



JOURNAL OF EMERGING TECHNOLOGIES AND INNOVATIVE RESEARCH (JETIR)

An International Scholarly Open Access, Peer-reviewed, Refereed Journal

EFFECT OF CONSTRUCTIVIST MIND MAPPING STRATEGY ON ACHIEVEMENT IN ENGLISH AS A FOREIGN LANGUAGE OF SECONDARY SCHOOL STUDENTS

Harpreet Kaur

Research Scholar, Department of Education, Panjab University, Chandigarh, India

Dr. Gurmit Singh,

Associate Professor, Malwa Central College of Education for Women, Ludhiana, Punjab, India

Abstract

The goal of the study was to see how effective it was to teach English as a foreign language using a constructivist mind mapping technique. A total of 202 ninth-grade students from two government secondary schools in Ludhiana, Punjab, India participated in the study (101 control group and 101 experimental group). The experimental group received English instruction utilizing a constructivist mind mapping approach, while the control group received standard instruction. Both groups were matched based on pre-test performance. The investigator's English achievement test for IX graders was employed as a data collection tool. Students who were taught employing a constructivist mind mapping approach scored significantly higher in English than those who were taught using a traditional method, according to the findings of the study.

Keywords: *Constructivist mind mapping, Experimental group, Control group, Achievement in English.*

Introduction

The international language of communication, the media, and the internet is English. This language is used in computers, science, and tourism. More and more people are opting to study English since it provides them with access to a vast amount of information from all around the world. Learning a second or foreign language needs complete dedication on the part of the student. The learning environment, educational practices, home support, and exposure to the target language are all important factors in second language acquisition. A second language teacher's classroom teaching tactics have a substantial impact on language learning.

Traditional methods of teaching English failed miserably due to teachers' excessive emphasis on rote memorization of English vocabulary and drill of grammatical rules.

The Total Physical Response Approach (Asher, 1969); The Silent Way (Gattegno, 1972); Counseling-Learning Theory (Gallagher, 1973); and Suggestopaedia were all devised by linguists to make the English teaching-learning process more successful (Lazanov, 1978). The Dialogue Method (Chandramappa, 2018); Krashens monitor theory (Raju, 2019); Problem Based Learning (Balan, 2019); Layered Curriculum Model (Orakci, 2019); and Blended learning were among the strategies and methodologies investigated by researchers (Hijazi & AlNatour, 2020). Constructivist mind mapping is one such unique approach for improving English acquisition as a foreign language.

Constructivism is an observation-based scientific research. It depicts how people learn new things by thinking about their past experiences. Students have their own ideas on the subject, which serve as the foundation for the new material they've learned. They show that their views are flawed, incorrect, or insufficient, and then compare and develop the new concept's thought. Students are in command of their own education and take the initiative by responding to what they've learned. They learn to be masters of their own education. The teacher facilitates the formation of settings in which students feel comfortable questioning and commenting on their own processes by providing activities and assisting in the creation of situations in which students feel comfortable questioning and commenting on their own processes. As a result, assist students in constructing knowledge. This method encourages pupils to think about their prior knowledge and experiences.

Students employ a variety of strategies to arrange their information, including the Cornell method (which organizes notes into summaries), the outline approach (which uses bullet points), the charting method (which uses columns), and the mind map method (visual representation). Introduced by Buzan in 1974, mind map is a powerful graphic organizer of thoughts that can be used to unleash the brain's potential. It's a great way to get information into and out of your head. It's a unique and logical way of recording and keeping track of ideas that physically "maps out" the ideas. Words, images, numbers, logics, rhythm, colour, and spatial awareness are all combined into a single, incredibly effective visual representation.

Constructivist mind mapping emerges when these representations are founded on students' own produced knowledge. Melrose (2013) claims that constructivist teachers can employ advanced organizers like mind maps in their classrooms. When used in accordance with constructivist principles, mind maps can assist students in learning more successfully (Akinoglu & Yasar, 2007; Buzan & Buzan, 1993; Erdogan, 2008). Students in this course create information based on their prior experiences and give it shape in the form of visual representation. The pupils' achievement in English language is defined as the creation and structuring of knowledge.

In English, success is not only receiving good scores on tests, but also acquiring the skills required to learn the language (listening, speaking, reading, and writing). Students' achievement refers to the knowledge and abilities acquired via school topics, as measured by achievement tests administered by teachers. The pupils'

mean gain scores on the English achievement test are used to determine their English achievement. Many factors influence English competence, both favourably and negatively.

Emergence of the problem

The quality, knowledge structure enhancement, and perceptions of a constructivist-visual mind map teaching technique are superior to traditional approach. The constructivist-visual mind map teaching method provides more extensive cognitive structures that were topically organized and rich in idea interconnection (Dhindsa, Kasim, & Anderson, 2011).

Investigator found only one study (Dhindsa et. al. 2011) mentioned above, conducted on the effectiveness of constructivist mind mapping approach on the quality and richness of students' knowledge structures. This study conducted in the field of science. There has been no other study in India or abroad on the effect of constructivist mind mapping approach on English language. As a result, the study's goal appears to be entirely justified.

Objective

- To investigate the significance of difference in achievement in English of the groups taught through constructivist mind mapping strategy and traditional method.

Hypothesis

- There will be no significant difference in achievement in English of the groups taught through constructivist mind mapping strategy and traditional method

Design of the study: To study the effectiveness of constructivist mind mapping strategy on English achievement, randomized groups pre-test post-test design was used.

In phase-I, the groups were framed randomly, one group was considered as experimental group and the other as the control group. Both the groups were given pre-test of achievement; both the groups were matched on the basis of achievement (pre-test). In phase-II, experimental group was exposed to treatment by teaching through constructivist mind mapping strategy for a period of 40 days where as control group was exposed to treatment by teaching through lecture method. In phase-III, study consisted of post-testing i.e. a post test of achievement was given to both the groups. The analysis was carried out on the gain scores.

Sample of the study: For the present study, sample of 202 (101 experimental and 101 control group) students of ninth class of two Government Secondary Schools were selected through the randomization technique from Ludhiana district of Punjab, India.

Tool used:

1. Achievement test in English developed by the investigator.
2. Instructional packages based on Constructivist approach

Result and discussion: For testing hypothesis, mean, standard deviation and t-ratio was worked out on achievement in English (Gain scores) of control and experimental groups and the values are given in table below:

Table 1: Significance of difference in Achievement in English of Groups taught through Constructivist Mind Mapping Strategy and Traditional Method.

Groups	N	Mean	Standard Deviation	t- ratio
Control	101	4.46	1.40	34.05
Experimental	101	10.39	1.05	

**Significant at 0.01 level of significance*

Table 1 reveals that mean score of the control group (taught through Traditional Method) is 4.46 and standard deviation for the same is 1.40 whereas mean scores of the experimental group (taught through constructivist mind mapping strategy) is 10.39 and standard deviation for the same is 1.05. The value of t-ratio came out to be 34.05 which is significant ($p < 0.01$). This leads to rejection of hypothesis which states that, "There exists no significant difference in achievement in English of the groups taught through Constructivist Mind Mapping strategy and conventional method".

This finding is well supported by the study of Dhindsa, et.al. (2011).

The whole-brain alternative to linear thinking is the mind map. It spreads out in all directions, capturing all kinds of thoughts (Michalko, 2001). Mind maps help students learn and achieve academic and intellectual benefits (Sabbah, 2015). Students create a positive constructivist environment that develops connections by leading them from experience to reflection and back again (Levy, 1999). As a result, the English achievement of the group taught using the constructivist mind mapping strategy is significantly higher than that of the group taught using the Traditional method.

Implications

The study's findings demonstrated that constructivist mind mapping is superior to traditional English teaching methods. As a result, it is advised that the constructivist mind mapping technique be used to teach English on the chosen topics. When students are exposed to the constructivist mind mapping approach, they will be able to grasp English better and achieve more.

References

Akinoglu, O. & Yasar, Z.(2007). The effects of note taking in science education through the mind mapping technique on students' attitudes, academic achievement and concept learning. *Journal of Baltic Science Education*, 6(3), 34-42. Retrieved on April 1, 2020 from <http://oaji.net/articles/2014/987-1404288606.pdf>

- Asher, J.J. (1969). The total physical response approach to second language learning. *The Modern Language Journal*, 53(1), 3-17. <https://doi.org/10.2307/322091>
- Balan, B.T. (2019). *Effectiveness of problem based learning on foreign language anxiety and achievement in English of students of standard IX*. Unpublished Ph.D. thesis, Bharathiar University, Coimbatore. Retrieved from <http://shodhganga.inflibnet.ac.in:8080/jspui/handle/10603/347220>
- Buzan, T. & Buzan, B. (1993). *The mind map book: How to use radiant thinking to maximize your brain's untapped potential*. New York: Penguin Group.
- Buzan, T. (1974). *Use your head*. London: BBC Books.
- Chandramappa, G.R. (2018). *Impact of dialogue method on achievement and improvement in English language skills of IX standard students*. Unpublished Ph.D. thesis, Karnatak University, Dharwad. Retrieved from <http://shodhganga.inflibnet.ac.in:8080/jspui/handle/10603/297408>
- Dhindsa, H.S., Kasim, M. & Anderson, O.R. (2011). Constructivist-Visual mind map teaching approach and the quality of students' cognitive structures. *Journal of Science Education and Technology*, 20(2), 186-200. Retrieved on 28 August 2019 from <https://www.jstor.org/stable/41499389>
- Erdogan, Y. (2008). Paper-based and computer-based concept mappings: the effects on computer achievement, computer anxiety and computer attitude. *British Journal of Educational Technology*, 40(5), 821-836. Retrieved on 15 September, 2019 from <https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1467-8535.2008.00856.x>
- Gallagher, R.M. (1973). *Counseling-learning theory applied to foreign language learning*. Ph.D. thesis, Loyola University, Chicago. *Dissertations*1445. Retrieved from https://ecommons.luc.edu/cgi/viewcontent.cgi?article=2444&context=luc_diss
- Gattegno, C. (1972). *Teaching foreign language in schools: The silent way*. New York: Educational Solutions Worldwide Inc.
- Hijazi, D.A., & Al Natour, A.S. (2020). The effect of using blended learning method on students' achievement in English and their motivation towards learning it: Blended learning, achievement, and motivation. *International Journal of Virtual and Personal Learning Environments*, 10(2), 83-96. Retrieved from <https://eric.ed.gov/?q=achievement+in+english&id=EJ1254740>
- Lazanov, G. (1978). *Suggestology and Outlines of Suggestopaedia*. New York: Gordon & Breach.
- Levy, S. (1999). To see the world in a grain of sand. *Educational Leadership*, 57(3), 70-75. Retrieved from <http://www.ascd.org/publications/educational-leadership/nov99/vol57/num03/To-See-the-World-in-a-Grain-of-Sand.aspx>

Melrose, S. (2013). *Facilitating constructivist learning environments using mind maps and concept maps as advance organizers*. Retrieved on 31 August 2019 from <https://core.ac.uk/download/pdf/58776779.pdf>

Michalko, M. (2001). *Cracking creativity*. New York: Crown Publishing Group.

Orakci, S. (2019). The effect of layered curriculum model on students' academic achievement and attitudes in English course. *Malaysian Online Journal of Educational Sciences*, 7(4), 55-66. Retrieved from <https://eric.ed.gov/?q=achievement+in+english&pg=2&id=EJ1233879>

Raju, N. (2019). *Krashens monitor theory based package for enhancing English language proficiency of secondary school students*. Unpublished Ph.D. thesis, Central University of Kerala, Kasaragod. Retrieved from <http://shodhganga.inflibnet.ac.in:8080/jspui/handle/10603/327176>

Sabbah, S.S. (2015). The effect of college students' self-generated computerized mind mapping on their reading achievement. *International Journal of Education and Development using Information and Communication Technology*, 11(3), 4-36. Retrieved from <https://eric.ed.gov/?q=mind+mapping+of+language&id=EJ1086649>

