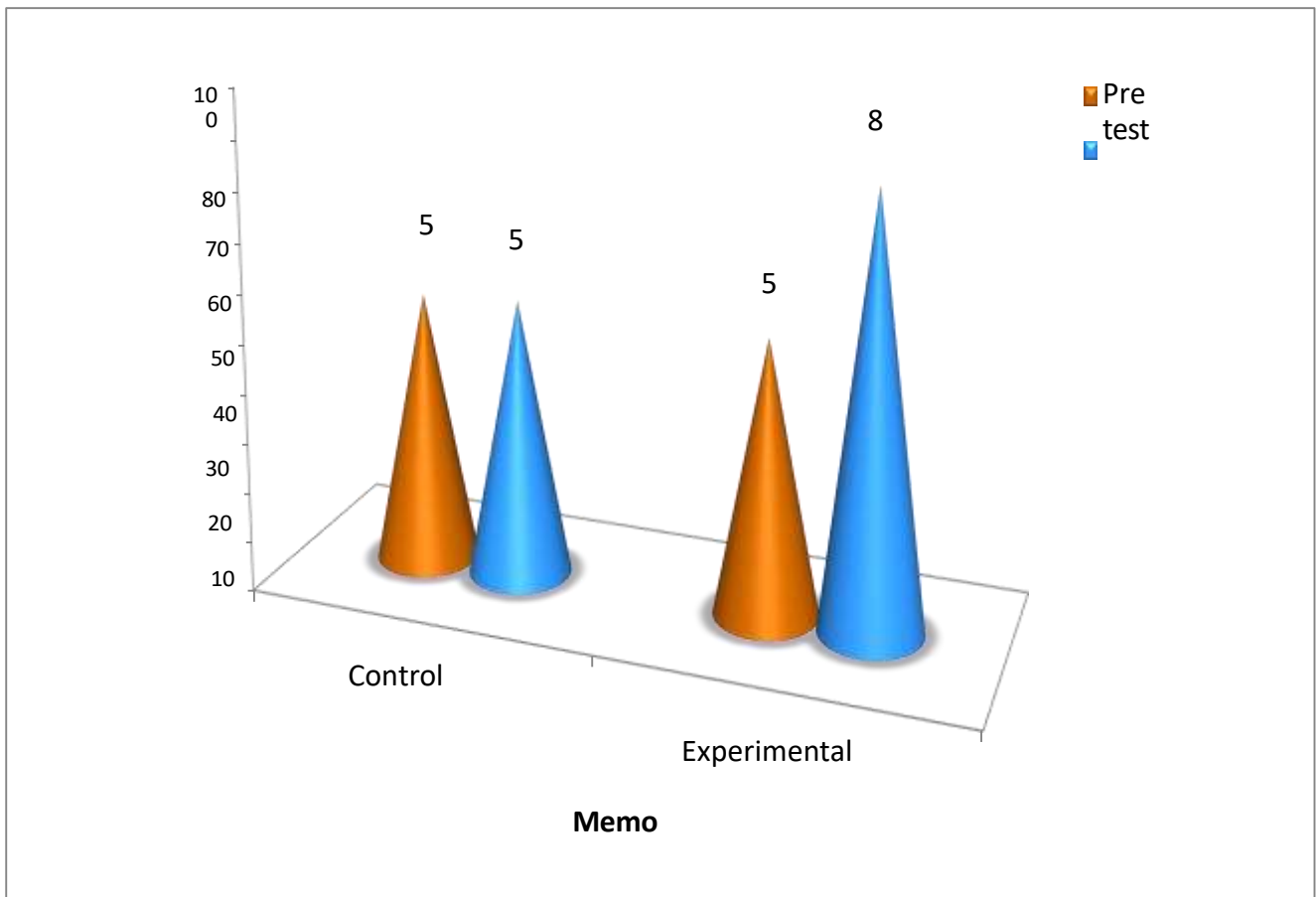
Comparison of mean, SD, and mean percentage of memory in control and experimental group pre and post test scores reveals that, in control group, the pre-test mean score was (54 ± 6.5), which is 55% whereas in post-test the mean score was (55 ± 6.6), which is 56% showing a difference of 1% on the level of memory. In experimental group, the pre-test mean score was (50 ± 4.5), which is 55%, whereas in post-test the mean score was (84.2 ± 2.5), which is 86%. It shows a difference of 31% on level of memory. It depicts that play therapy was highly effective in improving the level of memory among school age children in the experimental group.

Table - 7 Unpaired 't' test value of control and experimental group post-test scores

Areas	Unpaired 't' value	Table value	Level of significant(P)
Memory	18.6	2.05	P<0.05Significant

Unpaired 't' test was calculated to analyse the effectiveness between control and experimental groups post test scores on memory among school age children. Unpaired 't' test value was 18.6 for memory when compared to table value (2.05) it was high. It seems that play therapy was highly effective on the improvement of memory among school age children.

Table – 8 Association between control group post test scores of memory with their demographic variables

Demographic variables	Df	□2	Table Value	Level of significance
Age	1	1.05	3.84	P>0.05Notsignificant
Sex	1	0.3	3.84	P>0.05Notsignificant
Standard	2	2.4	5.9	P>0.05Notsignificant
Scholastic performance	1	0.3	3.84	P>0.05Notsignificant

Table – 9 Association between experimental group post test scores of memory with their demographic variables

Demographic variables	Df	□2	TableValue	Level of significance
Age	1	1.66	3.84	P>0.05Notsignificant
Sex	1	0.42	3.84	P>0.05Notsignificant
Standard	2	4.1	5.9	P>0.05Notsignificant
Scholastic performance	1	0.3	3.84	P>0.05Notsignificant

DISCUSSION

There are two sections of tools which were used.

Section A: Demographic variables of the school age children.

Section B: Modified P.G.I memory assessment scale.

Distribution of control and experimental group samples according to their age group depicts that the highest percentage (46% and 48%) of school age children were in the age group of 9 -10 years and 11 - 12 years respectively in control group whereas in experimental group similar percentage (40% and 40%) of school age children wereintheagegroupof9-10yearsand11-12yearsrespectively.However20%ofthemin experimental group and 6% of them in control group were in the age group of 6 - 8years.

With regard to gender, control and experimental group samples reveals that, the highest percentage (60% and 67%) of school age children were females in both the groups. However, 40% of them in control group and 33% of them in experimental group were males.

With regard to standard, control and experimental group reveals that, higher percentage (60% and 27%) of school age children were in 4 – 5th standard and 6 - 7thstandardrespectivelyincontrolgroupwhereasinexperimentalgrouphigherpercentage(47%and33%)ofsch oolagechildrenwerein4–5thstandardand6-7thstandard respectively. However, 20% of them in experimental group and 13% of them in control group were in 2 – 3rdstandard.

Distributionofcontrolandexperimentalgroupofschoolagechildrenaccording to their scholastic performance depicts that most (40%) of the school age children had average and good scholastic performance in control group and 53% ofschoolagechildrenhadaveragescholasticperformanceinexperimentalgroup.However, 20% and 13% of school age children from each group had poor scholastic performance.

Frequency and percentage distribution of control and experimental group

posttestscoresofmemoryamongschoolagechildrendepictsthat,incontrolgroupmajority (80%) of school age children had good memory and only 20% of them had average memory, whereas in experimental group all (100%) of them had excellent memory. It seems that play therapy was effective in school age children to improving the level of memory.

Paired't' test was calculated to analyze the effectiveness between pre and posttest scores of memory among school age children in control and experimental group. From the above table, in control group, the calculated value of 't'(0.54)is lesserthanthetabulatedvalueof't'(2.15)at5%levelofsignificancewhereasintheexperimental group, the calculated value of 't'(23.7) is higher than the tabulated value of 't' (2.15) at 5% level of significance. This shows that there was a significantdifferenceinthelevelofmemoryamongschoolagechildrenintheexperimentalgroupthanthecontrol group.Itseemsthatplaytherapywashighlyeffectiveinimprovingthe level of memory.

Chi-square was calculated to find out the association between the post testscoresofcontrolgrouponmemoryamongtheschoolagechildrenandtheirdemographic variables regarding play therapy. It reveals that there was no significant association between the post test scores of control group when compared to age, sex, standard, scholastic performance, (P > 0.05).Hence the differences observed in the mean score's values were only by chance and not true difference. It seems that play therapy was effective to all the school age children irrespective of their demographic variables.

Chi – square was calculated to find out the association between the post testscoresofexperimentalgrouponmemoryamongschoolagechildrenwiththeirdemographic variable regarding play therapy. It reveals that there was no significan tassociationbetweenposttestscoresofexperimentalgroupwhencomparedtoage,sex, standard, scholastic performance, (P > 0.05). Hence the differences observed in the mean score's values were only by chance and not true difference. It seems that play therapy was effective to all the school age children irrespective of their demographic variables.

CONCLUSION

Based on this finding of the study the following conclusion were drawn. The study findings revealed that administration of play therapy was highly significant in improving the memory among school age children. Play therapy on memory could be implemented an basics elf development of scholastic skill for improving memory among school age children.

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