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Constructivist approach and attitude of teachers: A study on Bilaspur district

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Abstract
Learning is a process of creating an understanding related to the world and the learner benefits most when s/he actively participates in learning process by connecting the new knowledge presented with his previous knowledge. It helps students to develop their own understanding of the subject matter. Constructivist curriculum change is significantly related to the implementation of constructivist teaching and learning activities in class at school level. This study was therefore, undertaken with the objectives to study the attitude of secondary school teachers towards teaching with constructivist approach on the basis of gender and subject.
This study is a descriptive research aimed at studying the attitude of secondary school teachers towards teaching through constructivist approach. The study has been carried out in a survey form taking into consideration secondary school teachers of Bilaspur district only. The sample was drawn from five CBSE board secondary school teachers of Bilaspur district. A total of 100 teachers giving equal weightage to the gender and streams were considered as the sample. Purposive sampling method was used for obtaining the sample from the population. And after seeing the nature of distribution of data, appropriate statistical techniques were employed to analyze the data. The results showed that there is no attitudinal difference between the teachers of the two genders. It also showed that there is no difference in the attitude towards teaching with constructivist approach between arts and science stream teachers. This further indicates that the male and female teachers put similar efforts in delivering the contents in their instructional process as well as they give equal opportunities to the student's to form their concepts.
The findings of the study came out in favor that teachers can successfully employ constructivism in teaching learning process as it will help the learner to retain and use knowledge when required. School administration needs to reform their school climate in such a way which promotes problem solving activities, creative work as well as student's abilities to learn with the help of constructivist approach.

Keywords: constructivist approach, attitude, secondary school teachers

Introduction: Background
Education is the process of acquiring knowledge and information and in this process of education teacher plays an important role. In the words of Humayun Kabir, "Teachers are literally the arbiters of a nation's destiny. It may sound a truism, but it still needs to be stressed that the teacher is the key to any educational, reconstruction." Teachers influence is everlasting. He shapes the destiny of future citizens. The secondary education commission (1952) rightly points out that "We are convinced that the most important factor in the contemplated educational reconstruction, is the teacher- his personal qualities, his attitude towards his profession, his professional training and the place he occupies in the school as well as in the community all play an influential role. In recent times, when information has been produced rapidly, future of the individual and society depends on reaching information, and as stated above teacher can facilitate his/her students in reaching this information. Acquiring these information/skills and maintaining them in life does not necessitate memorizing, but on constructivism which is a modern educational approach based on the production of information. As a poststructuralist theory, constructivism defines learning as a constructionist, self-innovative and non - linear building process that emerges as result of active students' interaction with their surroundings, physical and social world (Doll, 1993; Matthews, 2002; Loyens *et al*., 2008) [4, 13, 11]. Learning is considered as a social activity, to what extent do we recognize that people learn as they speak and interact with each other, if we believe that knowledge consists of learning about the real world out there, then our first and foremost endeavor is to understand the world, organize it in the most possible way, and as a teacher, present it to the learner. This view may still engage us in providing the learner, with opportunities to experiment and manipulate the objects of the world. Constructivist teaching method is such a method which draws on students existing knowledge, belief, and skills with a constructivist approach, students synthesize new understanding from prior learning and new information. Constructivist teaching poses a question to the students, who then work together in small groups to discover one or more solutions (Yager, 1991).
In constructivist teaching, a teacher sets up problem and monitors students exploration, guides students inquiry, and promotes new patterns of thinking. Students play an active role in carrying out experiments and reaching their own conclusions. Teachers assist the students in developing new insights and connecting them with previous knowledge, but they leave the discovery part and discussion to the students

group. "According to this approach, learning is a process of creating an understanding related to the world. Information in learning environment is created through social interactions and it is special to the individual" (Fox, 2001) [5]. It helps students to develop their own understanding of the subject matter based on previous knowledge, and can correct any misconceptions they have. Teachers perception of constructivist curriculum change was significantly related to their implementation of constructivist teaching and learning activities in class at primary school level (Koray, 2010) [10].

Constructivist approach supports student-centered learning, improves student motivation and student skills and establishing an efficient learning environment. (Boddy *et al*., 2003) [2]. Cinar and Teyfur (2006) investigated 'teachers and administrators' beliefs on the constructivist approach of recent curriculum and teachers were found to be 'undecided' with maintaining classroom discipline during curriculum implementation. In constructivist approach knowledge construction is emphasized over knowledge reproduction. It provides multiple representation of reality. Another study conducted by Kaur (2012) [9] examining constructivism applications in science education found that constructivism is a philosophy of learning and knowledge based on premise that by reflecting on our experience we can construct our own understanding of the world we live in. Constructivism based teaching makes learning inclusive and provides a rich, problem-solving arena that encourages the learners investigation, invention and inference. Constructivists allows academic freedom to the students and encourage cooperative learning and sharing of thoughts among students (Namdeo, 2012).

Therefore, It is the duty of the teachers to establish a constructivist learning environment, whereas the teacher has had a role that conveys the information in traditional learning process, the teacher is in a close interaction with the students in a constructivist learning environment (Loyens and Gijbels, 2008; Rikers *et al*., 2008) [11, 14]. In this sense, the attitudes of teachers adopted for practicing their profession as well as constructivist approach in teaching and learning process will be efficient on the level of creating a constructivist learning environment. Barman and Bhattacharya (2012) [3] conducted a study on attitude of secondary school teachers towards teaching through constructivist approach and found that these teachers possess favorable attitude towards constructivist approach. They also found that there is no significant difference in their attitude in relation to gender, locality and stream.

An attitude that expresses a predisposition reaction of individuals against any subject around them has been a case that causes bias in decision-making process and shapes the behaviors of individuals. If the attitude developed against any object or event is positive, then the possibility of the decisions related to those to be positive will be higher. For this reason, attitude has been considered as the most important factor that affect motivation and behavior of teachers positively or negatively. Another study conducted by Ekici (2002), on impact of attitude on behavior states that attitude has been accepted as an important explicative of behavior with its cognitive, affective and behavioral dimensions. Attitude has been found an element that shapes behaviors of the individual and occurs as a result of the learning process. Attitudes of the individual that express their tendency towards acting in a positive or negative manner can be learned through their experiences, observations and knowledge (Hatzios, 1996) [7]. A study conducted by Desouz & Czereniak (2003) [16] on science teaches attitude towards belief about collaborative reflective practice found that teachers are crucial changing agents to educational reforms and that teachers beliefs are precursors to change. They also found that reflective practice is a much desired trait because it enhances professional practice. In the constructivist approach teachers are charged with crucial responsibilities which help students to learn better. Hence, the overview of the researches conducted so far disclose that there is a need to work in the area of attitude of teachers towards teaching through constructivist approach, as, it could reveal new dimensions in learning and would also help to consolidate the previous findings of research or to establish new facts.

Objectives

The present study was conducted with following objectives.

1. To study the attitude of secondary school teachers towards teaching with constructivist approach on the basis of gender and subject.
2. To study the gender differences between the teachers belonging to two streams.

Research Hypotheses

1a) Gender difference would exist in the attitude of secondary school teachers towards teaching with constructivist approach.

1b) Attitudinal difference will exist in the secondary school teachers with respect to subject.

2) Gender differences will exist in the secondary school teachers with respect to stream.

(Null form of hypotheses were considered for the statistical analysis of the data)

Methodology

Design

This study is a descriptive research aimed at studying the attitude of secondary school teachers towards teaching through constructivist approach. The study has been carried out in a survey form taking into consideration secondary school teachers of Bilaspur district only.

Sample

The sample was drawn from five CBSE board secondary school teachers of Bilaspur district. A total of 100 teachers giving equal weightage to the gender and streams were considered as the sample. Purposive sampling method was used for obtaining the sample from the population.

Tools employed in the study

A self-made tool was employed in this study for measuring attitude of secondary school teachers towards teaching through constructivist approach. It contained forty items prepared on four dimensions of constructivism namely pedagogy, evaluation, active involvement and role of teacher. Each dimension was having ten items which a respondent

needed to answer on three point scale of agree, neutral and disagree. The marking on the positive items was three, two and one and one, two and three respectively for the negative items. The negative items were randomly placed in between just to know the attentiveness of the respondents and the precision followed by them in responding.

Results and Discussion

Seeing the objectives of the study and nature of distribution of the data appropriate statistical techniques were employed. The results pertaining to the objectives are presented as under:

Attitude of secondary school teachers on the basis of gender towards constructivist approach

As per the first part of objective of the study the investigator found the attitude towards teaching with constructivist approach between male and female teachers the results of which are presented as under:

Table 1: Results of significance of difference of mean scores of attitude between male and female teachers.

Gender	No. of teachers	Mean	*SD*	T(Cal) Value	T(Tab) Value
Male	50	104.78	9.81	0.49	1.97
Female	50	104.44	9.04		

Level of significance-0.05

From the table (1) it is clear that the t (cal) value is less than the t (tab) value at 0.05 level of significance hence the null hypothesis formed for the statistical analysis, stating that there is no significant difference between the male and female teachers attitude towards teaching with constructivist approach is not rejected. This implies that there is no attitudinal difference between the teachers of the two gender. This further indicates that the male and female teachers put similar efforts in delivering the contents in their instructional process as well as they give equal opportunities to the student's to form their concepts.

Attitude of secondary school teachers on the basis of subject towards constructivist approach

The second part of the first objective of the study states; to find out the attitude of secondary school teachers on the basis of subject towards teaching with constructivist approach. The present sample was divided into two categories on the basis of their subjects. The mean, SD and 't' value are given in table.2

Table 2: Results of test of significance of difference of mean scores of attitude between Science and arts stream teachers.

Stream	No. of teachers	Mean	*SD*	T (Cal) Value	T (Tab) Value
Science	50	109.74	8.371	1.22	1.97
Arts	50	106.54	9.373		

Level of significance-0.05

It is observed from the table that the t (cal) value is less than t (tab) value (at 0.05level of significance). So the calculated value is not found to be significant. Hence, the hypothesis cannot be rejected; this further shows that there is no difference in the attitude towards teaching with constructivist approach between arts and science stream teachers. It further indicates that teachers of arts and science streams have similar attitude towards constructivist teaching approach at secondary level. The results are in corroboration with the research findings of (Koray, 2013). This further supports the fact that stream hardly matters in the instructional process, whether a person belongs to science or arts, s/he may put in the same kind of efforts to make his/ her instructional process resourceful

Gender differences between the teachers belonging to two streams

The second objective of the study is to study the gender differences between the teachers belonging to two streams. Null Hypothesis pertaining to the second objective of the study states that there is no significant difference in the attitude of secondary school teachers belonging to different streams towards teaching with constructivist approach with respect to the gender. Further, the investigator has divided this objective again into two parts and the results pertaining to these two are given below.

Attitude of secondary school arts teachers on the basis of gender towards constructivist approach

The first part of the second objective of the study was to find out the attitude of secondary school arts teachers on the basis of gender towards constructivist approach. The mean, SD and 't' value are given in table.3

Table 3: Results of test of significance of difference of mean scores of attitude between arts male and arts female teachers.

Gender (Arts Stream)	No. of teachers	Mean	*SD*	T(Cal) Value	T(Tab) Value
Male	25	104.80	10.18	0.51	2.01
Female	25	104.45	10.69		

Level of significance-0.05

From the table 3, t (cal.) value is less than t (table) value. Hence, the null hypothesis cannot be rejected. This indicates that there is no difference in the arts stream male and female teachers attitude towards teaching with constructivist approach .This further shows that arts male teachers and arts female teachers have similar attitude towards constructivist teaching approach at secondary level.

Attitude of secondary school Science teachers on the basis of gender towards constructivist approach

The second part of the second objective of the study was to find out the attitude of secondary school Science teachers on

the basis of gender towards constructivist approach. The mean, SD and 't' value are given in table 4.

Table 4: Results of test of significance of difference of mean scores of attitude between science male and science female teachers.

Gender (Science Stream)	No. of teachers	Mean	SD	T (Cal) Value	T (Tab) Value
Male	25	108.12	10.19	0.37	2.01
Female	25	105.28	9.208		

Level of significance-0.05

From the above table the calculated t value is found to be less than t table value. So, it is not significant. Hence, the null hypothesis cannot be rejected. This further shows that there is no difference in the Science stream male and female teachers attitude towards teaching with constructivist approach. The result indicates that science male teachers and science female teachers have similar attitude towards constructivist teaching approach at secondary level. This result is further supported by the work done by Barman and Bhattacharya who found that there is no significant difference in the attitude towards teaching through constructivist approach in relation to gender and stream (arts and science). In other results (Koray, 2013) also found that the teachers are significantly correlated with their perceptions of teaching and learning through constructivist approach.

Conclusion

As regards the attitude of secondary school teachers, the major findings of the study show that, secondary school teachers have favorable attitude towards teaching through constructivist approach. There is no significant difference in the attitude of secondary school teachers towards teaching through constructivist approach in relation to gender which further indicates that, male and female teachers put similar efforts in delivering the contents in their instructional process as well as they give equal opportunities to the students to form their concepts. The secondary school teachers of arts and science streams do not differ in their attitude towards teaching through constructivist approach though it was quite strange to observe that the secondary school male and female teachers of arts stream do not differ in their attitude towards teaching through constructivist approach. It was further found that the secondary school male and female teachers of science stream do not differ in their attitude towards teaching through constructivist approach.

Hence, from the above conclusions we can definitely say that constructivism can be employed by any teacher irrespective of gender and stream.

The results of the study further stresses on following points; that schools have to provide such climate in which students are good not only at knowledge reproduction but equal importance should be given to the knowledge construction and teachers being an important part of the learning environment can give positive turn to the activities of the children by guiding them how to relate and present the material they come across in their daily lives, textbook and other sources. The findings of the study came out in favor that teachers can successfully employ constructivism in teaching learning process as it will help the learner to retain and use knowledge when required. School administration has to reform their school climate in such a way which promotes problem solving activities, creative work as well as student's abilities to learn with the help of constructivist approach.

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