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ISSN : 2277-3819 Page no. 14-24

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CONTENTS

Indian Journal of Educational Research (Peer Reviewed), Deptt. of Education, University of Calcutta, India

ISSN : 2277-3819 Page no. 14-24

Indian Journal of Educational Research (Peer Reviewed), Deptt. of Education, University of Calcutta, India

ISSN : 2277-3819 Page no. 14-24

Editor's Note

Dear Friends,

A hearty greeting to all our readers, contributors and anybody who is in some way or other, associated with the Indian Journal of Educational Research. Hope this year will bring a better tomorrow with honesty, tolerance, solidarity, and peace for us.

This issue contains twenty four articles and seven research abstracts from Ph.D works. A perusal of the articles shows the fulfillment of all the basic purposes of academic research: exploration, analysis, and experimentation. Experimentation is the pivotal point for innovative teaching. Three articles show their findings of experimentation with teaching strategies. Teachers' perception, belief system, and the work-environment have a determining influence on the developing child. Seven papers contributed to that aspect. Mathematics education is an area that always attracts the attention of educationists and researchers. We have three articles in this category. Status survey of school education is a source of valuable inputs for future policy and planning. Four articles shed light on that issue from different perspectives. Three articles are included in historical and philosophical research. Furthermore, several articles on different pertinent issues like test development, ICT, and career choice are being included. However, it is to be noted that the content and opinions expressed in these articles are absolutely of the authors. The Editorial Board of the University is in no way responsible for any sort of controversies in relation to any of the articles.

This is the third issue of the journal. In this brief journey of three years, I have received the whole hearted cooperation from many. I thank to the authorities of the University, my colleagues in the Department, the contributors, the panel of reviewers, and the readers. I specially thank my colleague Dr. Md. Kutubuddin Halder for his silent dedication towards the shaping of the journal. We are all in a big family. trying to enhance and sustain the quality of the journal. If it succeeds in that, the credit goes to all the members. In spite of utmost care, some limitations and incompleteness may crop therein. It is all due to my incompetence to shoulder the responsibility to perfection. I owe your forgiveness for that.

With warm regards,

Dr. Debjani Sengupta

Professor, Department of Education,
University of Calcutta

Indian Journal of Educational Research (Peer Reviewed), Deptt. of Education, University of Calcutta, India

ISSN : 2277-3819 Page no. 14-24

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Attitude towards Constructivist Approach and Self-Efficacy : Perspective of Secondary School Teachers

Abhijit Guha and Ujjwal Paul***

Abstract

Teacher's self-efficacy shapes his/her effectiveness in the classroom teaching. Teachers having high self-efficacy show more flexibility in their teaching and put their endeavor to help all students in attaining desired learning. Constructivism as a set of belief leads directly to a method of teaching which, in turn, stimulates the students with the power to become active learners. The present study was conducted to inquire the attitude of school teachers of W.B. in advocating constructivist approach in their teaching strategy and its relationship with self-efficacy. CASST and OSES were administered on 216 randomly selected school teachers for measuring their attitude towards constructivist approach & teacher self-efficacy under two categorical variables viz. location of school (urban and rural) and gender (male and female). It was observed that the teachers of W.B. possess a moderately positive attitude towards constructivist approach in teaching learning process and no significant difference was observed in attitude towards constructivist approach with respect to location of school and gender of teachers. Location of school-wise difference in teacher self-efficacy was observed significant and gender-wise difference in teacher self-efficacy was observed insignificant. It was also observed that teachers' attitude towards constructivist approach and teacher self efficacy had a nearly moderate positive correlation.

Key Words : *Constructivist Approach, Teachers' Attitude, Self-Efficacy*

Introduction

Formal and informal interaction between teacher and student in social relationship setting supports learning to take place. Schools are institutional places for communities of learners, including both students and teachers. Now-a-days 'Constructivist approach' in school education system is widely discussed, praised and accepted by educationists of abroad and also in India. National

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Indian Journal of Educational Research (Peer Reviewed), Deptt. of Education, University of Calcutta, India

ISSN : 2277-3819 **Page no. 14-24**

Attitude towards Constructivist Approach and Self-Efficacy: Perspective of Secondary School Teachers

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Abstract

Teacher's self-efficacy shapes his/her effectiveness in the classroom teaching. Teachers having high self-efficacy show more flexibility in their teaching and put their endeavor to help all students in attaining desired learning. Constructivism as a set of belief leads directly to a method of teaching which, in turn, stimulates the students with the power to become active learners. The present study was conducted to inquire the attitude of school teachers of W.B. in advocating constructivist approach in their teaching strategy and its relationship with self-efficacy. CASST and OSES were administered on 216 randomly selected school teachers for measuring their attitude towards constructivist approach & teacher self-efficacy under two categorical variables viz. location of school (urban and rural) and gender (male and female). It was observed that the teachers of W.B. possess a moderately positive attitude towards constructivist approach in teaching learning process and no significant difference was observed in attitude towards constructivist approach with respect to location of school and gender of teachers. Location of school-wise difference in teacher self-efficacy was observed significant and gender-wise difference in teacher self-efficacy was observed insignificant. It was also observed that teachers' attitude towards constructivist approach and teacher self efficacy had a nearly moderate positive correlation.

Keywords: *Constructivist Approach, Teachers' Attitude, Self -Efficacy*

Introduction:

Formal and informal interaction between teacher and student in social relationship setting supports learning to take place. Schools are institutional spaces for communities of learners, including both students and teachers. Now-a-days 'Constructivist approach' in school education system is widely discussed, praised and accepted by educationists of abroad and also in India. National Curriculum Framework, 2005 (NCF, 2005) Published by NCERT also puts emphasis on this approach to teaching and learning. Constructivism works on the philosophy that there is no

knowledge independent of the meaning attributed to experience (constructed) by the learning, or community of learners. Knowledge construction means that students construct their own knowledge by actively participating in the process of learning and seeking to find their own meaning in their experiences. Literally, it can be said that learners construct, find or develop meaning in their subjective experiments, and this result becomes knowledge for them (Murphy, 1997). Teacher can passively make the favorable environment for achieving the learner's goal. Presently constructivist approach in teaching learning has drawn the interest of educators and this approach been emphasized much to enhance learning of the students though prevalent or traditional approach in teaching is still in craze which can be supported by the comment of Tobias (2010), "When new paradigm becomes prominent it captures most of the attention, though some supporters continue to endorse the prior view and conduct research and development activities on the prior paradigm" (p.336). He explained 'constructivist approach' as a paradigm shift in modern learner centered teaching-learning process (pp.336-339).

Self-efficacy of a teacher shapes his/her effectiveness in the classroom teaching. Teachers having high self-efficacy show more flexibility in their teaching and put their endeavor to help all students in attaining desired learning. The accountability of teachers and students is the key to success of schools and reformation initiatives in school suffer failure may be due to the indifference and easiness in mentality of teaching community.

Bandura (1997, p.3) defined self-efficacy as *"beliefs in one's capabilities to organise and execute the course of action required to produce given attainments".* Self-efficacy therefore influences thought patterns and emotions that enable classroom actions. In the context of education, teacher self efficacy is considered a powerful influence on teachers' overall effectiveness with students. Self-efficacy is a construct originated by Albert Bandura to describe an individual's belief in his or her own capabilities. High levels of self-efficacy in teachers may have a positive impact on student achievement. Teacher's teaching efficacy is related to the belief in command over teaching, while one's belief in the ability to influence classroom events is his personal efficacy. Hoy (2000) commented, "*Teacher Self-Efficacy is teachers' confidence in their ability to promote students' learning."*

According to Sorenson, *"An attitude is a particular feeling about something. It therefore involves a tendency to behave in a certain way in situations which involve that something, whether person, idea or object. It is partially rational and partially emotional and is acquired, not inherent, in an individual."* (1977, p.349)

Constructivism concentrates on learning how to think and understand. This learning is transferable. This situation gives students ownership (stake holder) what they learn, since learning is based on students' questions and explorations. Students in constructivist classrooms learn to question things and to apply their natural curiosity to the world. Von Glasersfield (1995) as cited in Allus & Bruce (2008), "Constructivism as a set of beliefs provides a model of

ISSN : 2277-3819 Page no. 14-24

cognition that leads directly to a method of teaching that, in turn, credits the student with the power to become an active learner. Teaching aims at enabling students to generate activities out of the understanding of why they should be performed and the explanation that they lead to desired results" (p.90).

In a democratic teaching-learning environment teachers' role, their self efficacy and their attitude in the classroom to transmit knowledge is a crucial factor. In order to identify pre-service teachers' self-efficacy toward the constructivist approach, a study employed a scale on self-efficacy toward application of the constructivist approach, a quantitative data collection instrument, as a result of that study, the self efficacy belief levels of pre-service teachers about constructivist approach application were found generally highly positive. In addition to this, for the sub-dimensions of the scale, the analyses revealed the highest mean value belongs to "the self-efficacy belief in creating democratic learning environments" (Evrekli et al. 2010). The teachers practicing learner-centered approaches use their self-efficacy in order to be effective in teaching; and the role of Teacher efficacy and Characteristics on Teaching Effectiveness, Performance, and use of Learner-Centered Practices are highly correlated. (Magno and Sembrano, 2010).

Ahmed (2009) stated that in this millennium constructivist learning had emerged as a forceful approach to teaching and learning. All new learning was based on previous learning which includes various concepts of the concerned subjects such as biological concepts or scientific concept.

The attitude of teachers determines his behavior of teaching and guides him to adopt constructivist approach as teaching strategy which might help in students' achievement and make the sense of positive influence of teacher self-efficacy. Thus the teachers' attitude towards constructivist approach and its relationship with teacher self efficacy was felt necessary to inquire about in Indian perspective especially in West Bengal.

Objectives of the Study

Following major objectives were set for the present study:

1. To study and compare the attitude towards constructivist approach of the Secondary school teachers in teaching-learning process under different categorical variables.

2. To study and compare the teachers' self-efficacy under different categorical variables like gender, location of school.

3. To study the relationship between teachers' attitude towards constructivist approach and teacher self-efficacy.

ISSN : 2277-3819 Page no. 14-24

Hypotheses

H_o1: There would be no significant difference between urban and rural teachers in their attitude towards constructivist approach in teaching-learning process in secondary schools.
H_o2: There would be no significant difference between male and female teachers in their attitude towards constructivist approach in teaching-learning process in secondary schools.
H_o3: There would be no significant difference in self-efficacy between the teachers of rural school and urban school.
H_o4: There would be no significant difference in self-efficacy between the male and female teachers.
H_o5: There would be no significant relationship between teachers' attitude towards constructivist approach and teachers' self-efficacy.

Method

Sample

All the teachers of secondary schools in West Bengal were the population in the study. 216 school teachers of secondary level schools were selected randomly from four districts of West Bengal as sample for this study. Among the members of sample, the number of male is 135 (62.5%), female is 81 (37.5%) and urban teacher is 132 (61.1%), rural teacher is 84 (38.9%).

Tools

To collect data, two different tools were used; one was self- made attitude scale to measure the teacher's attitude towards constructivist approach (CASST). Second scale was Occupational Self Efficacy Scale (OSES), constructed and standardized by Pethe, Chaudhari and Dhar (1999). The Constructivist Attitude Scale for School Teacher (CASST) was consisted of 28 items; Content validity was judged by the expert rating of items by two experts. The inter-rating agreement model was used (Gregory, 2005) to see reliability of the raters. The coefficient of content validity was found 0.92. The reliability of the scale was computed by using Cronbach's Alpha and was found 0.826. The categories of responses were 'strongly agree', 'agree', 'undecided', 'disagree', 'strongly disagree' and '5', '4', '3', '2', '1' were the respective scores awarded for the responses. Some items were negative in nature and the scoring was done in reverse order. The Occupational Self-Efficacy Scale (OSES) was constituted of nineteen items. Besides face validity, as all items in the scale are concerned with the variable under focus, the scale had high content validity (0.99). The odd-even reliability of the scale was determined by calculating reliability coefficient, corrected for full length for a sample of 220 subjects. The reliability coefficient of the scale was 0.98. It was a five point rating scale and the categories of responses were 'strongly disagree', 'disagree' 'undecided' 'agree', 'strongly agree' and '1', '2', '3', '4', '5' were the respective scores awarded for the responses.

ISSN : 2277-3819 Page no. 14-24

Data collection

For conducting the study, data had been collected in one phase. 22 schools were selected randomly from the district of North 24 Parganas, Hooghly, South 24 parganas and Howrah. Two scales were administered to 216 teachers from those schools chosen under study and asked to respond according to their own belief and thought without any consultation with another teacher and to submit the responded scale by putting it into an envelope to maintain confidentiality.

Analysis and interpretation

Test of Normality

Table 1: Result of Shapiro-Wilk Test

Scale	Shapiro-Wilk		
	Statistic	df	Sig.(p value)
CASST	.992	216	.242
OSES	.989	216	.086

CASST= Constructivist Attitude Scale for School Teacher, OSES = Occupational Self Efficacy Scale.

The table no. 1.1 shows that the 'p' value of Shapiro-Wilk test in case of Attitude towards constructivist approach is 0.242, (p>.05), in case of Teacher self efficacy is 0.086, (p>.05). Hence, data are normally distributed in both the cases and the use of parametric tests to verify the hypotheses were justified.

Average attitude towards Constructivist approach

The average of scores of CASST of 216 teachers of 28 items was found 3.64 which shows that the attitude of teachers towards constructivist approach is moderate in nature.

Testing of Hypotheses

H_o1: There would be no significant difference between urban and rural teachers in their attitude towards constructivist approach in teaching-learning process in secondary schools.

ISSN : 2277-3819 Page no. 14-24

Table 2: Attitude Towards Constructivist Approach_Location of school								
Descriptive statistics				Levene's Test for Equality of Variances		t-test for Equality of Means		
location of school	N	Mean	Std. Deviation	F	Sig.	t	df	Sig. (2-tailed)
urban	132	101.235	8.82905	1.135	.288	-1.162*	214	.246
rural	84	102.643	8.43493					

(* not significant at 0.05 level of significance)

The Levene's test for equality of variances in table 1.2 shows that the p value is .288 (p>.05) so, homogeneity of variances can be assumed. Table 1.2 also shows that in case of comparing the attitude towards constructivist approach of teachers of rural school and urban school, the calculated $\mathbf{t_{(214)}}$ value is -1.162 and 'p' value is 0.246 (p>0 .05). Hence, t is not significant at 0.05 level and $\mathbf{H_o1}$ is retained. So, it can be interpreted that teachers do not posses significantly different attitude towards constructivist approach in teaching learning with respect to the location of school (urban and rural)

H_o2: There would be no significant difference between male and female teachers in their attitude towards constructivist approach in teaching-learning process in secondary schools.

Table 3: Attitude Towards Constructivist Approach_ Gender								
	Descriptive statistics			Levene's Test for Equality of Variances		t-test for Equality of Means		
Gender	N	Mean	Std. Deviation	F	Sig.	t	df	Sig. (2-tailed)
male	135	101.763	8.7913	.002	.969	-.042*	214	.966
female	81	101.815	8.5602					

(* not significant at 0.05 level of significance)

The Levene's test for equality of variances in table 1.3 shows that the p value is .969 (p>.05) so, homogeneity of variances can be assumed. Table 1.3 also shows that in case of comparing the attitude towards constructivist approach of male and female teachers , the calculated $\mathbf{t_{(214)}}$ value is -0.042 and 'p' value is 0.966 (p>0 .05). Hence, t is not significant at 0.05 level and $\mathbf{H_o2}$ is retained. So, it can be interpreted that the male teachers do not posses significantly different attitude towards constructivist approach in teaching-learning from the female teachers.

H_o3: There would be no significant difference in self-efficacy between the teachers of rural school and urban school.

Table 4: Self Efficacy of Teachers_Location of School

Descriptive statistics				Levene's Test for Equality of Variances		t-test for Equality of Means		
location of school	N	Mean	Std. Deviation	F	Sig.	t	df	Sig. (2-tailed)
urban	132	76.788	6.8295	0.010	0.920	2.387**	214	0.018
rural	84	74.571	6.3612					

(** significant at 0.05 level of significance)

Analyses of Levene's test for equality of variances in table 1.4 shows the p value is 0.920 (p>.05) so, equality of variances can be assumed. Table 1.4 also shows that in case of comparing self efficacy of teachers urban school and rural school, the calculated $\mathbf{t_{(214)}}$ value is 2.387 and 'p' value is 0.018 (p<0 .05). Hence, t is significant at 0.05 level and **H_o3** is rejected. So, it is interpreted that urban teachers are significantly different from the rural teachers in respect of self efficacy.

H_o4: There would be no significant difference in self-efficacy between the male and female teachers.

Table 5: Attitude Towards Constructivist Approach_ Gender

	Descriptive statistics			Levene's Test for Equality of Variances		t-test for Equality of Means		
Gender	N	Mean	Std. Deviation	F	Sig.	t	df	Sig. (2-tailed)
male	135	76.556	6.2613	3.272	0.072	1.786*	214	0.076
female	81	74.877	7.3525					

(* not significant at 0.05 level of significance)

Analyses of Levene's test for equality of variances in table 1.5 shows the p value 0.072 (p>.05) so, homogeneity of variances can be assumed. Table 1.5 also shows that in case of comparing the self efficacy of male teachers and female teachers, the calculated $\mathbf{t_{(214)}}$ value is 1.786 and 'p' value is 0.076 (p>0 .05). Hence, t is not significant at 0.05 level and **H_o4** is retained. So, it is

ISSN : 2277-3819 Page no. 14-24

interpreted that male teachers are not significantly different from the female teachers in self efficacy.

H_o5: There would be no significant relationship between teachers' attitude towards constructivist approach and teachers' self-efficacy.

Table 6: Correlation of Attitude towards constructivist approach and self efficacy

		Attitude towards constructivist approach	self efficacy
Attitude towards constructivist approach	Pearson Correlation	1	.301**
	Sig. (2-tailed)		.000
	N	216	216
self efficacy	Pearson Correlation	.301**	1
	Sig. (2-tailed)	.000	
	N	216	216

** Correlation is significant at the 0.01 level (2-tailed).

To study the relationship between teachers' attitude towards constructivist approach and teachers' self efficacy, it has been found from analysis in table 1.6 that, correlation coefficient i.e. 'r' between score of CASST and OESES is 0.301 and p value is 0.000($p<0.05$) which is significant at the 0.01 level. Hence, **$H_0$5** is rejected. So, it can be interpreted that there exists a nearly moderate positive correlation between teachers' attitude towards constructivist approach and teachers' self efficacy

Discussion

Constructivism emphasizes the importance of the knowledge, beliefs and skills that an individual brings to the experience of learning. Within the realm of learning theory, the constructivist theory believes in construction of knowledge and understanding (Pat, 2004). The terms, such as "scaffolding", expresses the concept of progress of learning and the existence of support systems in learning which may enhance the process. The teachers, who are to play an important role in scaffolding, have influenced the learning of their students from time immemorial. While to study the present scenario of constructivist approach that was adopted by school teachers of West Bengal (W.B.), it has been found that teachers' attitude towards constructivist approach in teaching is moderately positive. Uredi (2012), in his research, found that most classroom teachers attitudes towards the constructivist approach were positive; they created constructivist learning environment at medium level; that result support the present result of the study. Though

ISSN : 2277-3819 Page no. 14-24

the differences of attitude in various topics can be seen with respect to the location school (urban and rural), but in this study, it was found that this variable had no such influence over the teachers in creating significantly different attitude towards constructivist approach in teaching learning . A gender wise difference in attitude towards constructivist approach in teaching-learning was also not found in this study. A flexible teacher has high self efficacy and he tries harder to improve his students' learning and it is an important factor for a teacher to improve his teaching process. In the present study, an interesting observation was held that teachers' self efficacy was significantly different with respect to location of school (urban and rural). Urban school teachers' self efficacy level is higher than rural school's teachers. Urban Socio-economic background, cultural settings in urban and rural region may play a crucial role in this regard. But no significant gender influence was found in determining the difference in self efficacy of teachers. The study also reveals that significant and nearly moderate positive correlation existed between teachers' attitude towards constructivist approach in teaching-learning and teacher self efficacy that means self efficacy can play crucial role for construction of teachers' positive attitude towards constructivist approach in teaching-learning process which support the findings of Evrekli et al. (2010) also.

Educational implication of the study

The present study deems to hold some specific significance in modern education discipline in general and in the field of teacher education. This study is an endeavor to understand how a teacher presents himself in his classroom. In addition, how the teacher relates himself to the students' experience in the class. This study may be helpful to the teachers or administrators to consider the situations so that self -efficacy of teachers can be enhanced for better development of attitude towards constructivist approach and in turn they adopt necessary action for better scaffolding and thereby adopt new teaching strategy in classroom teaching.

Limitations of the study

No study is flawless. The present study had some limitations which were as follows:

i. The schools were selected mainly from southern part of West Bengal.
ii. The number of school teachers might be increased by taking more schools under the study.
iii. The sample of this study was selected only from the Govt. aided Bengali medium schools of WBBSE. It would be much better if the sample could be selected from Govt. schools and English medium schools of WBBSE also.
iv. The data collection through CASST, OSES was self reported by teachers at one point of time. Triangulations were not done to estimate the consistency of teachers' self reported data.

ISSN : 2277-3819 **Page no. 14-24**

Conclusion

The idea of constructivism, though the term may seem to be new to Indian minds, was not unknown in India from time immemorial, of course if we keep many references to Upanishadic pedagogy in mind. Swami Vivekananda echoed almost the same idea when he defined education as a process of manifestation of the perfection already in human mind. Professor Gardner, almost two decades back foresaw that there have been ongoing calls for constructivist classroom based on the constructivist views of learning during the past decade (Gardner, 1991). The reason of such advocacy of the constructivist approach was proved to be showing a better way of teaching and learning in the West and the researchers as well as teachers noted persistent shortfalls in learners' understanding and of passive way of learning across all ages and grades in the traditional paradigm of teaching. This study leads an important decision that the students of urban and rural area or the students of girls' / boys' / co-ed school would experience nearly similar attitude for action of scaffolding by their teachers in classroom for constructing knowledge by themselves. If the differences in self efficacy of among teachers (with respect to location of school) are minimized, and the self efficacy are enhanced, students may come across better classroom environment to be created their respected teachers for construction of knowledge. The findings of this study showed that the teachers may theoretically well adept in constructivism but yet to take firm position (by developing high attitude) for translating constructivist vision into practice in real classroom situation. Hence, it may be suggested that teachers, educators and researchers are to be jointly and actively engaged and put hands together for exploring constructivist approach in the classroom so that teaching-learning can be made a real success by maximizing the learning outcomes of the learners. In this regard proper steps to increase self-efficacy of the teacher are also required because, teachers with high self -efficacy are more prone to adopt constructivist approach in their teaching learning process in formal educational system.

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