

EFFECTIVE USE OF EMBODIED LEARNING IN SCIENCE TEACHING- LEARNING

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Abstract : *Embodied learning is the way of teaching through 3d animated way which is very helpful in creating enthusiasm in students. If a science teacher is unable to create a new way to learn something in students will get bored. Embodied is a '3d' model of learning in which teachers uses various apps in which "3 D" video and pictorial presentation of the content is available to learn the. This paper includes the comparative study of teaching through Embodied mode and tradition way of teaching. In a traditional way of teaching, method teacher used the lecture and lecture cum demonstration method for the dictation of the content. In an Embodied way of teaching, the teacher used the app Human body for the 3d presentation. Kahoot is used for the evaluation of the achievement. The result is calculated with the help of statistical tools mean, standard deviation and 't' test.*

Keyword: Embodied learning, human body app, Kahoot..!

Introduction: Now this is a time to move forward to the constructivist approach .Embodied learning is the most effective interactive way of teaching learning. It is also helpful for teaching an idea, quality and feeling in tangible or visible form. In this, technique both teachers and students have equally responsibility to execute the learning process. The basic idea of this technique is students have to use both body and mind together for effective learning. Generally, body is absent in teaching learning process only mind is to be considered actively but in embodied learning both mind and body is expected to be active. Students have to proceed in this technique in coordinating to each other and teacher student coordination is also plays vital role in embodied learning. Coordination helps teacher and student to overcome the problems in uniquely. Virtual reality plays an important role to make coordination between student-student and teacher –student.

The Need and Significance of the Study:

As we know, the twenty-first century is the century of technological innovations. It is very necessary to prepare students to face the challenges of the twenty-first century. This technique will help the student and teachers to acquire the techniques of the twenty-first century with lots of fun and enjoyment. As a science teacher, it is our experience that we feel science is something different than other subjects, we found different attitude in science teachers and student which is very serious. Nowadays several educationists are working on this issue science should be enthusiastic and easy to understand. This research will help students and teachers to make science easy to understand.

As a human tendency we don't understand the importance of new one we are not ready to leave the old one so this researches comparative study will encourage practicing teachers to use new techniques in the teaching-learning process. Embodied teaching-learning will be helpful for students in future learning and inculcate the scientific values and temperament among the students.

Objectives of the Study:

1. To study the efficiency of embodied learning on the learning achievement of 8th standard students.
2. To study the efficiency of traditional way of teaching learning on the learning achievement of 8th standard students
3. To compare the learning achievement between embodied learning and traditional way of teaching learning in 8th standard students

Null Hypotheses of the study:

There is no significant difference between the learning achievement in student learning through embodied teaching learning and traditional teaching learning.

Scope and Limitations of the Study:

This study is limited to the 70 students of 8th standard div 'A' and 'B' student's of Guru Nanak High-school, Bhai Jaimal Singh marg, GTB Nagar, Mumbai-22

This study is limited to the Content Force (three laws of motion) only.

Research methods: Experimental research method has been used in this research.

Sampling: Convenience sampling has been used in this research. 35 student's for experimental group and 35 students for Controlled group

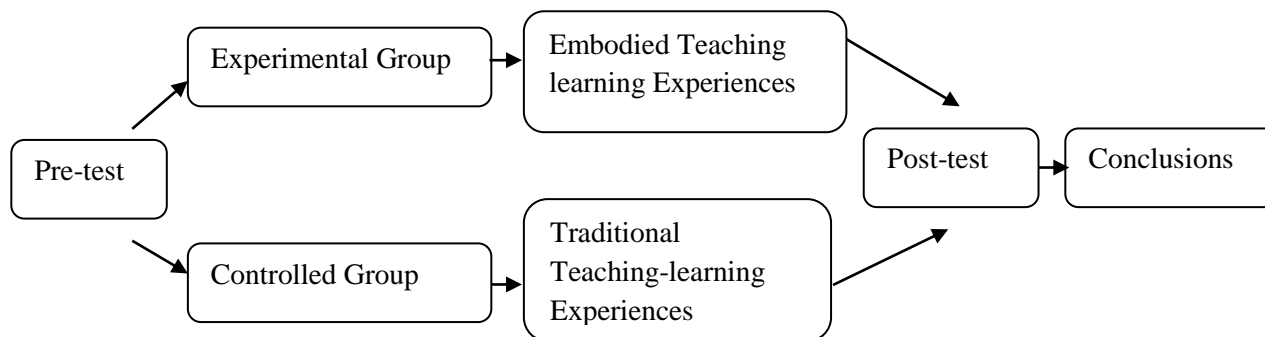
Instrumentation Plan: First of all researcher prepared the techniques of embodied teaching-learning and the experimental program, then choosing appropriate sampling implemented pre-test for the formation of an experimental and controlled group. After the formation of the group, the experimental group has been given the learning experiences through embodied learning and the controlled group has been given experiences through traditional method and achievements were collected through post-test of constructed with the help of kahoot .Finally conclusions were drawn with the help of mean ,standard deviation and 't' test

Variables:

- 1) Independent variable - Embodied Teaching-learning.
- 2) Dependent variable – Students achievement

Tools for Data Collection

1. Objective type test based on Force (Three laws of motion)
2. Embodied teaching-learning plane
3. Traditional method lesson plan.

Research Design:**Analysis and Interpretation of Data :**

The collected data is analyzed and interpreted with mean, standard deviation and ‘t’ test. The conclusions and recommendations based on the analysis and interpreted of the data. Following table is showing decision for acceptance of hypothesis.

Group No. of	Sample	Mean	SD	't' Value
Experimental Group	35	13.85	3.99	4.07
Control Group	35	16.74	1.33	

The ‘t’ value is greater than sample’s’ value. The acquired’ value is significant. As a result, embodied learning is more useful. So the null hypothesis is rejected.

Conclusions:

- 1) The use of embodied learning impacts positively on students learning achievement
- 2) Embodied learning creates interest in teaching-learning
- 3) Embodied learning improves students science knowledge
- 4) Embodied learning helps students to link day to day experience of motions with the various types of motion.
- 5) Embodied learning develops scientific attitude, knowledge and skills among the students.

Recommendations:

- 1) Embodied learning should be the part of teacher education program.
- 2) In service teacher should be given training based on embodied learning
- 3) Schools should e provide adequate resources for the embodied learning

Reference

1. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5840215/>
2. <https://link.springer.com/article/10.1007/s11217-012-9328-1>
3. [https://www.researchgate.net/post/How do you study embodied experience without appealing to language or objective testings](https://www.researchgate.net/post/How_do_you_study_embodied_experience_without_appealing_to_language_or_objective_testings)
4. <https://eclass.uoa.gr/modules/document/file.php/PPP240/Embodied%20learning.pdf>
5. <https://www.frontiersin.org/articles/10.3389/fpsyg.2019.02098/full>