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Effect Of Mind Mapping Strategy On Attention Of High School Students In Learning Social Science Concepts

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Abstract

Attention is the heart of the conscious process in learning, Mind mapping strategy drawing attention of students because of its colourful and branched structure, either in horizontally or vertically it helps students for the construction and organization of concept in their mind. Helps student's to achievement and their attentiveness in learning process. The purpose of this study "To compare the pre and post mean Attention scores of students taught through mind mapping strategy." Sample was 125 students from the three different schools of Indore city. The pre- test, post- test control group design were used. Attention of the students was assessed with the help of a researcher made Attention test. the Reliability of attention test was found to be **0.753.**, by Test-Retest method. The treatment with mind mapping strategy was given to experimental groups. **Result** was fund that the significance difference between the mean rank of **Pre and Post** Attention score of high school students taught through Mind Mapping Strategy. **Treatment through mind mapping strategy is found to be effective in terms of Attention**

Index Terms: Mind Mapping Strategy, Treatment, Reliability

1. INTRODUCTION:

The Mind Mapping Strategy is one of the innovative strategies of teaching. Mind Mapping is a pedagogical technique it can improve efficiency of learner. Mind Mapping is a graphics-based note taking method. They not only show facts but also the overall structure of a subject and the relative importance of individual parts. It can help students to memorize, gain attention and enhance their logical reasoning, associate ideas and make connections. The Mind Mapping strategy can explore almost any topic in broad outline learner's knowledge structure gets visible by means of Mind Maps. Mind Mapping is attractive which Present ideas on the board with decoration for developing the visual capacities.

Mind mapping allows students to imagine and explore associations between concepts through key words; while concept mapping allows students to make relationships between concepts, this strategy may useful in drawing attention of students because of its colourful and branched structure, supported with the pictures and key words. The colourful pictures, branched structure and different shapes may catch the attention of students. These things may help in imprinting the whole concept in their mind with little efforts, the concentration or focus provided by the process of attention helps us in the clear understanding of the perceived object or phenomenon. Attention is not merely a cognitive function but is essentially determined by emotional and conative factors of interest, attitude and striving.

In the learning process attention is the key component without attention it cannot be store the information in their mind The foregoing discussion leads us to conclude that attention is a process carried out through cognitive abilities and helped by emotional and conative factors to select something out of the various stimuli present in one's environment and then to bring it to the Centre of one's consciousness in order to perceive it clearly for deriving the desired ends.

DEFINITION

Mind Mapping: Mind Mapping is used as a technique to teach and learn more effectively with the help of a graphical and pictorial representation of ideas, concepts and terms to visualize, generate structure, deep understanding, classification and association of ideas, concepts and terms in learners mind.

2. RATIONALE:

According to the constructivist perspective, learning is a process through which learners actively engage and build their knowledge stronger by connecting concepts, ideas, keywords, links and associations for a significant integration. For putting this into work, using strategies to acquire student's attention, interest and involvement, encouraging active and meaningful learning in some efficient ways. It is important to shift to new innovative methods of teaching-learning and rethink on traditional method of teaching. Mind mapping strategy can be one of the method to solve the above stated problems, it is an excellent teaching technique, (Jenson 2008).

Mind Mapping is the visual pictorial technique that develop a comprehensive understanding and nonlinear nature of the concept. Mind mapping strategy grabs attention by usage of links, key words and phrases, images, coloured branches that connects ideas, which make associations of prior knowledge and better assimilations, and relationship of new information, this technique makes a way for deep learning of a concept or idea, it is an effective study technique (Farrand, Hussein and Hennessey 2002).

The studies with mind mapping strategy in the area of Social Sciences were done by **Parikh (2016)**, **Gireessh(2016)**, **Amitha (2014)** **Seyihoglu & Kartal(2010)**, **Polson (2003)**, This reflects that there is a need to study the mind mapping in the area of Social Sciences, so researcher select Social Sciences subject

Only two studies were found with Attention as variable in mind mapping. These are **Alomari (2019)**, presented Mind maps as a cartelized picture drawn in a central image, then the main themes of the main idea radiate from the central image as colored branches connected nodal structure image or key word which draw attention of students and help them make connection and better understanding of concept. **Christina & Paxman (2011)**, studied “Mind Maps: Your Way to Speech Success” and drew attention towards using mind maps as a speech preparation technique. Found that students were able to deliver their speech efficiently with greater amount of eye contact emanating greater composure and confidence because of they were able to remember a lot of information.

3. BACKGROUND OF THE PROBLEM

Social science focuses on the study of society and the relationship among individuals within society. It comprises different disciplines that aim to study various aspects of human society, which include its functioning and development, interaction and interpersonal relationships between individuals. Social science broadens the horizons of young minds. It not only lays a strong foundation for understanding the complexity of society and its systems, but it also delves into its genesis.

At the secondary level of school system social science subject is comprised of sub-subjects like History, Political Science, Geography, Economics, civics etc. and these have enormous information, facts and that are very elaborative in nature, hence students find it hard to maintain same level of interest in studying, so there is a need to adopt new strategies that promote interest, creativity, problem solving, aesthetics etc.

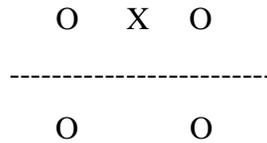
Secondary school students are more immersed in learning subjects like physics, chemistry etc. as there are varieties of different teaching and learning methods and techniques that are easily available that makes the subjects interesting to the students but social science subjects severely lack these types of methods and techniques due to which students gradually lose interest in the subjects which may also be the reason why majority of students do not pursue higher studies in social science

4. OBJECTIVE:

To compare the pre and post mean Attention scores of students taught through mind mapping strategy.

5. RESEARCH DESIGN:

The present study was experimental in nature. The Non Equivalent control group design was used. The layout of Non-equivalent control group design is given below –



Here –

O - Observation

X - Treatment

..... - Non equivalent

There were two groups; one group designated as experimental and other as control group. Both the groups were pre tested by administering tests for Attention, The student of experimental group were taught through mind mapping strategy. The treatment was given to the experimental group for 45 minutes classes per day, the total treatment duration was Thirty nine days working days. Treatment material was in Hindi language at the end of the treatment Post tested with the same tools which were used for pre testing.

6. SAMPLE:

The sample for this stage was 125 ninth class students of Board of Secondary Education M.P., Bhopal affiliated three schools were selected purposively, out of these 3 schools, the experimental group had 125 students. Two government school one was boys and one was girls only, while one private school was co-aid in nature

Sr. No	Name of School	Type of Group School	Gender		Total
			Male	Female	
1	Malhar Ashram Govt. H. S. School, Tilak Path, Ram Bagh, Indore.	Govt. Experimental.	35	00	35
2	Shaskiya Sharada Kanya H. S. School, Bada Ganpati Chouraha, Malhargang, Indore.	Govt. Experimental.	00	40	40
3	M. P. Police Public H.S. School, 15 th Battalion, Mahesh Guard line, Kila Maidan, Indore.	Private Experimental.	30	20	50
Total			65	60	125

From Table, it can be seen that the sample was total 125 students taken from three schools. Out of **125** students, there were 60 female and 65 male in experimental group,

7. TOOL:

The attention of students was assessed by attention test developed by researcher which was consist of 24 PowerPoint slides, Total time assign for conducting this test was 30-35 minutes. Reliability of attention test was found to be **0.753.**, by Test-Retest method.

8. TREATMENT:

The attention tool was prepared and standardized for the purpose of data collection. For data collection, seven schools were selected these were Malhar Ashram Government Higher Secondary School, Shaskiya Sharada Kanya Higher Secondary school, M.P.Police Public Higher Secondary school. After receiving permission from the principals of above mentioned schools, students of class 9th were oriented with the objectives of present study and rapport were established with students. In the present study there were two groups, one experimental

The treatment with mind mapping strategy was given to experimental groups. The Treatment with mind mapping strategy took 39 working days to complete. This treatment concluded in 31 days and pre and post-tests took time of 8 days. Class 9th M.P. Board social science textbook was used to create 41 mind maps from total 8 chapters which were in accordance with the academic calendar released by Board of Secondary Education M.P. Bhopal, At the end of the both the treatment all the four groups were post-tested with Attention, towards mind mapping strategy was taken only from experimental group students

9. ANALYSIS, INTERPRETATION, RESULT AND DISCUSSION:

For compare the Pre and Post mean Attention scores of students taught through Mind Mapping Strategy”. The data related with Pre and Post Attention scores were analyzed with the help of co-related 't' test.

Table 1.1

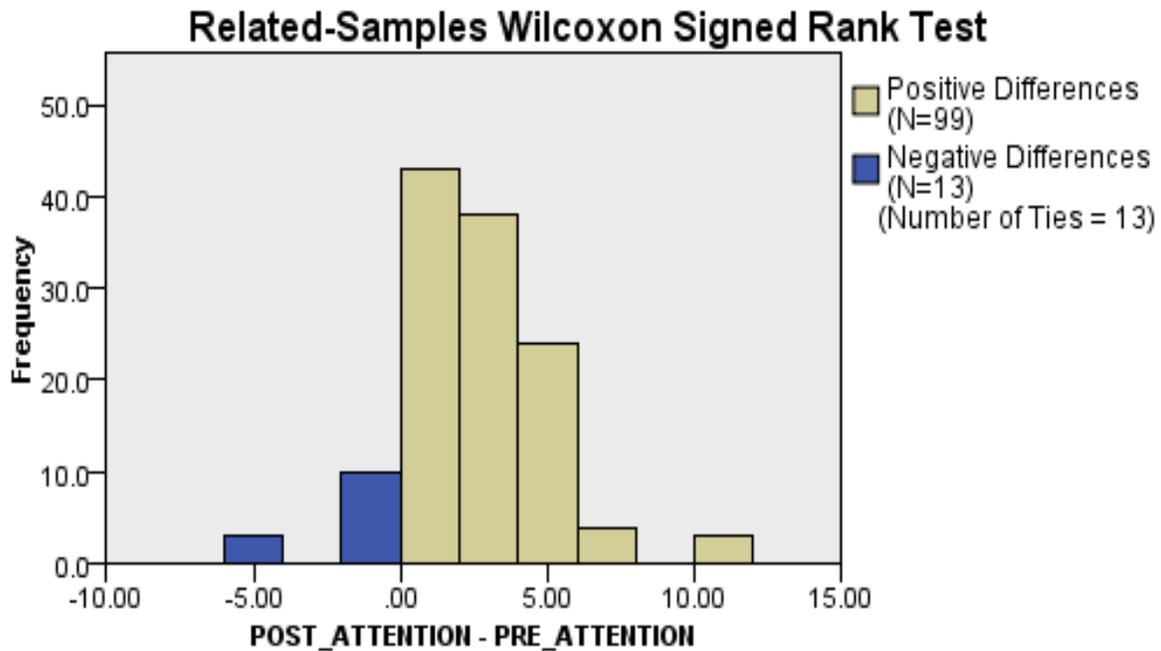
Summary of Related Sample Wilcoxon Matched Signed Rank T test the difference of Pre and Post Attention scores of high school students taught through Mind Mapping Strategy

	Null Hypothesis	Test	Sign.	Decision
1	The median of difference between Pre and Post Attention equals	Relates-Samples Wilcoxon Signed Rank Test	0.000	Rejected the null hypothesis

From the **table 1.1** it is clear that the significant value for Wilcoxon Matched Pairs Signed Rank T test is 0.00 which is less than 0.05 level of significance, therefore this value is significant at 0.05 level of significance in this view the **null hypothesis** “There is no significant difference in the Pre and Post mean Attention score of high school students taught through Mind Mapping Strategy.” is **rejected**. Hence there is a significance difference between the mean rank of Pre and Post Attention score of high school students taught through Mind Mapping Strategy,

To identify the difference between Pre and Post scores ranks of groups shows in following **Graph 1.1.**

Graph 1.1.
Positive and Negative difference of Post and Pre Attention of related samples Wilcoxon Signed Rank T test of high school students taught through Mind Mapping Strategy



The Graph 1.1 shows that after subtraction of Pre Attention score from Post Attention score, it also reflect that total number and frequency, it shows that **Post Attention score are greater than Pre Attention scores.** Further it can be **clarify** with the help of **Test statistics** of related sample Wilcoxon Signed Rank Test. The obtained results are as follows;

Table 1.2

Test statistics of related sample Wilcoxon Signed Rank 't' test Pre and Post Attention scores

Variable	N	Test Statistics	Standardize Statistics (Z)	Test Level of Significance
Pre and Post Attention score	125	0.56	7.14	0.00

From the table **table 1.2**, it is clear that the value (Sum of positive difference of rank) is 0.56 and standardize test statistics (Z-value) value is 7.14, $p = 0.00 < 0.05$ level, which is significant at 0.05 level of significance. The positive sign of Z score reflect that Post Attention is significantly higher than Pre Attention score of students taught through mind mapping strategy, **it means that the treatment through mind mapping strategy is found to be effective in terms of Attention.**

It can be said that mind mapping strategy helps in gaining the attention and helping in achievement because of the

10. FINDING AND DISCUSSION:

The finding of this objective is “**Treatment through mind mapping strategy is found to be effective in terms of Attention.**” This finding is consistent with the finding of **Alomari (2019) Christina & Paxman (2011), Ainley et al. (2002), Anderson (1982). Hidi (1995)** The main reason behind obtaining this finding may be because of the different dimensions of attention, size of stimulus, color of stimulus, position of stimulus, the contrast, rarity of stimulus etc., were involved in mind mapping strategy and due to these specialty of mind maps post attention score were found to be significantly higher than pre attention score.

11. IMPLICATIONS:

Mind mapping for making notes of broad concepts in a very structured way and organize information with the visual presentation in a holistic manner, which increases their mental flexibility. In the structure of the Mind map lines, keywords, phrases, links, symbols, colored branches, arrows, images, and pictures are used which grasp attention and allow the flow of student’s thoughts. These visualizations give rise to many more associations than verbal ones. They can understand concepts by making creative associations between ideas. They can easily revise and recapitulate the essential points of concept in a visual graphic pattern. Students can retain and recall the information of the concept precisely.

In today’s technological and digital era, it is the responsibility of teachers to not only educate the learners but also to facilitate the process of knowledge transaction through mind mapping strategy, learners actively engage and build their knowledge stronger by connecting concepts

Using strategies to acquire students’ attention, interest and involvement, and encouraging active and meaningful learning are some efficient ways to teach social science. It is a remarkable step to shift to new innovative methods of teaching-learning and forgetting the chalk-and-talk method

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