

CONSTRUCTIVIST TEACHING PRACTICES: PERCEPTION OF STUDENTS

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ABSTRACT

In this paper, an attempt has been made to study the perception of students regarding the constructivist teaching practices. For this purpose sample of 250 students of 9th and 10th standard from the government school was taken through simple random sampling technique. To collect the data, opinionnaire was developed and standardized by the investigators. To find the significance of difference between the various groups 't'-test was applied. Results indicated that gender wise and locality wise students do not differ significantly in their perception towards constructivist teaching practices.

Key Words: *Constructivist, Students and Perception.*

INTRODUCTION:

In the present days, improvement in the quality of school education has been great concern of educationist, policymakers and researchers. The focus is now on to empower the child not only with desired knowledge and understanding, but also with necessary knowledge construction skills. Consequently, teachers are required to be empowered to facilitate the process of empowering children with intellectual skills for learning how to learn. Empowering children with such skills will facilitate acquisition of desired attitudes and values as well. One of the most important principles of educational psychology is that teachers cannot simply give students knowledge. Students must construct knowledge in their own minds. The teachers can facilitate this process, by teaching in ways that make information meaningful and relevant to students, by giving students opportunities to discover or apply ideas themselves, and by teaching students to be aware of and

consciously use their own strategies for learning. They can give students ladders. A revolution is taking place in educational psychology. This revolution goes by many names, but the name most frequently used is constructivist theories of learning. The essence of constructivist theory is the idea that learners must individually discover and transform complex information if they are to make it their own. The constructivist revolution has deep roots in the history of education. It draws heavily on the work of Piaget and Vygotsky both of whom emphasized that cognitive change only takes place when previous conceptions go through a process of disequilibrium in light of new information. Piaget and Vygotsky also emphasized the social nature of learning and both suggested the use of mixed ability learning groups to promote conceptual change.

Constructivist Theory-

Formalization of the theory of constructivism is generally attributed to Jean Piaget, who articulated mechanism by which knowledge is internalized by learners. He suggested that through process of accommodation and assimilation, individuals construct new knowledge from their experiences. When individual assimilate, they incorporate the new experience into an already existing framework. This may occur when individuals' experiences are aligned with their internal representations of the world, but may also occur as a failure to change a faulty understanding; for example they not notice events, may misunderstand input from others, or may decide that an event is a fluke and is therefore unimportant as information about the world. In contrast, when individuals' experiences contradict their internal representations, they may change their perceptions of the experiences to fit their internal representations. According to the theory, accommodation is the process of reframing one's mental representations of the external world to fit new experiences. Accommodation can be understood as the mechanism by which failure leads to learning: when we act on the expectation that the world operates in one way it violates our expectations, we often fail, but by accommodating this new experience and reframing our model of the way the world works, we learn from the experience of failure, or other's failure. It is important to note that constructivism is not a particular pedagogy. In fact, constructivism is a theory describing how

learning happens, regardless of whether learners are using their experiences to understand a lecture or following the instructions for building a model airplane. In both cases, the theory of constructivism suggests that learners construct knowledge out of their experiences. However, constructivism is often associated with pedagogic approaches that promote active learning or learning by doing. It is learning or meaning making theory. Perhaps the first constructivist philosopher, Giambattista Vico commented in treaties in 1710 that “one only knows something if one can explain it.” Constructivism is a theory of how the learner constructs knowledge from experience, which is unique to each individual.

Constructivism: Theory and Models-

Constructivism is anchored on cognitive psychology but from a practical perspective has roots in the “progressive” model of John Dewey (1933). According to this theory, learners are active participants in knowledge acquisition and engage in restructuring, manipulating, reinventing and experimenting with knowledge to make it meaningful, organized and permanent. Learning is an internal process influenced by the learner’s personality, prior knowledge and learning goals. Lerman (1989) following Kilpatrick (1987) suggested that the core epistemological theses of constructivism are ‘Knowledge is actively constructed by the cognizing subject, not passively received from the environment.’ ‘Coming to know is an adaptive process that organizes one’s experimental world; it does not discover an independent, pre-existing world outside the mind of the knower.’ First point is a psychological claim and seconds the epistemological claim. Wheatley (1991) offers a nearly identical summation of the epistemological core of constructivism rests on the two main principles – (i) Principle one states that knowledge is not passively received, but is actively built up by the cognizing subject, (ii) Principle two states that the function of cognition is adaptive and serves the organization of the experiential world not the discovery of ontological reality. Thus we do not find truth but construct viable explanations of our experiences”. For Piaget, action rather than language is the basis of all knowledge. His theory describes the gradual evolution of thought in logical terms from stage to stage, which are also hierarchically determined. Vygotsky goes a step further saying “Instructions proceeds development.” He therefore, analyzed intellectual

development as a function of instruction- concepts do not exist in isolation. Vygotsky had a firm belief in the social construction of mind. Within the context of cultural development, any function in the child appears twice, namely social plane and psychological plane. The language plays the mediating role and Vygotsky thus, talked of the tools of language. He had a bold conception in the “zone of proximal development “where by individual activity is detached from communal practice. Bruner (1966) unlike Piaget believed in symbolic growth. He informed about what ought to be the plan of attack unlike Piaget who talked of the universal child. Bruner stressed the role of language and culture in education of children so that the children learn “how to learn”. Along with Piaget and Bruner, Ausubel (1978) was also a strong advocate of meaningful learning .He saw the importance of meaning as a key factor for learning. From the above theories, constructivists have evolved the following models and approaches. There are several constructivists design models available: The learning cycle is a three step design that can be used as a general framework for many kinds of constructivist’s activities. The process begins with the “discovery” phase. In it, the teacher encourages students to generate questions and hypotheses from working with various materials. Next, the teacher provides “concept introduction” lessons. Here, the teacher focuses on the students’ questions and helps them to create hypotheses and design experiments. In the third step, “concept application” students work on new problems that reconsider the concepts studied in the first two steps. The cycle continues again. The Biological Science Curriculum Study (BSCS) developed an instructional model for constructivism which was called the five “Es”. They are: Engage Explore, Explain, Elaborate and Evaluate. Gagnon and Collay developed another constructivist learning design. In this model, teachers implement number of steps in their teaching structure. They develop a situation for students to explain; select a process for grouping s of materials and students; build a bridge between what students already know and what teachers want them to learn; anticipate questions to ask and answer without giving away an explanation; encourage students to exhibit a record of their thinking by sharing it with others and solicit student’s reflections about their learning. Clintock and Black (1995) derived a model from several computer technologies - supported learning environments.

Role of Teacher in Constructivist Classroom-

In the constructivist classroom, the role of the teacher also demands new orientation to suit the modern temper and times. Almost all students in one way or another construct their own meanings while acquiring knowledge. It is a very valuable mental activity of pupils, which should not be ignored thoughtlessly. It is then up to the pupils to link and interlink concepts by developing strategies to help themselves in construction of their new knowledge. This in other words, means that knowledge is constructed and reconstructed progressively in the presence of the teacher. The teacher becomes a guide for the learner, providing bridging or scaffolding, helping to extend the learner's zone of proximal development. The student is encouraged to develop met-cognitive skills such as reflective thinking and problem solving techniques. The independent learner is intrinsically motivated to generate, discover, build and enlarge her/his own framework of knowledge. The teacher is a facilitator or coach in the constructivist learning approach. The teacher guides the student, stimulating and provoking the student's critical thinking, analysing and synthesizing throughout the learning process. The teacher is also a co-learner. More emphasis is an organizing and meaningful learning than mechanical learning, emphasis on improvement of thinking than the attainment of narrowly conceived specific understandings and skills will be laid by the teacher. Right concept formation, application of scientific knowledge to unknown situation, designing and executing varied problem solving procedures are encouraged in the learning process. Over all, a swing towards self-study, self-understanding and self-education among students rather than authoritarian or dominated teaching learning process by teachers is found in a constructivist class-room. From the above discussion, it is clear that in constructivist approach, the students are given utmost freedom and ownership what they learn and the role of the teacher is to provide such experiences that give them an opportunity to construct knowledge.

Rational of the Study-

According to the traditional concept teaching is the act of imparting instructions to the learners in the class-room situation. It is traditional class- room teaching. In traditional class-room teaching the teacher gives information to students, or one of a student read from a text book, while the

other students silently follow him in their own text books. This traditional concept of teaching is not acceptable to modern educators. Now teaching is not merely imparting knowledge or information to students. According to modern concept teaching is cause the pupil to learn and acquire the desired knowledge, skill and also desirable ways of living in the society. Teaching should be more learner-centered. Education is under an evolution from teacher-centeredness system to learner centered system and requires modification in instructional strategies. As every child special with different learning capabilities, so any particular method of teaching cannot fulfil the demands of class as a whole. So in order to fulfil the demands of class teachers must consider student needs, problems, interests and attitude towards learning. Modern approaches put a much greater emphasis on the role of teacher in guiding discovery and on the use of cooperative learning and discussion among students. They are largely based on constructivist theories of learning, which emphasize the need for students to construct meaning for themselves. They emphasize authentic learning activities; learning exercises resemble the real life activities for which students are being prepared. Therefore, keeping in view the importance of constructivism in student-centered learning it was considered fit to undertake a study in this area. The present study will be useful in assessing the extent to which the teacher and student prefer the new strategies of teaching learning.

OBJECTIVES OF THE STUDY:

To compare the perception of boys and girls towards constructivist teaching practices.

To compare the perception of rural and urban school students towards constructivist teaching practices.

HYPOTHESES OF THE STUDY:

H₀₁: There is no significant difference between boys and girls in their perception towards constructivist teaching practices.

H₀₂: There is no significant difference between rural and urban school students in their perception towards constructivist teaching practices.

DELIMITATIONS OF THE STUDY:

- The study was confined to district Shimla of Himachal Pradesh only.
- The study was delimited to the government schools of Shimla district only.
- Only 9th and 10th class students were included in the study.

METHODOLOGY OF STUDY:

In order to collect data the survey method was used. The sample of the study consisted of 250 students (149 boys and 101 girls) of Shimla District. For the collection of necessary information for this study, investigator developed one opinionnaires for students containing twenty two items. A content validity was used for validating the opinionnaires. Content validity may be defined as the extent to which a test measures the representative sample of the subject matter content and the behavioural changes under consideration. Before finalizing the opinionnaires rough drafts were circulated among the experts for modification and improvement. On the basis of various suggestions and recommendations made by the experts, some irrelevant questions were deleted, some were modified and some new questions were introduced. Thus the final form of opinionnaires for students consisted of 22 items. Opinionnaires consist of both positive and negative statements. In the 5 point scale, in case of positive items 4,3,2,1 and 0 mark will be given to strongly agree (SA),agree (A),undecided (U),disagree (D) and strongly disagree(SD) respectively and in case of the negative items the marking procedure will just be the reverse. In order to test the hypotheses of the study, investigator used both descriptive as well as inferential statistical analysis ('t'-test).

ANALYSIS AND INTERPRETATION:

Table 1: Means and Standard Deviation of Boys and Girls Students

Sex	N	Mean	σ	SE _D	df	t
Boys	149	55.26	6.24	0.80	248	0.87
Girls	101	55.96	6.35			

NS means Not Significant at .05 Level

It is observed from the above table that ‘t’ value of 0.87 was not found significant even at .05 level. Therefore, it can be concluded that the H_0 “There is no significant difference between boys and girls students in their perception towards constructivist teaching practices” is accepted. In other words, it is implied that boys and girls do not differ significantly in their perception towards constructivist teaching practices.

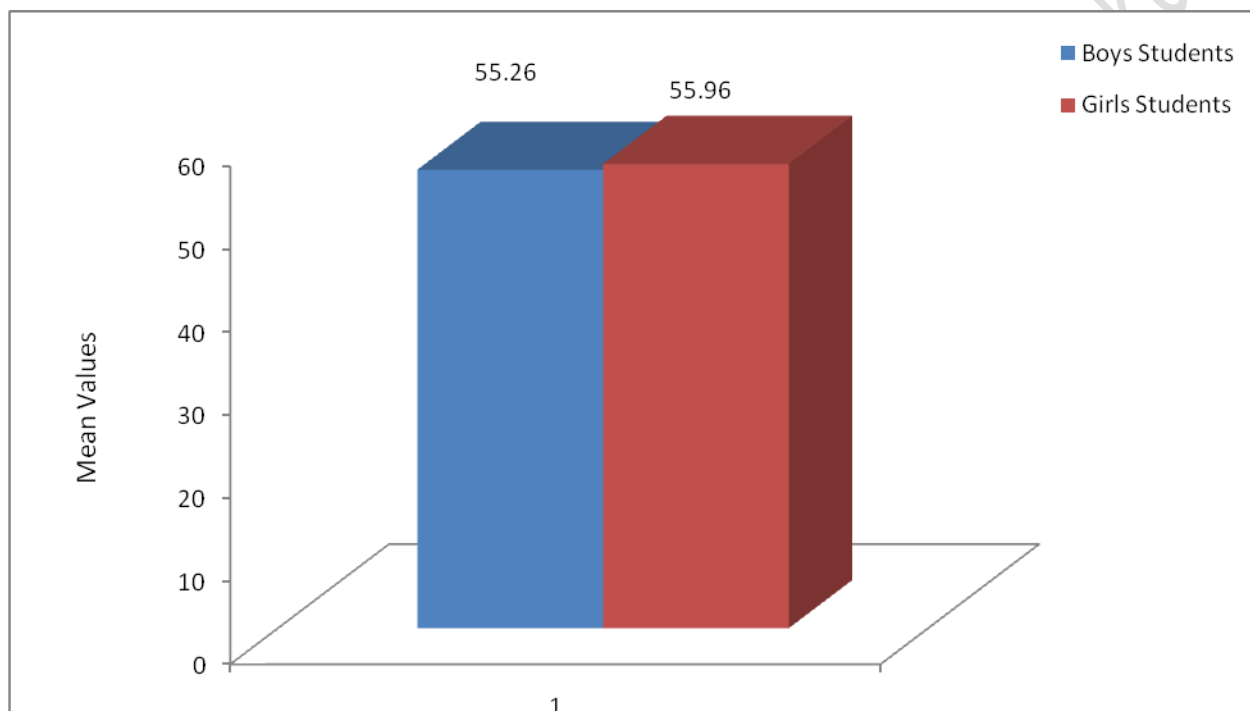


Fig.1 Histogram Showing Mean Difference between Boys and Girls Students in their Perception towards Constructivist Teaching Practices.

Table 2: Means and Standard Deviation of Rural and Urban Students

Locale	N	Mean	σ	SE _D	df	't'
Rural	127	54.61	6.57	0.80	248	1.96
Urban	123	56.18	6.23			

NS means Not Significant at .05 Level

It is observed from the above table that 't' value of 1.96 was not found significant even at .05 level. Therefore, it can be concluded that the H_0 "There is no significant difference between rural and urban school students in their perception towards constructivist teaching practices" is accepted. In other words, it is implied that rural and urban students do not differ significantly in their perception towards constructivist teaching practices.

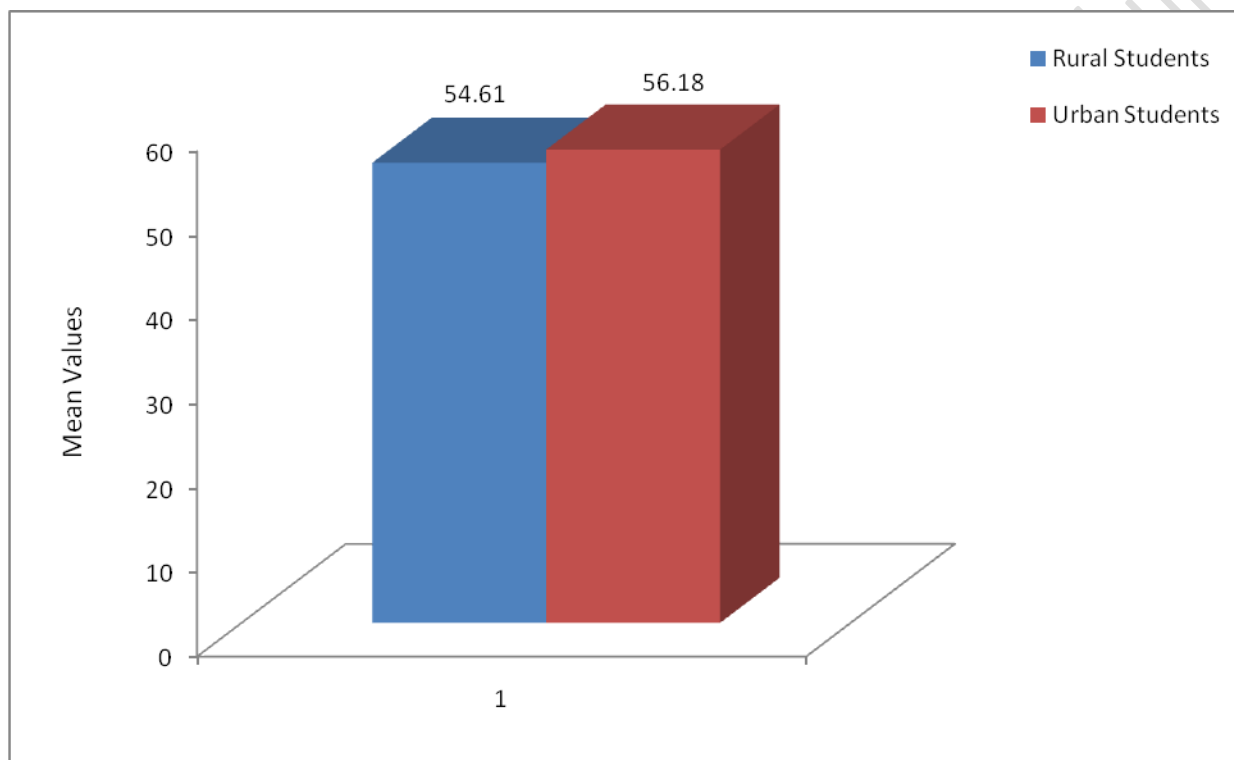


Fig.2 Histogram Showing Mean Difference between Rural and Urban Students in their Perception towards Constructivist Teaching Practices

FINDINGS OF THE STUDY:

The Major findings of the study:

1. Boys' and girls' students do not differ significantly in their perception towards constructivist teaching practices.
2. Rural students and urban students do not differ significantly in their perception towards constructivist teaching practices.

EDUCATIONAL IMPLICATIONS:

From the findings of the study it is evident that students have better perceptions with regard to constructivist teaching practices. In order to further encourage constructivist teaching practices following steps may be initiated at the level of administration:

- There is need to prepare packages to teach through constructivist approach where students should be properly guided to generate their own knowledge.
- In service training programmes for teachers should invariably include a component of constructivist teaching practices.
- An experts group should be prepared amongst the teachers who can observe the implementation of constructivist teaching practices and provide feedback to the teachers in order to make the approach effective.
- To prepare such an expert group workshop should be organized for the teachers at national and state level.
- The higher authorities DIETs, State Departments of Education should include constructivist method of teaching in the teacher training programmes. The student teachers are to be taught with the theory of constructivism and should be allowed to practice during their practice in teaching.
- This study also revealed that the students liked group works and also expressed that they got an opportunity to discuss and share with each other and added to this, the constructivist philosophy believes in both individual and group construction of knowledge. So the teachers have to provide both individual and group works to the students while teaching in the classroom.
- Student should be allowed to experiment with materials in order to accommodate new understandings, and to discover information for themselves through active participation.
- Learning should be flexible and exploratory, if students appear to be struggling with a concept, allow them time to try to solve the problem on their own before providing the solution.

- There should be no spoon feeding to pupils. Teacher should rather provoke independent thinking in them. Create in them a desire to explore and devise the solution of given situation.
- Teachers should be available as resource person but should not become the authorities who enforce correct answers. Children must be free to construct their own understandings.

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