



Effect of Developed Instructional Material on Attitude of Pupil Teachers Towards Constructivist Approach

KEYWORDS

constructivist approach, instructional material, Attitude

Dr. Amit Gautam

Assistant Professor, Faculty of Education, Dayalbagh Educational Institute (Deemed university), Dayalbagh, Agra

ABSTRACT *The present study investigated Effect of developed Instructional Material on attitude of pupil teachers of Biology at B.Ed. level towards Constructivist approach. so for this purpose researcher organized a orientation program with the help of developed instructional material. Experimental group get the treatment of orientation of constructivist approach with the help of developed instructional material and the controlled group get the treatment of orientation of constructivist approach without the help of developed instructional material and after completed of orientation program researcher administered the attitude scale to know the attitude of pupil teacher towards the constructivist approach.*

Statistical analysis reveals that the developed instructional material based on constructivist approach has affected the attitude of pupil teachers towards the constructivist approach. It means if pupil teachers are oriented with the help of developed instructional material their attitude towards constructivist approach will be tempered.

Introduction –

These days we quite often come across questions among the academics and educational researchers like: Are we justified in 'loading' the child's head with tons of knowledge? Are we doing right thing by giving the learner what we know? Apart from the issues like correctness of what we know and the transmission losses in giving and does teaching mean depositing the knowledge, if so, what is self-life of such knowledge: how long such knowledge is relevant: how much can be received, contained and retained by the learner. This perplexity has reined the field of education and for a long period of time we were content with depositing the accumulated knowledge ignoring the burden of learning on the part of children. It is not utopian or platonic ideal but experiencing the empirical reality through myriads of encounters resulting in schematizations of being and reorganization of being known, the process of assimilation and accommodation facilitate construction of reality as one's own knowledge.

What is Constructivism?

Constructivism is a view of learning based on the belief that knowledge isn't a thing that can be simply given by the teacher at the front of the room to students in their desks. Rather, knowledge is constructed by learners through an active, mental process of development; learners are the builders and creators of meaning and knowledge. Constructivism draws on the developmental work of **Piaget (1977)** and **Kelly (1991)**. **Twomey Fosnot (1989)** defines constructivism by reference to four principles: learning, in an important way, depends on what we already know; new ideas occur as we adapt and change our old ideas; learning involves inventing ideas rather than mechanically accumulating facts; meaningful learning occurs through rethinking old ideas and coming to new conclusions about new ideas which conflict with our old ideas.

Need of the Study

Over the last decade, constructivist as a theory of knowledge has been discussed as a new approach to education. Constructivism is one of the main themes in the educational discourse. However, there is little evidence that constructivist theory has been of significant relevance to pedagogical practice. The growing interest in constructivism has concentrated on the theory and has neglected to consider educational practice. Although some fundamental understanding of constructivism is critical for practitioners, it is equally important for practitioners to develop an epistemology of classroom learning that in congruent with constructivism. The episte-

mological assumptions underpinning Constructivism suggest that the word does not harbor unambiguous "truth" independent of human perception, revealed to us through instruction. Rather, the world is knowable only through the interaction of knower and experienced phenomena. There is very little literature that supports the claim that construction and rules should be a central focus for the enquiry. The following are some studies collected so far that are based on educational implication of Constructivist Approach.

OBJECTIVES OF THE STUDY:

The objectives of the present study are as follows:

1. To make a content analysis of class XI Biology text book in view of Constructivist approach.
2. To develop instructional materials for adopting constructivist approach in teaching of Biology
3. To study the effect of developed Instructional Material on attitude of pupil teachers towards Constructivist approach.

HYPOTHESES OF THE STUDY:

There will be no significant difference between attitude of pupil teachers towards the Constructivist approach of controlled and experimental group.

VARIABLES OF THE STUDY:

In the experimental phase of the study the following variables will be taken into consideration:

- (a) **Independent variables:** - Developed Instructional Material
- (b) **Dependent variables:** Attitude towards Constructivist Approach
- (c) **Controlled variables:** - Pupil teacher, subject, content and level of intelligence.

DELIMITATIONS OF THE STUDY:

- (1) Secondary school of Agra which offers Biology.
- (2) The school located in Agra under Uttar Pradesh Madhyamic Shiksha Parishad Allahabad.
- (3) The study was delimited to class XI Biology subject.
- (4) B. Ed students was taken as pupil teacher.

Methodology

Experimental group get the treatment of orientation of constructivist approach with the help of developed instructional material and the controlled group get the treatment of orien-

tation of constructivist approach without the help of developed instructional material and after completed of orientation program researcher administered the attitude scale to know the attitude of pupil teacher towards the constructivist approach.

The tools used for the experimental study

- (I) Developed Instructional Material based on constructivist approach.
- (II) Self developed Attitude Scale towards Constructivist Approach

Samples Used for the Study

For this study, 40 pupil teachers were treated as sample and they divided into two equal half and one half was being studied as experimental group and other as controlled group. To fix the purpose of collection data the investigator selected institution of Agra city. In present study the pupil teacher selected by purposive sampling method.

Research findings and Discussions

The first objective was to make a content analysis of class XI Biology text book in view of Constructivist approach. So for In the present study, before developing instructional material firstly the researcher had to decided some topics of class XI Biology text book, and on the basis of those topics the researcher had to made some lesson plans, so basically investigator decided some topics from XI Biology text books, these topics almost covered all the units of the book. So this is because though this we can easily make a differentiation on the topics. So we selected the entire topic.

The second objective was to develop instructional materials

for adopting constructivist approach in teaching of Biology.

For this The researcher developed instructional material based on constructivist approach and these are following steps were followed (a)Content analysis (b) Selection of topic appropriated for constructivist approach after introductory analysis of class XI Biology text book. (c) Preparation of lesson plan based on constructivist approach

The researcher developed a instructional material based on constructivist approach according to the procedure like: (a) Review of lesson plans by subject experts (b) Modifications of lesson plans (c) Try out of some lesson plan (d) Preparation of final draft of the lesson plan The lesson plan thus prepared in the final stage is appropriate for its use in the real class situation.

The third objective was to study the effect of developed Instructional Material on attitude of pupil teachers towards Constructivist approach. After development of instructional material, researcher had to applied this on pupil teachers to know the attitude towards the constructivist approach, so researcher organized a orientation program with the help of developed instructional material. Experimental group get the treatment of orientation of constructivist approach with the help of developed instructional material and the controlled group get the treatment of orientation of constructivist approach without the help of developed instructional material and after completed of orientation program researcher administered the attitude scale to know the attitude of pupil teacher towards the constructivist approach. Details of Implementation of developed Instructional Material in orientation of pupil teachers given following:

Phase- Implementation of developed Instructional Material in orientation of pupil teachers –							
Experimental Group				Controlled Group			
Sample	Treatment	Duration	Research Tool	Sample	Treatment	Duration	Research Tool
PUPIL TEACHERS N=20	Orientation of Constructivist Approach with the help of Developmental Instructional Material.	10 PERIODS (ONE PERIOD PER DAY)	Attitude Scale toward the constructivist approach	PUPIL TEACHERS N=20	Orientation of Constructivist Approach without the help of Developmental Instructional Material.	10 PERIODS (ONE PERIOD PER DAY)	Attitude Scale toward constructivist approach

After organizing the orientation program researcher had to administer the attitude scale to know the attitude of pupil teacher towards the constructivist approach.

Table: 1- Showing mean, S.D., C.R. and P values the post-test score of controlled and experimental group of pupil teachers on attitude scale

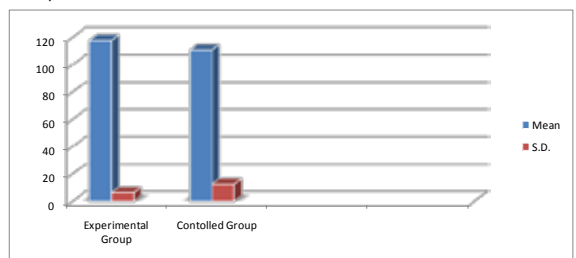
Group	Mean	S.D.	df	t	Level of Significance
Experimental	118	6.38	38	4.03	P < .01
Controlled	110.55	12.73			

From the table 1 it can be seen that calculated t value of mean difference between experimental and controlled group is 4.03 that more than table value on 38 df at 1.97 at 0.05 level of significance and 2.59 at .01 level of significance, hence it can be said that there is significant difference between the means of experimental and controlled.

On the basis of t value, it can be generalized that attitude of pupil teacher of experimental group of orientation program were found better than that of attitude of controlled group.

Thus our hypothesis that there will be no significant difference between attitude of pupil teachers towards the Constructivist approach of controlled and experimental group is

accepted.



Showing mean, S.D., values the post-test score of controlled and experimental group of pupil teachers on attitude scale

It is well known that data do not speak for themselves. They reveal what the analyst can defect. Therefore the usual analysis approach is to begin with the descriptive statistics and then turn to address specific related to the study using inferential statistics and graphical representation.

In present study mean and SD have been calculated as descriptive statistics t test has been applied to test the hypothesis. Statistical analysis reveals that the developed instructional material based on constructivist approach has affected

the attitude of pupil teachers towards the constructivist approach. It means if pupil teachers are oriented with the help of developed instructional material their attitude towards constructivist approach will be tempered.

CONCLUSION

Constructivism learning is recognized as a valuable technique to increase the depth of understanding of scientific ideas through students building their own knowledge through inquiry-based exercise (Brooks and Brooks, 1993). There is also evidence that students taught by constructivist methods

learn biology concepts better than those taught even by talented lecturers (Hake, 1998).

On the basis of analysis and interpretation of data it can be concluded that developed instructional material based on constructivist approach has affected the attitude of pupil teachers towards the constructivist approach. It means if pupil teachers are oriented with the help of developed instructional material their attitude towards constructivist approach will be tempered.

REFERENCE

- Akinbobola, A.O. (2004) Effects of cooperative and competitive learning strategies on the performance of students in physics. *Journal of Research in Education*, 1(1) 71-75. | Awang, H. And Ramly,I.(2008) : Creative Thinking Skill Approach Through Problem-Based Learning: Pedagogy And Practice In The Engineering Classroom.: *International Journal Of Human And Social Sciences* 3:1 2008,Malaysia. | Best, J. W. & Kahn , (1992)*Research In Education*, Prentice-Hall of India, New Delhi. | Gagne, R.M. and Collay, M. *Constructivist Learning Design*. Available on <http://www.prainbow.com/cld/cldp.html>. | Hein, G. E. (1991). The museum and the need of people. *Constructive learning Theory*, international Committee of Museum Educators, Jerusalem. Available on <http://www.exploratorium.edu/ifi/resources/constructivistlearning.html> | Sung, Y. (2007). Are pre-service teacher constructivist in the constructivist teacher education program? *KEDI Journal of Educational Policy*, 4(1), pp. 9-24. |