



A STUDY OF THE EFFECTIVENESS OF CONSTRUCTIVIST APPROACH TO THE TEACHING LEARNING OF HISTORY IN PRE-SERVICE TEACHER EDUCATION PROGRAM

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Abstract

Constructivist paradigm describes the process of learning as meaning-making, in which individuals construct mental models that ground their understanding in a deeply personal and unique fashion. Constructivism places the learner at the centerstage. Learning becomes the focus rather than teaching. Learning implies constructing meaning and constructing a systems of meaning. The constructivist approach is relevant to all subjects of study but more particularly to study of History. Students' interest level in history is often hard to raise, as they tend to see these topics as outdated and distant from their personal interests and concerns. Hence, a need was felt to study the effectiveness of constructivist approach on the student teachers, who can, in turn, apply it in their classrooms. The effectiveness of Constructivist Approach was studied on Achievement, Interest and Retention of the student teachers. 62 students of Kalka Institute for Research and Advanced Studies constituted the sample of the study. A quasi-experimental design was utilized. Students were randomly divided into experimental group and control group. The experimental group was taught using constructivist approach (Inquiry Guided Learning) while the control group was taught using the conventional approach (talk and chalk). The data was analysed quantitatively and qualitatively.

Key words: *Constructivist Approach, Academic Achievement, Pre-activity Brainstorming, Web Evaluation, Organisation, Basic Content, Discussion, Critical Thinking, Reflection*

Ever since the paradigm shift recommended by NCF 2005, numerable researches have been undertaken to see the effectiveness of both the approaches on teaching learning process. Even after so many years, the schools still continue to teach largely by behaviourist approach and teaching institutions still continue to train the prospective teachers in the traditional behaviourist approach whereby Lesson Plans are made and practiced in traditional approaches, hardly following the Constructivist Lesson Plans. Education scenario in India claims to be in a transition phase with the promising NEP 2020. The time is ripe to shift to Constructivist perspective, so that students can be the constructors of their own knowledge by making connections between their previous experiences and new ideas that they gather inside or outside of the classrooms.

The NEP 2020, on the lines of NCF-2005, states that the teacher needs to facilitate the learning of student teachers' in such a way that they are helped to construct knowledge for himself/herself. For this purpose, an engagement between the theory and field experiences is required in teacher education programme, thereby helping the trainees view knowledge as an internal actively

constructed process, not as external process. Student teachers must be well trained in organizing learner centered, activity based, participatory learning experiences.

Therefore, a TE program that can help equip the student teachers creating a teaching learning environment that suits the constructivist pedagogies and is flexible and adaptive to the changes in system at school level.

The relevance of constructivist approach cannot be undermined in any subject of study but it is particularly relevant to the study of History. Concerns over so called saffronisation of History textbooks, tempering of textbooks to suit political ideologies, and blames of presenting subjective viewpoints are often raised. To add to this confusion, the theories often keep changing that challenges previous conceptions and beliefs. Therefore, History teachers need to explore different ways to help the students discover, explore and create History just as Historians do, by providing them primary sources, engaging them to explore the past, getting into the genesis of issues and know when to take stand on relevant issues while appreciating national pride and identity.

PURPOSE OF THE STUDY

History teachers often contemplate the reasons why History is unable to impact students for positive social engagement and making them responsible citizens (Gupta, 1953; Yilmaz, 2009). Sometimes, it is not the subject itself that pupils do not like, but the problem lies with the way it is handled by some teachers. This leads to the role of Teacher Training Institutions, which must produce the versatile, duty-conscious and innovating History teacher to revolutionise History teaching to make History alive to pupils (Sarpong and Kofi, 1993).

Therefore an attempt is made here to explore ways by which History teachers can make their subject more practical by creating opportunities for their student teachers to become socially engaged, thereby creating citizens informed and empowered to appreciate individual voices and take pride in national identity and dignity. This would further enhance the attainment of Objectives of teaching History given by C.B.S.E for secondary level.

Another relevant concern being the tampering of textbooks of History to suit vested interests. Providing the student teachers with the original documents and utilizing Constructivist Approach to teaching learning is an effective way to counter the problem whereby the student teachers are given opportunity to create their own History. For this, the teacher provides them the sources to bank upon for their construction of the events that took place in the past.

A review of related literature shows that the researches on the effectiveness of Constructivism are mainly in the subject areas of Mathematics and Sciences and hence there is a dire need of researches to establish the impact of Constructivist approach in the areas of Social Sciences,

particularly in History as History can be best understood with the help of the original sources and documents.

The present teacher education system in the country is being guided by National Curriculum Framework for Teacher Education, 2009 which envisages a major paradigm shift in teaching from behaviourism to constructivism. It is said, 'one teaches the way one is taught'. Thus, to ensure the successful implementation of the constructivist approach in classrooms, it is imperative to train student teachers in the constructivist approach at pre-service teacher training programmes so that they are in a position to implement it in their classrooms. Hence, a study is needed to ascertain the effectiveness of constructivist approach at pre-service teacher education level, so that the student teachers are well prepared to apply it in their classrooms.

Research Questions

Answers to the following Questions were sought through this study:

1. Whether the Constructivist Approach affects achievement of the student teachers?
2. Is the retention of the concepts better as a consequence of using Constructivist approach for the teaching-learning of History?

Method

62 student teachers were divided in two groups; experimental and control group (31 each). The student teachers of the experimental group were taught the Teaching of Social Science using the Constructivist Approach and the student teachers of the Control group were taught the same content using the Conventional Approach. The intervention period was 40 days spanning over 10 weeks.

The Experimental Intervention consisted of Teaching Plans based on 5Es Constructivist Approach having the elements Engage, Explore, Explain, Elaborate and Evaluate. Original documents, presentations, write-ups etc. were part of Constructivist Approach. The Control Group was taught utilizing conventional lesson plans. Traditional Talk and Chalk Method was used in this group.

For the quantitative purpose, the tools utilized were Upadhyay-Saxena Socio-Economic Status Scale, Group Test of General Mental Ability, Constructivist Learning Environment Survey and Achievement Test developed by the Investigator. To validate the quantitative findings, and to gather the qualitative analysis, write-ups of the student teachers, investigator's diary and rubrics were used. Rubrics were based on five parameters namely, Brainstorming, Web-evaluation, Organisation, Basic Content, Discussion, Critical Thinking and Reflection.

In the experimental group, the student teachers were divided into cooperative groups to do research, prepare presentations and actively help each other in the fulfillment of content objectives by doing various activities, online researches, making concept maps, discussions, making hypothesis, analyzing and drawing conclusions. The student teachers of the Experimental group were given continuous feedback. CLES was administered to the student teachers of the Experimental group while the experimental intervention was going on in order to ascertain whether the learning environment in the classes of Experimental group was Constructivist or not.

After a gap of one and a half month, Achievement Test was administered to both the groups to study the level of Retention.

Non-equivalent pretest-post-test design was used to collect the data.

Pretest	Treatment	Posttest
O1	X1	O2
O3	X2	O4

O1, O3 : Pretest (Achievement, Classroom Learning Environment)

O2, O4 : Posttest (Achievement, Classroom Learning Environment)

X1 : Constructivist Approach

X2 : Conventional Approach

The data was analysed quantitatively using statistical techniques and qualitatively using students' writeups and diaries and investigator's diary.

Results of the Study

Classroom Learning Environment

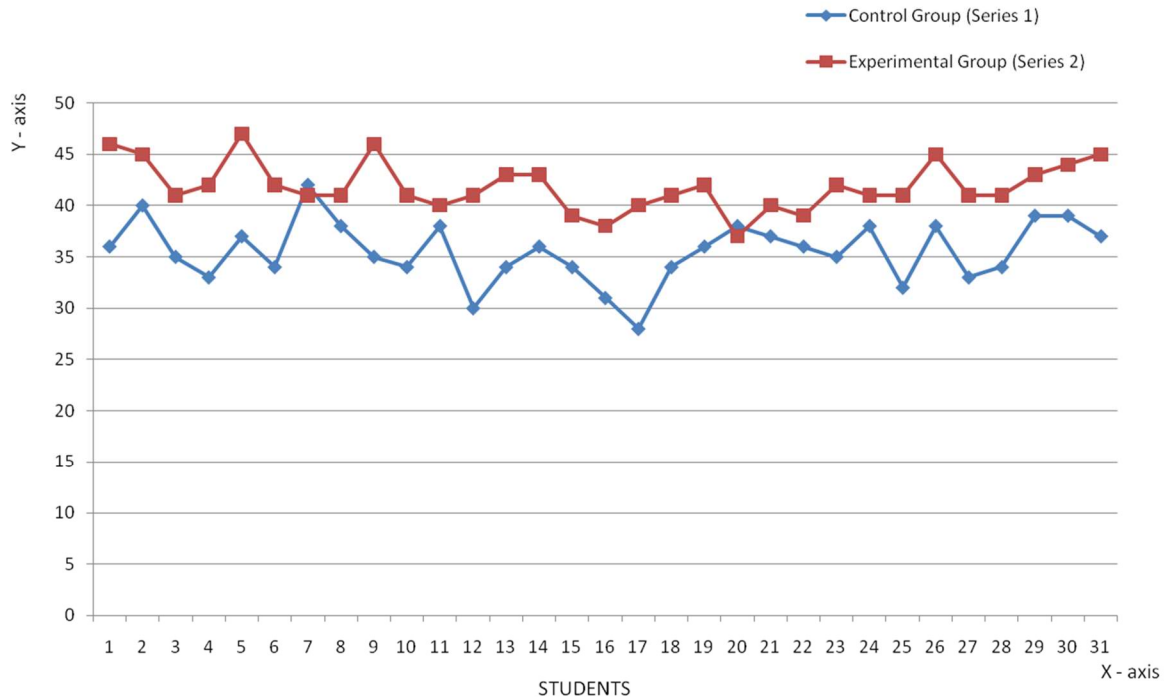
The most important prerequisite of the research was to ascertain whether a constructivist environment prevailed in the experimental group classroom. The findings showed that a significant difference was found in the constructivist classroom learning environment of the control group and the experimental group. Hence, it was inferred that Constructivist environment prevailed in the Experimental group classroom.

Academic Achievement

The scores of both the groups were computed and analysed. A statistically significant difference was found in the level of achievement of both the groups in favour of experimental group. Hence, it was inferred that achievement level of two groups differed significantly. Taking the scores of pre-test of achievement test and Intelligence Test scores as covariates, ANCOVA was used and a

significant difference was found in the means of Experimental group and Control group on post-test. Hence it was established that there was a significant difference in the level of achievement of control and experimental groups at the completion of the experimental intervention. The learners taught through constructivist approach had higher level of achievement than the learners taught through conventional method.

Figure 1 shows the achievement scores of both the groups in the post-test stage:



Students reported:

"I got a chance to clear many of the contradictory facts given by different books"

"I don't think I would have ever understood the concept better"

Analysis of Rubrics

In order to gain a clear picture of the level of proficiency, the students were assessed on Rubrics in terms of achievement on seven components viz.

- i. Pre-activity Brainstorming
- ii. Web Evaluation
- iii. Organisation
- iv. Basic Content

- v. Discussion
- vi. Critical Thinking
- vii. Reflection

The level of proficiency was measured on three levels viz. beginner, satisfactory and advanced. The proficiency was compared for TP1 and TP5. The level of proficiency of student teachers on all the seven components was found to be significantly different at TP-1 and TP-5 stage in favour of TP-5.

Table 1: A Comparison of Level of Proficiency on Pre-activity Brainstorming

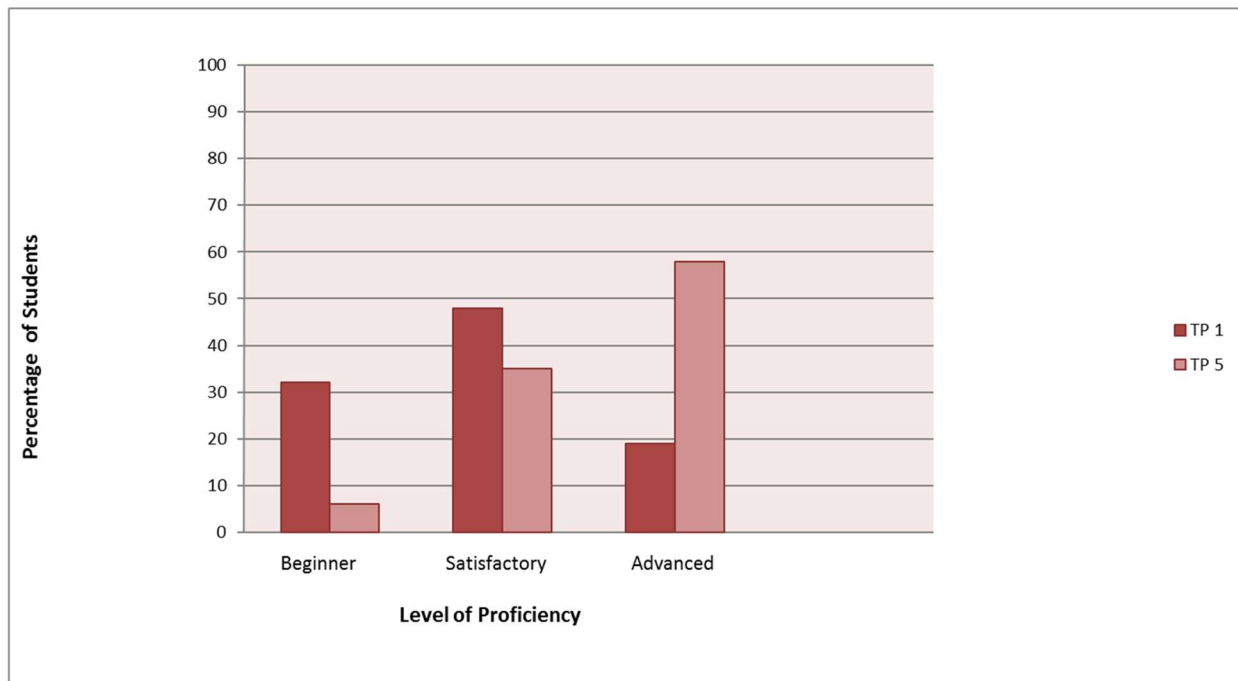
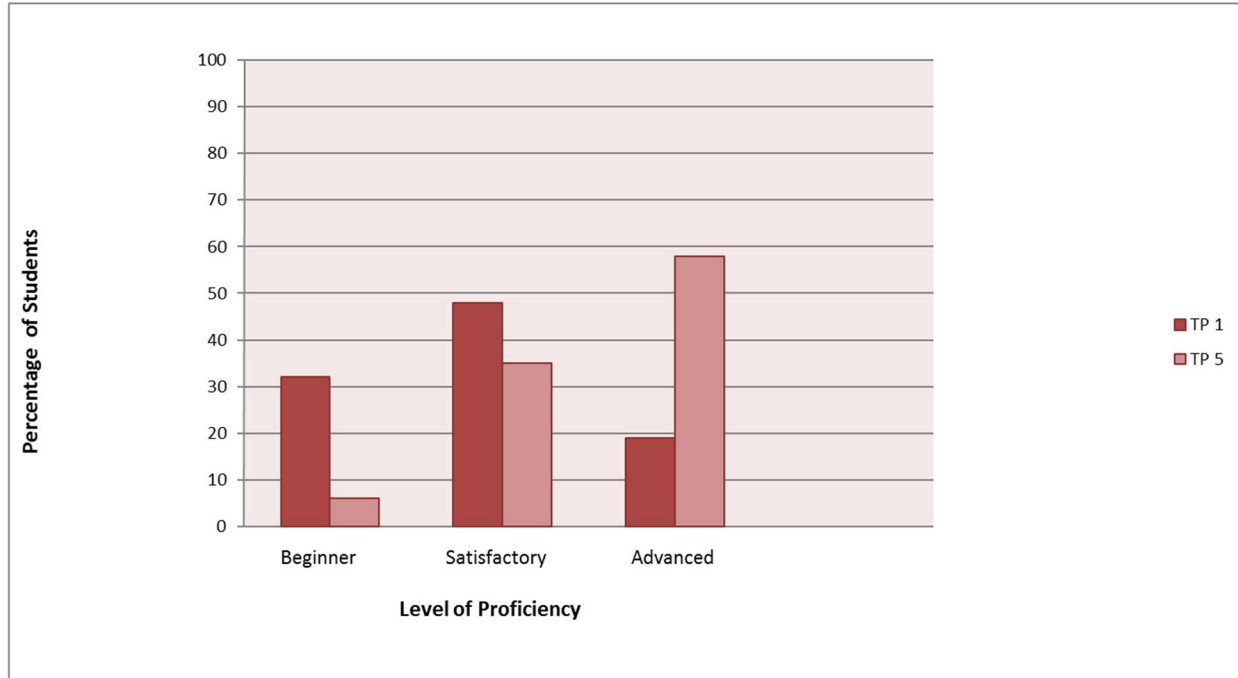
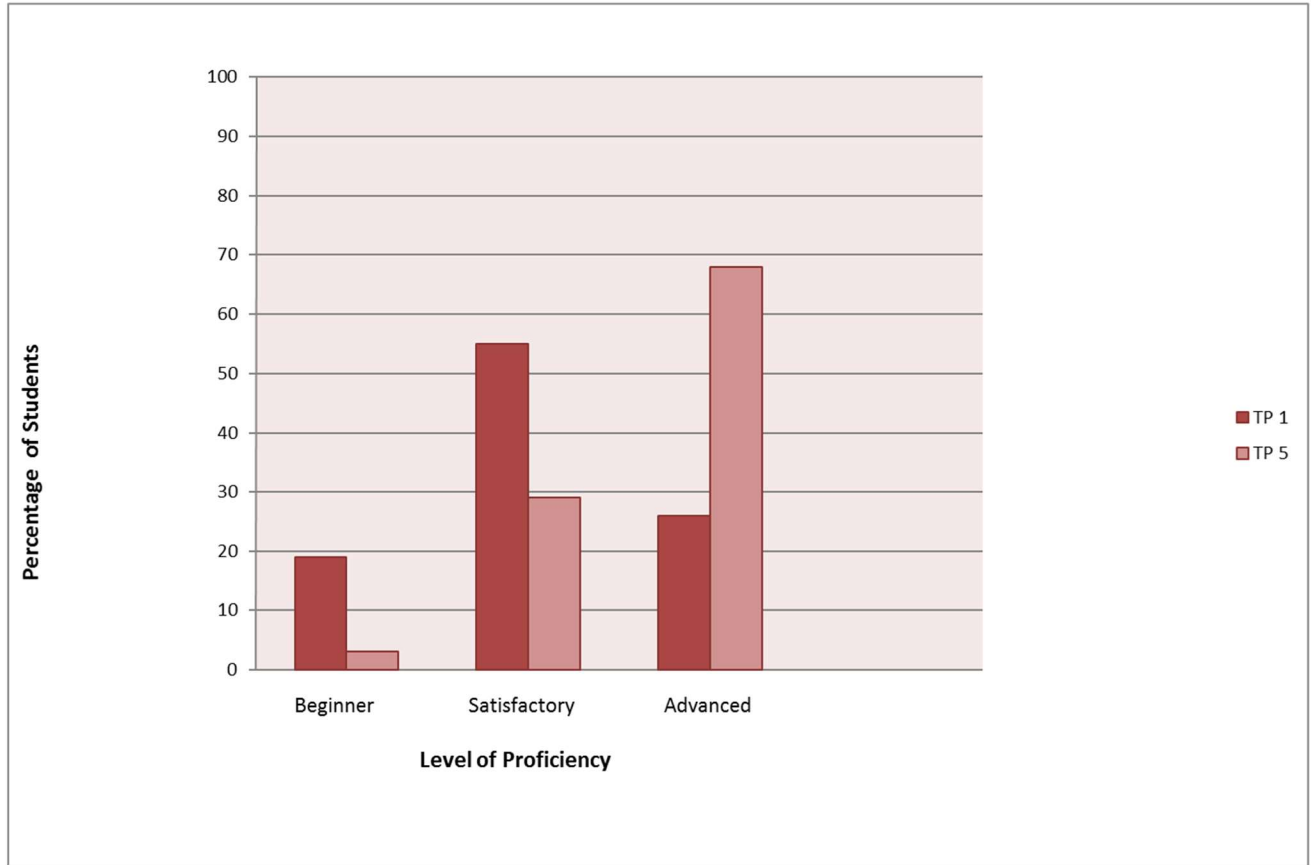


Table 2: A Comparison of Level of Proficiency on Web Evaluation



- ▶ *“Surprised to see the difference between the websites and learnt to differentiate important information from unimportant”*
- ▶ *“The websites offered invaluable resources.”*

Table 3: A Comparison of Level of Proficiency on Organisation



- ▶ *The making of the presentations, designing them with colours, keeping the flow of information going taught me a lot about how to make an effective presentation”*
- ▶ *“Comparing the presentations made me realise how a good presentation can make the understanding of the concept so much easier.”*

Table 4: A Comparison of Level of Proficiency on Basic Content

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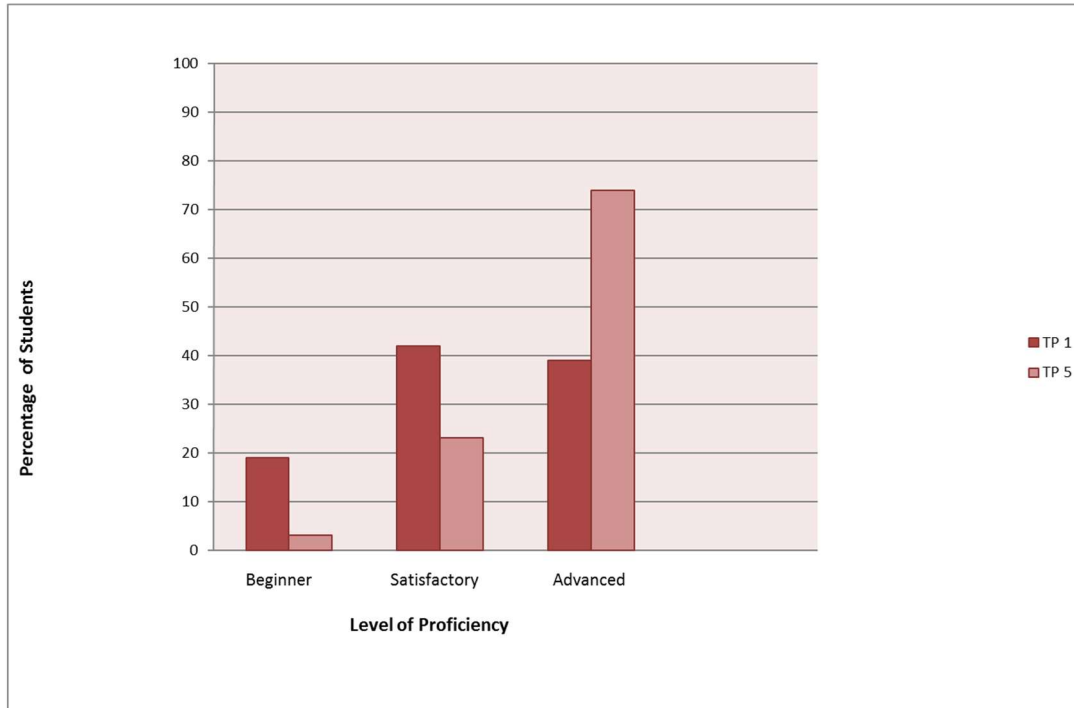
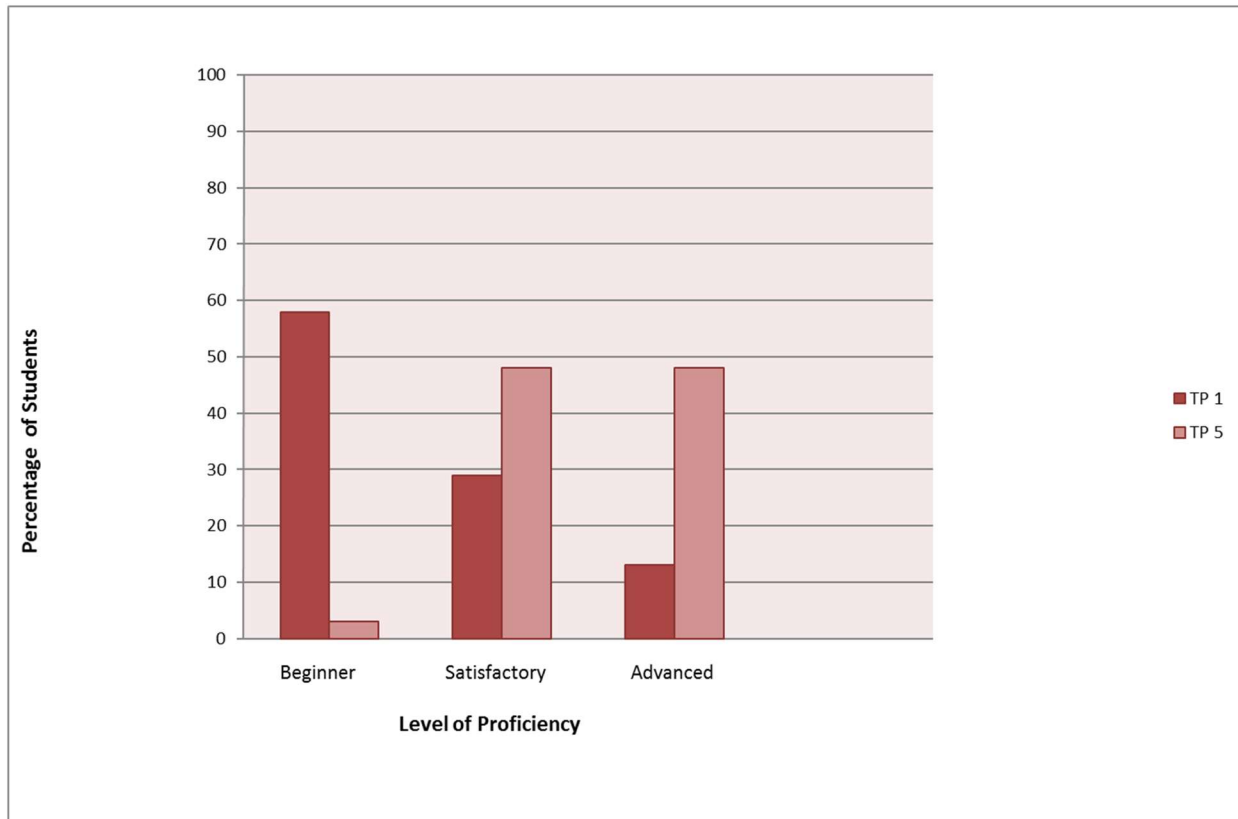
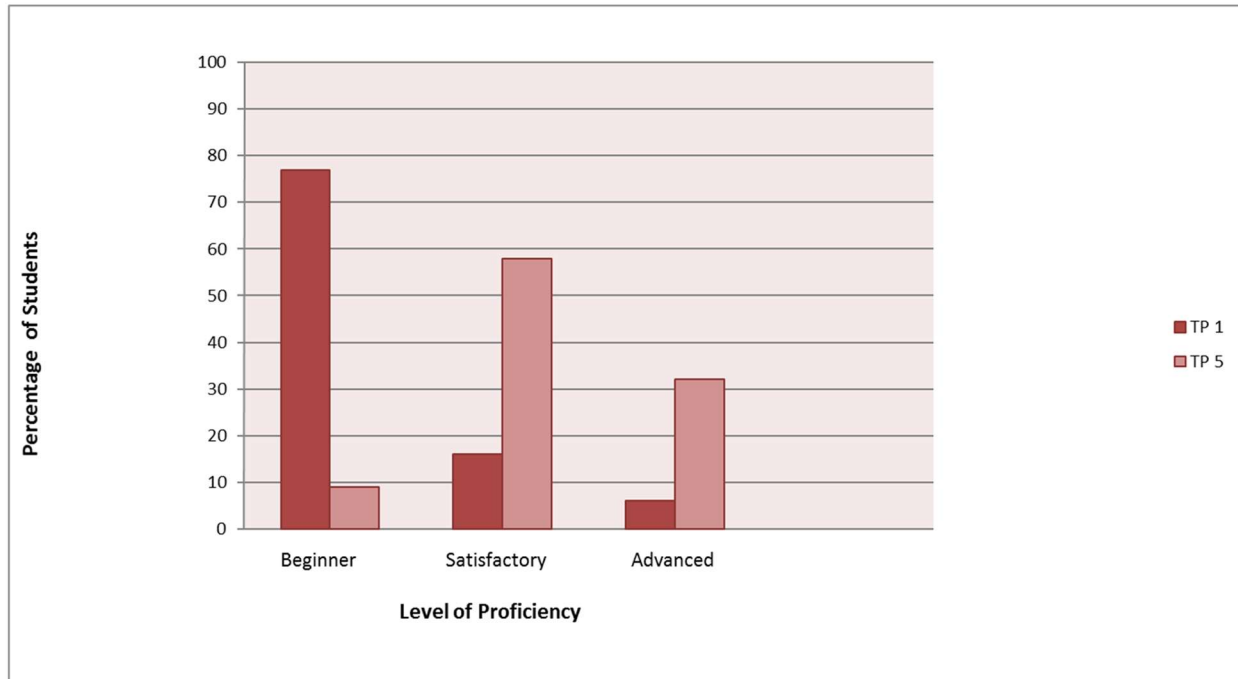


Table 5: A Comparison of Level of Proficiency on Discussion



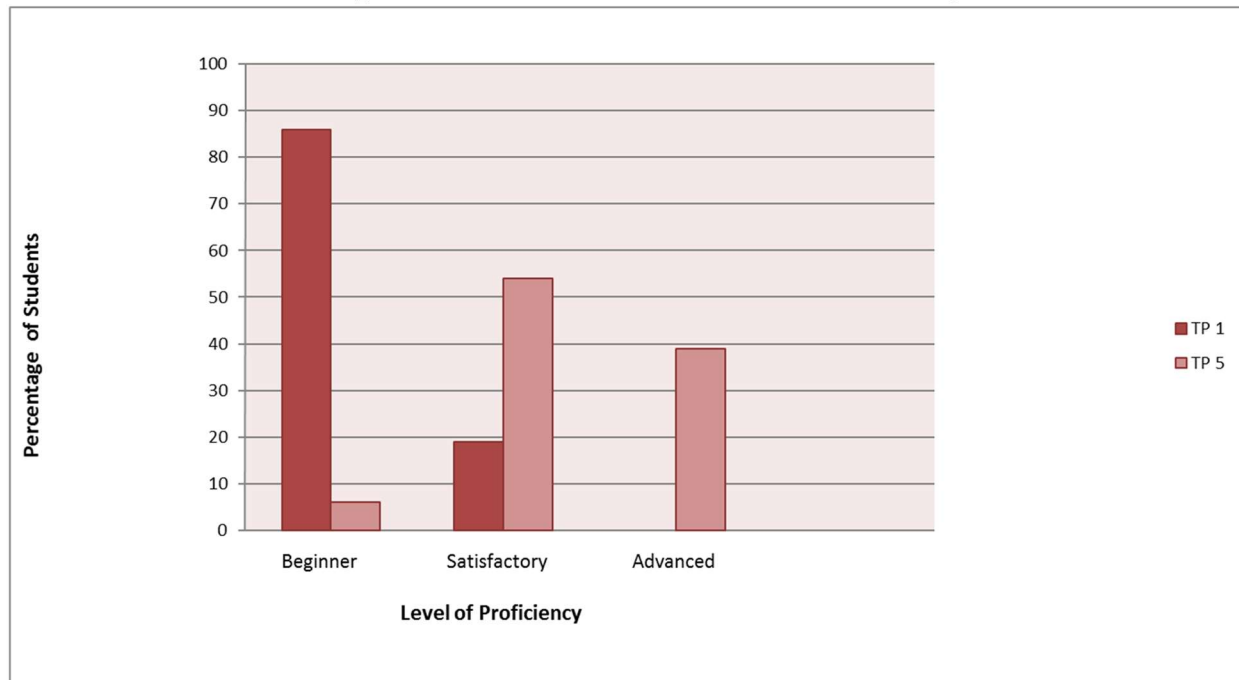
- ▶ *“The discussions cleared many of my doubts.”*
- ▶ *“Some of the presentations raised pertinent issues, which led to useful discussions.”*

Table 6: A Comparison of Level of Proficiency on Critical Thinking



- ▶ *“I realised a Historian’s major task is to study the cause-effect relationship as every event has its repercussions and no event can be ignored as unnecessary.”*
- ▶ *“The most intricate work is to relate how an event is a result of many circumstances and reasons happening from time to time.”*

Table 7: A Comparison of Level of Proficiency on Reflection



- ▶ *“Before finalising any presentation, I made sure that all the issues have been sorted and all my doubts have been answered.”*
- ▶ *“After going through my own presentation, I found I still lacked some details and made the presentation all over again after satisfying all the doubts. Then only was I satisfied of presenting it to the class.”*

Retention:

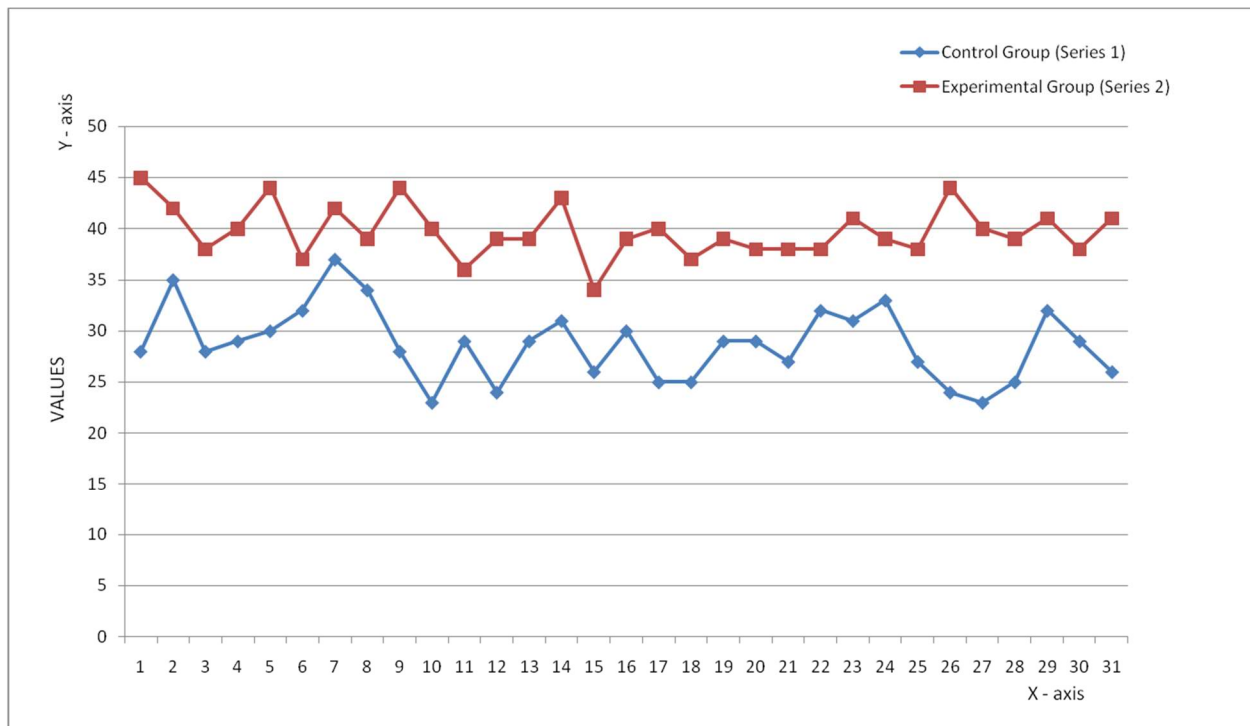
To study the level of Retention among the groups, achievement test was administered after a gap of one month of the completion of the experimental intervention and the experimental group was found to have retained concepts better than the control group.

It was inferred that the student teachers taught through constructivist approach had higher level of retention of concepts in History than the learners taught through conventional approach.

The scores of post-test of achievement were taken as covariates and ANCOVA was used to partial out the effect of post test scores on the scores of retention to study the difference between the two groups and a significant difference was found in the means of Experimental group and Control group on level of retention. Hence it was established that there was a significant difference in the level of retention of control and experimental groups after one month of the completion of the experimental intervention.

The experimental group was found to have retained the concepts better after one month of the completion of the experimental intervention in comparison to the control group.

Figure 2: Graphical Representation of the Retention scores of the student teachers taught through Conventional approach and Constructivist approach



The Effectiveness of Intervention: Reflected through the student teachers' write ups

The write ups of the student teachers during the course of experimental intervention were analyzed to understand the effectiveness of the Constructivist approach to teaching learning History.

The write ups of the student teachers revealed that student teachers favoured the Constructivist approach for the following reasons:

- Active, participative, involvement
- Evokes interest
- Gives freedom in learning
- Motivating specially self-motivation
- Student teachers learn social adjustment
- Leads to development of virtues such as patience, logical reasoning, trust and co-operation.
- Student teachers become curious and confident
- Development of heuristic attitude
- Mentally stimulating
- Long lasting and purposeful learning

- Development of mental faculties such as reasoning, observation, imagination, problem solving, decision making, generalisation, synthesis, drawing conclusion etc.
- Joyful learning
- Promotes social and communication skills
- Promotes democratic environment.
- Student teachers are encouraged to raise queries and exchange ideas.

Thus, it can be inferred that the teacher observed a significant gain on all the parameters of the rubrics as is evident from the mean and standard deviation of all the parameters and the t values which show a significant difference on all the parameters in the presentations given by the student teachers from Teaching Plan-1 to Teaching Plan-5.

Conclusion

The findings of the study concluded that 1) teaching through constructivist approach is more effective in terms of academic achievement of student-teachers than the conventional approach.

2) the student teachers retain the concepts better when taught through constructivist approach in comparison to the conventional approach.

Implications

- The teachers must adopt Constructivist Approach for the Teaching of History for better achievement.
- Student teachers must be initiated to concept as well as application of Constructivist approach in teaching. Hence some lesson plans must be made utilising Constructivist Approach.
- Constructivist Approach ensures long lasting and meaningful learning.
- For teaching the students through Constructivist Approach, the teacher must create constructivist learning environment in the classroom.
- The teacher in a constructivist classroom should provide the students the opportunity to organise the effective presentation of content with the help of web resources, participate in discussions and ascertain that the students reach higher order levels of critical thinking and reflection.
- As per the recommendations of NCF 2005, Constructivist approach must be made mandatory in schools.

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