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A Study on the Constructive based Teaching Strategies in Relation to Academic Achievement in English

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ABSTRACT

Class room teaching practice becomes more effective when it is well informed by an understanding of how students' learn and learning will be more successful if students are given the opportunity to explain or clarify their ideas. So in terms of pedagogy, the development of education now requires teaching strategies that emphasize student involvement in their learning, where focus is on knowledge construction rather knowledge transformation.

The present paper is a conceptual paper focusing on the need and ways of adopting constructive based teaching strategies in the teaching and learning process of class VIII English

Keywords: *Constructivism, Zone of Proximal Development, Scaffolding, 5 E Model.*

1. INTRODUCTION

Researchers have shown that constructivist learning strategy in classroom can be very effective in encouraging student interaction and consequently enhanced students' achievement. It is therefore essential that the major implication of learning theory should be reflected in classroom practices in a more child focused manner.

Constructivism is an emerging pedagogy among the teaching community across the world and National Curriculum Framework (NCF 2005) confirmed the direction to it in Indian classroom situation.

Learning in an important way depends on what we already know; new ideas occur as we adapt and change our old ideas; learning involving ideas rather than mechanically accumulating facts; meaningful learning occurs through re-thinking old ideas and coming to new conclusions about new ideas that conflict with our old ideas. Constructivist teaching fosters critical thinking and creates motivated and independent learners.

1.1 Connections to Literature

Formalization of the theory of Constructivism was generally attributed to Jean Piaget. He also supported the views of John Dewey, Lev Vygotsky and Jerom Bruner.

According to Bruner, 'Constructivism is the learning theory in which learning is seen as an active process in which learner construct new ideas or concepts based upon their current and past knowledge.

Philosophers and psychologists of the 1800's and early 1900's, Piaget, Vico and Khan are credited as having provided the foundation for the constructivist movement. (Good, Wandersee, & St. Julien, 1993; Matthews, 1994; Phillips, 1995; and Yager, 1991). Applebee (1993) states that "rather than emphasizing characteristics of the final products, process oriented instruction focuses on the language and problem-solving strategies that students need to learn in order to generate those products" (p.5). Constructivist teaching is an exciting way to teach; students are motivated and actively involved. The classroom is democratic, and more teacher-student contact is possible. In a constructivist classroom, negotiation is an important aspect. Smith (1993) explains that negotiating curriculum means "custom-building classes every day to fit the individuals who attend" (p.) 1

1.2 Constructivism and Learning

Constructivism an epistemological view of knowledge acquisition emphasizes on four aspects:

- knowledge construction rather than knowledge transmission and the recording of information conveyed by others
- new learning builds on prior knowledge

- learning is enhanced by social interaction
- Meaningful learning develops through authentic tasks.

1.3 Principles of Constructivism

- One of the most important principles in constructivist approach to language teaching is action orientedness. Co-operative learning (such as pair work, group work or any other social forms of learning), creative and active participation in classroom activities, learning by preparing various projects as well as learning by teaching (when the student is asked to take over teacher's role) have been treated as the major tasks referring to the action oriented method.
- The second principle in constructive language teaching is individualization of learning which is centred on the learner. It is the learner who is allowed to decide about the fragments and sections of the materials provided by the teacher during the lesson.
- Another principle of constructive approach refers to holistic language experience which refers to content-oriented language teaching and usually takes place in bilingual classes.
- It is based on thinking and analysing not memorising. It also lays emphasis on understanding and applying and not repeating, knowledge is constructed not received.

1.4 Role of Constructivist Teacher

Teacher acts as a guide who facilitates learning by creating situation.

Democratic environment as each student gets equal opportunity to participate in classroom activities.

Multiple presentation of subject matter with aim of self construction of knowledge

Although the grammar will likely not be perfect, students have enough critical thinking skills in their native language to come up with good questions. The problem they have is expressing the question in English. This is where the teacher as facilitator becomes important.

Example

Instead of giving students a vocabulary list, give them an interesting reading. Have students decide what vocabulary words to learn and have them make flash cards with the vocabulary words that they need to learn

After students have read, instead of asking them comprehension questions, have students create the questions themselves, divide students into groups and challenge them to come up with higher-level, critical thinking questions instead of the questions that are spelled out easily in the text.

1.5 Constructivist Teaching Strategies

1.5.1 Active learning Strategies

The process of active learning is illustrated by a Chinese proverb:

Tell me, and I'll forget. Show me, and I'll remember. Involve me, and I'll learn.

Constructivists believe that students should be engaged in active learning. Must be encouraged to draw, discuss and write about what they are learning. They should talk to others, actively working, not just sitting, in groups

➤ Individualised Active Learning Strategies

- Looking / Observing--Seeing and hearing- Seeing and doing
- Classroom, public or online presentation

➤ Small Group Active Learning Strategies.

- Think-Pair-Share

The instructor poses a question. Students are given time to think of a response. Each student then pairs with another and both discuss their responses to the question. The instructor invites pairs to share their responses with the class as a whole.

Other Group Work Techniques

Paired Annotations / RoundTable/Thinking- Aloud Paired Problem Solving Think- Pair-Square / Peer Editing

➤ Large Group Learning Strategies

- Fishbowl discussion techniques makes for an excellent pre-writing activity, often unearthing questions or ideas that students can explore more deeply in an independent assignment

Other Techniques are Pyramid **Discussion**, Structured Controversy, **debate**, Three- Step Interview, Reciprocal Peer Questioning, role-play etc

- For example, if the problem is pollution, individual students can sign a contract promising not to throw litter on the ground

- a small group of students can make posters to put around the school and the community, urging others not to throw trash on the ground
- the whole class can spend a Saturday picking up trash in a public park or along a roadside.

1.5.2 Specific approaches to education that are based on constructivism include

Discovery approaches

Jean piaget and Jerome S. Bruner, both have stressed upon pupil exploration and discovery as a key to successful learning. Jerome S. Bruner views learning by discovery is learning to discover.

Discovery learning is an inquiry-based, constructivist learning theory that takes place in problem solving situations where the learner draws on his or her own past experience and existing knowledge to discover facts and relationships to be learned. Models that are based upon discovery learning model include: guided discovery, problem-based learning, simulation-based learning, case-based learning, and incidental learning

➤ **Socratic questioning/Socratic Method**

The oldest, and still the most powerful, teaching tactic for fostering critical thinking is Socratic teaching. In Socratic teaching we focus on giving students questions, not answers. We model an inquiring, probing mind by continually probing into the subject with questions. The logical relationships that result from such disciplined thought, prepare us for Socratic questioning

1.5.3 Methods of Teaching – Learner Centred

Learner-centered learning works best through pair and group work

Individual accountability can be achieved through:

Participations (summery, reflection), listening (sharing ideas) and a structure that allows for individual evaluations.

Equal participation can be accomplished by allocating turns or timed contributions

Learner-centered teaching focuses attention on what the student is learning, how the student is learning, and the conditions under which the student is learning, whether the student is retaining and applying the learning, and how current learning positions the student for future learning.

1.6 During Language Class

- State explicitly what students should try to get from the reading.
- Suggest they skim the text to identify main ideas before they read
- Encourage them to read with pen in hand, marking the main ideas, writing them in the margins or noting them in a reading journal
- Urge students to stop every ten minutes to look back at the key ideas and try to summarize what they've read.
- Ask students to make outlines or draw concepts maps.
- Ask them to find additional examples in newspapers or media.

1.7 Zone of Proximal Development (ZPD) is a term coined by Vygotsky has been defined as "the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance, or in collaboration with more capable peers" (Vygotsky, 1978, p86).

It is a level of development attained when children engage in social behavior. Full development of the ZPD depends upon full social interaction.

For example, in the learning of language, our first utterances with peers or adults are for the purpose of communication but once mastered they become internalized and allow "inner speech

1.8 Scaffolding

The constructivists suggest that as a child learns new things, s/he should be given lots of support, a process known as "scaffolding." This can be done through the use of word banks, writing frames, concrete materials and questioning techniques. Teachers should provide stimuli and prompts, varying their presentation. As the student's learning develops, the scaffolding is removed.

Example- a Grandfather reading a story to a child. He pauses pointing at the picture saying "can you point to the number of legs the caterpillar has?" This supports the child's ability to relate the words of the story to features of the pictures.

1.9 5-E Instructional Model in English Class

There are many ways for planning and teaching a constructivist classroom. One such model that has been used is the 5-E instructional model. There are 5 components in this model, each beginning with the letter "E": Engage, Explore, Explain, Elaborate, and Evaluate

Engage

- Capture the students' attention, stimulate their thinking and access their prior knowledge.

Activities may include the following:

- Demonstration (by teacher and/or student).
- Show a related movie clip
- Reading from a current media release or piece of literature.
- KWL (What I Know, What I Want to know, What I have Learnt)
- Brainstorming

Indicators to assess the process

- Observation of students attentiveness
- Do students ask questions during the process?

Explore. Give students time to think, plan, investigate and organize collected information

Activities

Reading authentic resources to collect information to answer an open-ended question or to make a decision.

Solving a problem

Creating a graphic organiser

Investigation (design and/or perform).

Indicators to assess the process

Do students frame/ask questions for meaningful exploration?

Are students able to organise information meaningfully?

Explain:

Teacher to involve students in an analysis of their explorations for framing explanations. S/he **scaffolds** to ensure clarity and modify students' explanation

Activities:

Student analysis and explanation.

Supporting ideas with evidence.

Structured questioning to elicit explanation.

Expressing through a variety of forms (oral, written, graphic, symbolic, model making, art forms and so on).

Indicators to evaluate the process

Are students able to provide meaningful coherent explanations of the concept/procedure of skill learnt?

Do students clarify their understanding by asking questions/discussing?

Elaborate:

Give students the opportunity to expand and solidify their understanding of the content and/or apply it to daily life.

Activities:

Problem solving /Decision making/Experimental inquiry

Thinking skill activities (comparing, classifying, abstraction, error analysis)

Reading and discussion.

Indicators to assess the process

Are students able to link their learning to a different situation?

Are students participating in discussions related to the topic?

Evaluate:

Evaluate throughout the lesson. Present students with a scoring guide at the beginning. Scoring tools developed by teachers (sometimes with student involvement) target what students must know and do. Consistent use of scoring tools can improve learning.

Activities:

Implementation of scoring tool to measure student performance during activities

Performance assessment – individual performance assessment based on rubrics.

Indicators to assess the process (In this phase, individual assessment has to be taken up)

Is the student able to do self-assessment?

Is the student able to understand the feedback given by the teacher?

1.10 Importance of English

English is accepted as the second language in India. In the words of Gandhi, "English is a language of international commerce, it is the language of diplomacy and it contains many a rich literary treasures". It gives us an introduction that English has occupied an important place in Indian education

1.11 Academic Achievement

Achievement is general mental ability, language achievement, and memory capacity in a given period of time. Academic achievement is the actual accomplishment of an individual in the examination and other tests based on subject matter and content. Academic Achievement is an important aspect to the students who engaged in process of education since it depends on the degree of effectiveness for maximum/minimum performance.

1.11 Objectives of the Study

- To develop an Achievement test on selected units of English.
- To develop a teaching programme based on “Constructivist Approach”.
- To study the level of Achievement after the Experimental treatment.
- To compare the effectiveness of Constructivist Approach over the Conventional Approach of teaching.

1.12 Hypothesis

There is significant difference in the Achievement of the students when taught English with the use of Constructivist Approach.

2. METHODOLOGY

2.1 Sample

In the present study, one school was selected on the basis of their average marks. There were two sections of 8th class from which the sample was selected on the basis of their marks in half yearly examination; 60 students were randomly selected as sample. Out of which two groups were made of 30 students each. One group was called control group and no treatment was given to control group. Another group of 30 students was known as experimental group where teaching through constructivist approach was done.

2.2 Tools for data collection

Keeping in view the nature and need of the present study **Self Developed Tool**

Achievement Test was used for data-collection. The following steps were followed for developing the test:-

a. Planning

The achievement test was planned with the objective of measuring Achievement in English. Planning of the test taken in to account the purpose of the test, identification and defining the intended learning outcomes, preparing the test specifications and constructing relevant test items.

b. Objectives

Since the major concern here was to test the academic achievement, accordingly, it was decided to test the six major areas of cognitive domain, i.e. knowledge, understanding, analysing, evaluating, creating and application

c. Preparation

50 questions with wide range of difficulty were constructed in conformity with blue print. First draft was given to experts and items having 80% unanimity were selected. Finally 40 items constituted the final form of Achievement test along with the scoring key.

2.3 Experimental Procedure

(i) **Pre Test**- The first stage involved the formation of two groups experimental and control group and administration of achievement test in English.

(ii) **Treatment**- At second stage, the experimental group was taught through Constructivist Approach. Control group was taught the same topics through traditional teaching strategy. The teaching-learning process was carried out for a period of two months.

(iii) **Post-Test**- The third stage i.e. after the experimental treatment involve the administration of post-test i.e. achievement test.

2.4 Statistical Treatment

The data collected was statistically analyzed using the following techniques:-

1. Descriptive statistics such as means and SDs were worked out on the score of Achievement test.
2. Inferential Statistical techniques such as t-test was employed for testing significance of the difference between the experimental and control the group on the basis of pre-test, post-test and gain scores.

3. ANALYSIS AND RESULT

3.1 Pre-Test comparison of the Experimental and Control Group

The comparison of the experimental and the control group by the Achievement test scores is as follows:

The difference between a control and experimental groups on means scores in pre-test was not found to be significant.

The difference between a control and experimental groups on means scores in post-test was found to be significant.

Table 3. 1 Pre-Test Comparison of Experimental and Control Group

	No. of Students	Mean	Standard Deviation	Critical Ratio(t)	Level of Significance
Experimental	30	11.93	3.26	.031	Not significant at 0.05 level
Control	30	11.96	3.31		

The insignificance indicates that the two groups in pre-test were almost equal in their level of knowledge before introducing any treatment.

3.2 Post-Test Comparison of Experimental and Control Group

The differences between the mean post-test scores of the experimental and control group as provided below:

Table 3.2

Group	No. of Students	Mean	Standard Deviation	Critical Ratio(t)	Level of Significance
Experimental	30	45.46	14.64	4.14	Significant at 0.05 level
Control	30	31.4	11.42		

It indicates very clearly that mean scores of the experimental group improved more than that of control group. This indicates further a significant increase in the level of Achievement after giving them the treatment.

4. CONCLUSION

The result shows that the post test achievement go significantly in favour of providing remedial teaching, as the students gained a lot after the remedial teaching. Evidently, calculated t-values of level of achievement between pre-test and post-test of experimental group have been found to be significant.

The study also provides the teacher an empirical support for using Constructivist Approach in class room

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