TEACHER'S WILLINGNESS FOR IMPLEMENTATION OF VALUE INTEGRATED CONSTRUCTIVIST APPROACH IN PEDAGOGY- AN EMPIRICAL STUDY

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ABSTRACT

This study intends to collect information regarding the use of value integrated constructivist approach in teacher's regular knowledge transaction in classes. The present study focussed on 60 teachers teaching in different schools run by private and government management and tried to probe deeply into their willingness toward this approach. The study was conducted to ascertain the effect of 4 variables on teachers' willingness to adopt the value-integrated constructivist approach. To understand the willingness both descriptive and inferential statistics were employed and results were accordingly formulated.

Keywords: *Constructivism, value integration, value integrated constructivism.*

Introduction

Constructivism is a theory about students learning relying on observation and scientific study. It professes that students construct their meaning as well as knowledge of the world, through experiencing things and reflecting on those experiences. When students experience something new, they have to reconcile it with their pre-formed ideas and experience, maybe to change what they believe, or maybe to remove the new information as irrelevant. In any scenario, they are the active creators of our knowledge. To do this, they must question, explore, and assess what they know. Constructivism is not a new concept. It has its roots in philosophy, sociology, anthropology, cognitive psychology, and education.

Need of the Study

In the digital era, students with scientific acumen can sustain themselves in the long run and act as contributors to the growth of the country in all fields. Yet teachers today depend solely on age-old teacher-centered teaching methods. While teachers focus on delivering the subject material, no effort is put into character-building or skill enhancement. This leads to mere rote learning without a vigor to understand the essence. Moreover, it instills among students a sense of fear, stress, and anxiety toward education. There is thus a need to upgrade learners' capabilities, especially about content, by facilitating hands-on activities for science lessons thereby making learning joyful and making them humane as well. In line with the present-day demands, NCF-2005, WHO, UNICEF, and, more recently, NEP 2020 constructivism needs to be employed. As even today such an approach is not popular among teachers. The present study is an attempt to understand the reason for willingness and the hindrances faced by the teachers in employing this technique.

Review of Related Literature

Bybee, a pioneer in the BSCS curriculum has elucidated that, education should sustain the natural curiosity of children by allowing them to explore the environment and this curiosity can be supplemented by the use of technology and following which they can make informed choices in their personal and social lives. Marta AK and Novak G (2004) have combined the best features of traditional class inspection and the web to teach and created a constructivist way of knowledge transaction and achieved success by improving student's attitude, interactivity, cognitive gains, retention, class preparation, and improved study habits in biology. Academic achievement can surely

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be achieved through constructivism, (Ayaz M F, Sekera M (2015); their meta-analysis study confirmed that 50 out of 53 studies showed a positive effect on academic achievement.In addition to these placing the child in socially immersive activities has the potential to facilitate better outcomes in the academic as well as personal and social needs of the learners which are essential to function effectively in broader society(Stears, 2009). Moreover, constructivism can also help in skill enhancement like cooperative work skills (Hellaliaghdam et al., 2010), morality (Ronald B Naroda (1987), communication skills (Hsu & Espinoza, 2018), (Kipkemboi, Edward, & Tanui, 2013), self-efficacy self-determination, motivation (Yeoh PM, Eerandi . E (2015), (Moore M.N, 2008), critical thinking ((Street, Wt, & Mayo, 2002), creativity (Sharma, 2019), and positive attitude through constructivism has been described in more than 43 articles spanning from 2004 till 2015 (Gorman C Demur E (2016).A binational study was conducted (Bryant et al., 2013)on Science Anxiety, Science Attitudes, and Constructivism involving 400 Danish students and 1000 American students. The multi-group confirmatory analysis confirmed that instruction through the constructivist approach helps in reducing anxiousness towards science.From the above literature, the necessity to implement such an approach to skills, attitudes, and academic achievement is ascertained. And it is also evident from the literature that not much research has been done on the factors required for the willingness of teachers to employment in this approach. So, this study is done with a focus on hurdles faced by teachers in implementing the constructivist approach in their knowledge transactions in classrooms.

Statement of the Problem

Teacher's Willingness for Implementation of Value Integrated Constructivist Approach in Pedagogy- An Empirical Study

Hypotheses of the Study

The null Hypotheses of the present research work are as follows:

1. There is no significant difference between the willingness of male and female teachers in adopting the constructivist approach.
2. There is no significant difference between the willingness of experienced and non-experienced teachers in using the constructivist approach.
3. There is no significant difference between the willingness of teachers to attend in-service training programs and teachers not attending in-service training programs in using this approach.
4. There is no significant difference between the willingness of private school teachers and government school teachers in using this approach in classrooms.

Methodology

This study aimed to explore the teacher's willingness to implement value-integrated constructivist lessons in pedagogies. For this purpose, 60 secondary-grade teachers were purposively selected and a questionnaire was administered. The questionnaire contains 30 questions in total. The questionnaire was developed by the researcher and the Cronbach-alpha was found to be reliable at 0.851 as its score.

Results and Findings

The careful analysis of the questionnaire revealed a few reasons regarding the problems faced by the teachers in the implementation of this approach. Yet, the teachers feel that technology and value-integrated constructivism is better than the traditional approach.

The teachers strongly expressed that they can implement this once in a while but not on a regular basis (m:3.33, S.D: 1.115). Teachers expressed the need for a separate period/ to teach values (m:3.33, S.D: 1.258). It was also to be noted from the answers that even though they believed in the credibility of this method but expressed their difficulties pertaining to the strength of classrooms the evaluation patterns to the newness experienced by them to understand this pedagogy.

Thus, overall the perception of the teachers towards employing constructivism is found to be above average with an average mean of 3.235. Teachers' perception is above average towards employing this approach.

Significance between gender to Constructivism Willingness

Table 1

t-test for significant difference between males and females for their willingness towards this approach

Willingness towards constructivism	Mean	SD	t- value	P-value
Male	95.19	21.477	**3.137**	**.000****
Female	109.9	11.815		

Note: **denotes significant at 1% level.

Reject Null Hypothesis at 1% level.

Since the P value is less than 0.01, the null hypothesis is rejected at a 1% level with regard to gender. Hence, it is found that there is a difference between male and female teachers as far as constructivist pedagogy is concerned. The results of this study at our region ascertain that the women were more ready to change to the innovative pedagogy than the men.

Significance between experience to Constructivism Willingness

Table 2

t-test for significant difference between inexperienced and experienced teachers for their willingness towards this approach

Willingness towards constructivism	Mean	SD	t- value	P-value
Experienced	95.29	20.769	4.191	0.000**
Inexperienced	112.3	8.539		

**Rejected Null hypothesis at 1% level

From the above table it can be said that teachers possessing less than 5 years of experience are more prone to adopt this approach than those teachers having more than 5 years of experience.

Significance of management to Constructivism Willingness

Table 3

t-test for significant difference between government and private for their willingness towards this approach

Willingness towards constructivism	Mean	SD	t- value	P-value
Government	97.60	20.047	**3.539**	**0.000****
Private	111.8	10.639		

**Rejected null hypothesis at 1% level.

From the above table, we can reject the null hypothesis at a 1% level of significance. Hence, there is a significant difference as far as the willingness of government and private school teachers is concerned regarding constructivism. And this study reveals that private school teachers are ready to adopt this method for the benefit of students rather than government school teachers.

Significance of in-service training on the willingness to implement a constructivist approach

From the data collected it was observed that the teachers felt that the lack of sufficient training is hindering the teachers from employing the newer pedagogies in their classroom instruction (m:2.53), so the teachers believing that lack of in-service training is above average. So that teachers should be given training in technology-related pedagogies to enhance their learning as well as in enhancing the child's learning. J. Mathew Myers & Regina Halpinb (2002) worked on the usage of multimedia-aided constructivism in classrooms and have put forward that rigorous and timely workshops need to be organized for the teachers to employ constructivism. Thus, from this study, results are revealing that management, gender, and in-service training do have an impact on efficient knowledge transaction in teachers. The teachers are ready to impart values, and incorporate technology only when enough time is provided.

To understand the teacher's views in general researcher interacted with The teachers in the interaction and expressed that this method can revolutionize the

education system. But the teachers expressed that they cannot experiment with the traditional mode of knowledge dissemination to students as the class strength is more, the students have to score well and there is no time. On average every school that was taken under the study had a class strength of 35 students, with a period lasting 40 minutes, on top of that the teachers working hours sometimes span for 30 hours a week. Teachers expressed that along with these they have many other academic responsibilities. These are some of the major hindrances expressed by the teachers.

Conclusion

Constructivism could be efficient in enhancing the interests of the students in the teaching-learning process and improving the assimilation of science concepts. It can definitely improve cognition, science process skills as well as value development. This strategy can uproot any inhibitions towards science learning. The present study intends to understand teachers' willingness towards this approach, even though most of the teachers have expressed their willingness to adopt the newer pedagogy they still expressed concerns regarding its actual implementation. Thus, from this study, results are revealing that management, gender, and in-service training does have an impact on efficient knowledge transaction in the teachers.

References

1. *Adriana Tafrova-Grigorova, Elena Boiadjieva, Iliya Emilov, Milena Kirova (2012). Science teachers' attitudes towards constructivist environment: A Bulgarian case. Journal of Baltic Science Education, Vol. 11, (P. 184-193).*
2. *Alsharif, K. (2014). How do Teachers Interpret the Term 'Constructivism' as a Teaching Approach in the Riyadh Primary Schools Context? Procedia - Social and Behavioral Sciences. https://doi.org/10.1016/j.sbspro.2014.05.170*
3. *Antlová, A., Chudý, Š., Buchtová, T., & Kucerová, L. (2015). The Importance of Values in the Constructivist Theory of Knowledge. Procedia - Social and Behavioral Sciences, 203, 210–216. https://doi.org/10.1016/j.sbspro.2015.08.284*
4. *Ayaz, M. F., & Sekerci, H. (2015).The effects of the constructivist learning approach on student's academic achievement: A meta-analysis study. Turkish Online Journal of Educational Technology, 14(4), 144–156.*
5. *Bell, B. & Gilbert, J. (1994) Teacher Development as Professional, Personal, and Social Development, Teaching and Teacher Education, 10, pp. 483–497.*
6. *Bryant, F.B., Kastrup, H., Udo, M. et al. Science Anxiety, Science Attitudes, and Constructivism: A Binational Study. J Sci Educ Technol22, 432–448 (2013). https://doi.org/10.1007/s10956-012-9404-x*
7. *Büyükduman, I., & Sirin, S. (2010). Learning Portfolio (LP) to enhance constructivism and student autonomy. Procedia - Social and Behavioral Sciences. https://doi.org/10.1016/j.sbspro.2010.07.012*
8. *Bybee, Rodger W., author. (2015). The BSCS 5E instructional model: creating teachable moments. Arlington, Virginia: NSTA Press*
9. *Cristea, S. (2015). The Fundaments of Constructivist Pedagogy. Procedia - Social and Behavioral Sciences. https://doi.org/10.1016/j.sbspro.2015.02.197*
10. *Govt. of India (2020). National Education Policy 2020. http://www.mhrd.gov.in/sites/upload_files/mhrd/files/NEP_Final_English_0.pdf*
11. *Gunduz, N., & Hursen, C. (2015). Constructivism in Teaching and Learning; Content Analysis Evaluation. Procedia - Social and Behavioral Sciences. https://doi.org/10.1016/j.sbspro. 2015. 04.640*
12. *J. Mathew Myers & Regina Halpin (2002) Teachers' Attitudes and Use of Multimedia Technology in the Classroom, Journal of Computing in Teacher Education, 18:4, 133-140 http://dx.doi.org/10.1080/10402454.2002.10784449*
13. *Sathya, S., Baba, S., & Nilayain, P. (n.d.). Chapter v perceptions about Sri Sathya sai baba's s concept of education in human values.*
14. *Serafín, C., Dostál, J., & Havelka, M. (2015). Inquiry-Based Instruction in the Context of Constructivism. Procedia - Social and Behavioral Sciences. https://doi.org/10.1016/j.sbspro.2015.04.050*
15. *Richard S. Prawat (1992), Teachers Belief about Teaching and Learning, American Journal of Education, Vol. 100, No. 3 (May 1992), pp. 354-395 Published by: The University of Chicago Press Stable URL: http://www.jstor.org/stable/1085493*
16. *Welch CE, Bian H, Moore MJ, et al. Brief multiple behavior health interventions for older adolescents. Am J Health Promot 2008; 23(2): 92-6.*