Constructivist Vs Traditional: Effective Instructional Approach in Teacher Education

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Abstract

Traditional approach is very common in teaching. It ignores the students and subjects need the context in which the training is progress the mental level of interest of the students. The emerging trends include the constructivist which is moral and more focus on innovative activities and knowledge acquisition. It seems more feasible to follow constructivist approach for the teaching of English at B.Ed. level and constructivist is more feasible in engaging the students in innovative and creative activities. The purpose of this study is to compare instructional Module based on constructivist approach with the traditional Method in teacher Education at Science college township campus, University of Education, Lahore. This study is delimited to teacher Education at Township campus, University of Education, Lahore due to research design, time and funding constraints. Experiment control groups were equal (32 each). Experiment group was teached with constructivist approach by using a developed module. Pre and post tests were used to see the difference in two groups. T-test was used to check the significant difference between experiment and control group after experiment. It is explored that both the groups were equal regarding their achievement scores in teaching of English communication before the experiment but after experiment both were different in their achievement. It is concluded that this significant performance of experiment group may be due to teaching student teachers of experimental group with constructivist approach.

Key Words: Instructional Approach, Constructivist and Traditional Approach, Constructivist and Traditional Learning Theories

INTRODUCTION

Traditional teaching approach (lecture method) is very common in education especially at university level. Traditional method ignores the students consequently the mental level of interest of the students. It involves coverage of the context and rote memorization on the part of the students. It did not involve students in creative thinking and participation in the creative part of activities. Most of the time, during teaching learning process, instruction remain unilateral which is and consider to be orthodox activity. The up-and-coming trends changed the present scenario and adopted the constructivist approach which is moral and more focus on innovative activities and knowledge acquisition. It seems more feasible to follow constructivist approach for the teaching of English at B.Ed. level and constructivist is more feasible in engaging the students in innovative and creative activities. A module has been developed to confirm this effect. Basically constructivism is a theory of instruction based on observation to judge how people learn. Constructivism is a paradigm that hypothesizes learning as an active, contextualized, or constructive process. Constructivism is a reaction to teaching approaches such as behaviorism and programmed instruction. The learner acts as an information constructor. Learners construct knowledge based on their personal experiences and hypotheses of the environment. Learners actively construct or create their own subjective or objective reality. Learners, through social negotiation, continuously test their hypotheses and create new knowledge, correct previous knowledge, or confirm present knowledge. Learner linked new knowledge to prior knowledge. Constructivists argued that learner is not a blank slate (*tabula rasa*) but brings past experiences and cultural factors to a construct new knowledge in given situation.

Therefore each learner has a different interpretation and constructions of knowledge process based on mental representations (Learning Theories Knowledgebase, 2008). Constructivism activates the student's inborn curiosity about the real world to observe how things work. A common misunderstanding regarding constructivism, due to confusion of theory of pedagogy (teaching) with a theory of knowing, is that instructors should never tell students anything directly but, instead, should always allow them to construct knowledge for themselves. Constructivism assumes that all knowledge is constructed from the learner's previous knowledge, regardless of how one is taught. Thus, even listening to a lecture involves active attempts to construct new knowledge. In the classroom, the constructivist view of learning can point towards a number of different teaching practices. In the most general sense, it usually means encouraging students to use active techniques (experiments, real-world problem solving) to create more knowledge and then to reflect on and talk about what they are doing and how their understanding is changing. The teacher makes sure that he understands the students' preexisting conceptions, and guides the activity to address them and then build on them. Constructivism modifies role of teacher that he facilitate and help students to construct knowledge rather than to reproduce a series of facts.

The constructivist teacher help the students through problem-solving and inquiry-based learning activities with which students formulate and test their ideas, draw conclusions and inferences, and pool and convey their knowledge in a collaborative learning environment. Constructivism transforms the student from a passive recipient of information to an active participant in the learning process. Always guided by the teacher, students construct their knowledge actively rather than just mechanically ingesting knowledge from the teacher or the textbook. The task of the instructor is to translate information to be learned into a format appropriate to the learner's current state of understanding. Curriculum should be organized in a spiral manner so that the student continually builds upon what they have already learned. Bruner (1966) states that a constructivists or theory of instruction should address four major aspects: (1) predisposition towards learning, (2) the ways in which a body of knowledge can be structured so that it can be most readily grasped by the learner, (3) the most effective sequences in which to present material, and (4) the nature and pacing of rewards and punishments.

Statement of Problem

The purpose of this study was to compare instructional Module based on constructivist approach with the traditional Method in teacher Education at Science College Township campus, University of Education, Lahore.

Objective of Study

Following are the objectives of the study.
- To develop an instructional module based on constructivist approach
- To teach the students using instructional module
- To compare the students achievement by teaching them through constructivist and traditional approaches for teaching of English at BEd level
- To compare instructional Module based on constructivist approach with the traditional Method in teacher Education
- To determine the effectiveness of module based on constructivist approach on the performance of students

HYPOTHESES

There is no significant difference of scaled mean score of students of experimental and control group

Ho1:   There is no significant difference between control and experimental groups on pre-test of English communication at BEd.
Ho2   There is no significant difference between experimental and control groups on pre-test in reading
Ho3   There is no significant difference between experimental and control groups on pre-test in grammar
 Ho4   There is no significant difference between experimental and control groups on pre-test in writing
Ho5:   There is no significant difference between control and experimental groups on post-test of English communication at BEd.
Ho6   There is no significant difference between experimental and control groups on post-test in reading
Ho7   There is no significant difference between experimental and control groups on pos-test in grammar
Ho8   There is no significant difference between experimental and control groups on post-test in writing

Traditional and Constructivist Instructional Methodologies

The traditional classroom often looks like a one-person show with a largely uninvolved learner. Traditional classes are usually dominated by direct and unilateral instruction. Traditional approach followers assume that there is a fixed body of knowledge that the student must come to know. Students are expected to blindly accept the information they are given without questioning the instructor (Stofflett, 1998). The teacher seeks to transfer thoughts and meanings to the passive student leaving little room for student-initiated questions, independent thought or interaction between students (VAST, 1998). Even the in activities based subjects, although activities are done in a group but do not encourage discussion or exploration of the concepts involved. This tends to overlook the critical thinking and unifying concepts essential to true science literacy and appreciation (Yore, 2001). This teacher-centered method of teaching also assumes that all students have the same level of background knowledge in the subject matter and are able to absorb the material at the same pace (Lord, 1999).

In contrast, constructivist or student-centered learning poses a question to the students, who then work together in small groups to discover one or more solutions (Yager, 1991). 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 leave the discovery and discussion to the student groups (VAST, 1998). Questions are posed to the class and student teams work together to discuss and reach agreement on their answers, which are then shared with the entire class. Students are able to develop their own understanding of the subject matter based on previous knowledge, and can correct any misconceptions they have. Both teaching styles can lead to successful learning but it has been shown that students in the constructivist environmental demonstrated more enthusiasm and interest in the subject matter. In fact, repeated research has found that teacher-centered lessons can be less or non-productive, and in some cases, detrimental to the students' learning process (Zoller, 2000). Many teachers are hesitant to try the constructivist model, because it requires additional planning and a relaxation of the traditional rules of the classroom (Scheurman, 1998).

Teachers often feel as though they aren't doing their job if the students are working together and actively discussing the material instead of busily taking notes (Sprague and Dede, 1999). Since any new idea is likely to be rejected unless teachers examine their own theoretical framework and develop their own justification for the change, it was suggested that additional quantitative evidence in support of constructivism might encourage more teachers to embrace this teaching style (Shymansky, 1992). Numerous studies have been completed to compare students' learning in traditional and constructivist classrooms. These studies generally based their conclusions on test or quiz scores and student comments or evaluations (Lord, 1997; Lord, 1999). The use of a quantitative analysis based on videotapes of the labs, which takes into account the actions of both students and teacher, should provide a new outlook on these teaching styles, as well as offering another means of objectively comparing the results.

Challenges for Constructivist, Pre-service Teacher Education

As teacher educators, we cannot ignore the challenges. The reality of constructivist teacher education is that it functions in a university setting and this traditional context provides challenges for teacher educators and teachers (Rainer & Guyton, 1999; Beck & Kosnik, 2006). While studies reviewed did not directly address the factors that constrained their work, authors made recommendations based on their experience. Condon et al. (1993) found that "simply accommodating innovation in the existing institutional structure will not provide the long-term support necessary for lasting change." Two authors (Condon, et al., 1993; Chen, 2001) recommended areas that need to be challenged if this work is to continue, including, traditional teacher and student roles, rewards, resources, policies, and the history of isolation in higher education. Teacher educators who advocate for a different kind of preparation cannot overlook their own pedagogy, particularly related to authority in the classroom (Duran et al., 2004; Fosnot, 1996; Mayer -Smith & Mitchell, 1997); instructors must understand and be able to implement constructivist pedagogy. These authors' recommendations imply that if visions such as those advocated by constructivist educators are to become reality, we need to rethink the nature of teacher education efforts (e.g., to include the six mediatory experiences) as well as study the challenges inherent in change.

METHODOLOGY

This study was designed to compare constructivist and traditional approaches of teaching English communication skills to BEd students. An experiment was done at township campus, university of education, Lahore, Pakistan. Two groups of Bed students were be selected.

A group was trained using constructivist approach while other group was trained by ordinary traditional method of teaching. The experiment continued for three months.

POPULATION AND SAMPLING

Population was comprised of all students of BEd students studying at Township Campus, University of Education, Lahore. Two groups consisting of 40 students each were selected randomly. One group was called experiment group while other was called control group. In the box below, O1 is experiment group while O2 is control group. "X" represents treatment i.e. constructivist teaching approach.

Experiment Group	O_1XO_1
Control Group	$O_2 \quad O_2$

Study Design

INSTRUMENTATION

A module will be developed based on framework of constructivist approach. Students of experimental group will be taught according to constructivist approach. Achievement pre-test will be developed according to adopted National Education Assessment Program NEAP's frameworks of reading and writing for BEd course based on teaching of BEd students by constructivist's method of instruction. Same test will be used as post-test. Experiment was performed three months.

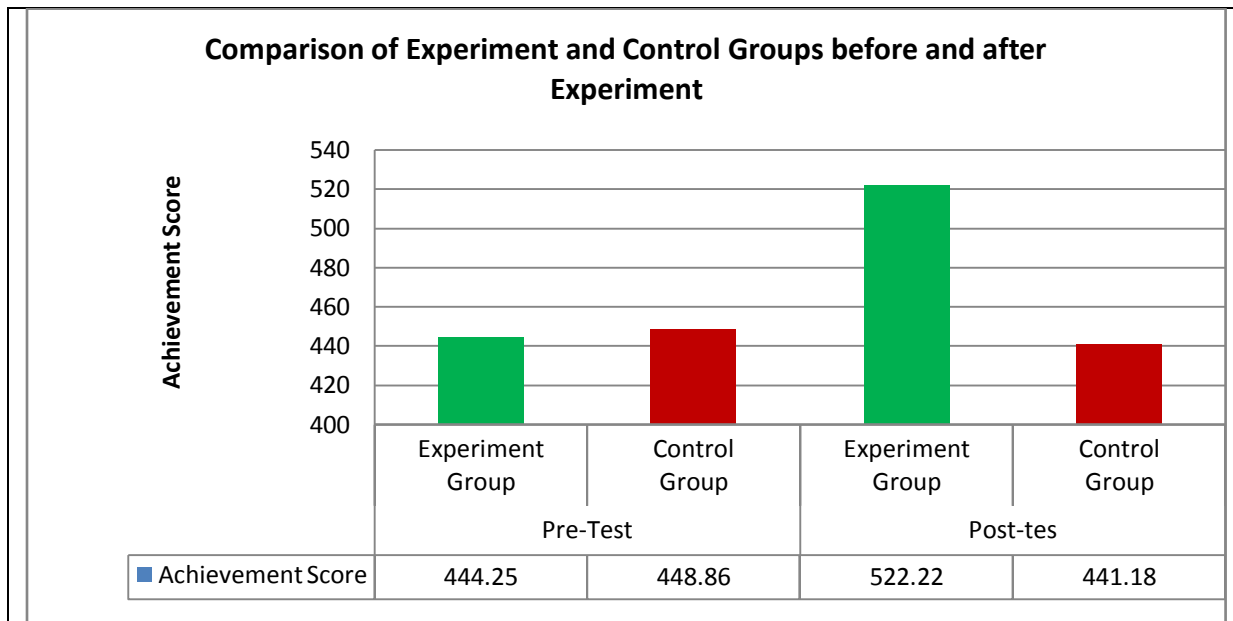## ANALYSIS AND INTERPRETATION OF DATA

Pre and post Tests was administered to both experimental and control groups. Test results were entered to SPSS. After pre-test, t-test was used to check difference between both groups. After post-test, t-test was used to find the effectiveness of either constructivist or traditional method of teaching.

HYPOTHESES TESTING

Hypothesis	Group	No.	Mean	SD	t	Sig.	Decision
There is no significant difference between control and experimental groups on pre-test of English communication at BEd	C	32	448.86	101.28	.240	.811*	**Accepted**
	E	31	444.25	35.510			
There is no significant difference between experimental and control groups on pre-test in reading	C	32	508.85	88.35	-.805	0.424*	**Accepted**
	E	31	522.80	39.81			
There is no significant difference between experimental and control groups on pre-test in grammar	C	32	445.26	138.67	3.162	0.002*	**Rejected**
	E	31	358.26	67.07			
There is no significant difference between experimental and control groups on pre-test in writing	C	32	448.86	83.62	-1.159	0.251*	**Accepted**
	E	31	444.69	46.36			
There is no significant difference between control and experimental groups on post-test of English communication at BEd.	C	32	441.18	63.42	-5.63	0.000*	**Rejected**
	E	31	522.22	32.06			
There is no significant difference between experimental and control groups on post-test in reading	C	32	547.49	51.25	-.928	0.015*	**Rejected**
	E	31	560.34	35.510			
There is no significant difference between experimental and control groups on pos-test in grammar	C	32	369.23	109.82	-6.89	0.000*	**Rejected**
	E	31	521.79	60.003			
There is no significant difference between experimental and control groups on post-test in writing	C	32	406.81	63.44	-3.504	0.001*	**Rejected**
	E	31	454.53	32.6			

*Significance level   α= 0.05

Graph 1 Comparision of Control and Experimental Groups in proficiency of teaching English Communication on Pre-Test and Post-Test

Comparison of Experiment and Control Groups before and after Experiment

Achievement Score	Pre-Test		Post-tes	
	Experiment Group	Control Group	Experiment Group	Control Group
■ Achievement Score	444.25	448.86	522.22	441.18

Graph shows that two groups before experiment were equal and after experiment control group significantly perform poor than experiment group. It explores that treatment has positive effect. That is constructivist approach of teaching is significantly better than traditional approach of teaching.

FINDINGS

The findings of this study were in line with the findings of other researches in this field. The following findings were drawn from the analysis of data taken through post test.

The descriptive statistics showed that the mean of mean scaled score of experimental group is 448. 86 whereas mean score of control group is 444.25.   The comparison of scores was done using t-test. T-test indicates that t-value -.240 is insignificant at α 0.05 level of significance. So it is clear that there is no significant difference between experimental and a control student on pre-test is accepted and it is concluded that the groups were equal before the start of experiment. So the null hypothesis stating that there is no significant difference between experimental and control groups on pre-test is accepted. It is concluded that both the groups were equal regarding their achievement scores in English communication skills test before the experiment in pre-test.

The second hypothesis of the study was that there is no significant difference between experimental and control groups on pre-test in reading test. In order to perceive the difference between the mean of mean scaled scores of the two groups', descriptive statistics was employed. It showed a little difference between the mean scores of experimental and control groups. The mean score of experimental group is 522.80 different than the mean score of control group is 508.85 The significance of the difference was tested using t-test for independent samples t-statistics revealed that t-value -.805 is insignificant at α=0.05 level of significance. So the null hypothesis is stating that there is no significant difference between experimental and control group on pre-test in reading test is accepted. It is concluded that both the groups were equal regarding their achievement scores in reading portion of English communication skills test before the experiment in pre-test. It is also evident that the performance of experiment group is slightly better than the performance of group in reading on pre-test.

The third hypothesis of the study was that there is no significant difference between experimental and control groups on pre-test in grammar test. In order to perceive the difference between the mean of mean scaled scores of the two groups', descriptive statistics was employed. It showed difference between the mean scores of experimental and control groups. The mean score of experimental group is 358.26 different than the mean score of control group is 445.26. The significance of the difference was tested using t-test for independent samples. T-statistics revealed that t-value 3.162 is significant at α=0.05 level of significance.

So the null hypothesis is stating that there is no significant difference between experimental and control group on pre-test in grammar test is rejected. It is concluded that both the groups were unequal regarding their achievement scores in grammar portion of English communication skills test before the experiment in pre-test. It is also evident that the performance of experiment group is poor than the performance of control group in grammar on pre-test.

The fourth hypothesis of the study was that there is no significant difference between experimental and control groups on pre-test in writing test. In order to perceive the difference between the mean of mean scaled scores of the two groups', descriptive statistics was employed. It showed difference between the mean scores of experimental and control groups. The mean score of experimental group is 444.69 different than the mean score of control group is 448.86. The significance of the difference was tested using t-test for independent samples. T-statistics revealed that t-value -1.159 is significant at α=0.05 level of significance. So the null hypothesis is stating that there is no significant difference between experimental and control group on pre-test in writing test is accepted. It is concluded that both the groups were equal regarding their achievement scores in writing portion of English communication skills test before the experiment in pre-test. It is also evident that the performance of control group is slightly better than the performance of experiment group in grammar on pre-test.

The fifth hypothesis of the study was that there is no significant difference between experimental and control groups on post-test in English communication skills at BEd level. In order to perceive the difference between the mean of mean scaled scores of the two groups', descriptive statistics was employed. It showed difference between the mean scores of experimental and control groups. The mean score of experimental group is 522.22 different than the mean score of control group is 441.18 The significance of the difference was tested using t-test for independent samples. T-statistics revealed that t-value -5.63 is significant at α=0.05 level of significance. So the null hypothesis is stating that there is no significant difference between experimental and control group on pre-test in English communication skills at BEd level is accepted. It is concluded that both the groups were unequal regarding their achievement scores in English communication skills test in post-test. It is also evident that the performance of experiment group is significantly better than the performance of control group in grammar on post-test. It is concluded that this significant performance of experiment group may be due to teaching student teachers of experimental group with constructivist approach.

The sixth hypothesis of the study was that there is no significant difference between experimental and control groups on post-test in reading portion of English communication skills course at BEd level. In order to perceive the difference between the mean of mean scaled scores of the two groups', descriptive statistics was employed. It showed difference between the mean scores of experimental and control groups. The mean score of experimental group is 560.34 different than the mean score of control group is 547.49 The significance of the difference was tested using t-test for independent samples. T-statistics revealed that t-value .015 is significant at α=0.05 level of significance. So the null hypothesis is stating that there is no significant difference between experimental and control group on post-test in reading portion of English communication skills course at BEd level is accepted. It is concluded that both the groups were unequal regarding their achievement scores in reading portion of English communication skills test in post-test. It is also evident that the performance of experiment group is significantly better than the performance of control group in reading on post-test. It is concluded that this significant performance of experiment group may be due to teaching student teachers of experimental group with constructivist approach.

The seventh hypothesis of the study was that there is no significant difference between experimental and control groups on post-test in grammar portion of English communication skills course at BEd level. In order to perceive the difference between the mean of mean scaled scores of the two groups', descriptive statistics was employed. It showed difference between the mean scores of experimental and control groups. The mean score of experimental group is 521.79 different than the mean score of control group is 369.23. The significance of the difference was tested using t-test for independent samples. T-statistics revealed that t-value -6.89 is significant at α=0.05 level of significance. So the null hypothesis is stating that there is no significant difference between experimental and control group on post-test in grammar portion of English communication skills course at BEd level is rejected. It is concluded that both the groups were unequal regarding their achievement scores in grammar portion of English communication skills test in post-test. It is also evident that the performance of experiment group is significantly better than the performance of control group in reading on post-test. It is concluded that this significant performance of experiment group may be due to teaching student teachers of experimental group with constructivist approach.

The eighth hypothesis of the study was that there is no significant difference between experimental and control groups on post-test in writing portion of English communication skills course at BEd level. In order to perceive the difference between the mean of mean scaled scores of the two groups', descriptive statistics was employed. It showed difference between the mean scores of experimental and control groups. The mean score of experimental group is 454.53 different than the mean score of control group is 406.81. The significance of the difference was tested using t-test for independent samples. T-statistics revealed that t-value -3.504 is significant at α=0.05 level of significance. So the null hypothesis is stating that there is no significant difference between experimental and control group on post-test in writing portion of English communication skills course at BEd level is rejected. It is concluded that both the groups were unequal regarding their achievement scores in writing portion of English communication skills test in post-test. It is also evident that the performance of experiment group is significantly better than the performance of control group in reading on post-test. It is concluded that this significant performance of experiment group may be due to teaching student teachers of experimental group with constructivist approach.

CONCLUSIONS

The traditional method is being used in teaching of English communication skills at BEd level in Pakistan despite of knowing its advantages and disadvantages. It is being replaced by constructivist teaching method in teaching of English communication skills at BEd which has been proved through various researches to be comparatively for better than that the traditional teaching method. The findings of the study proved that the students of experimental group not only learnt better but the rate of proficiency was also higher than that of control group. Constructivist group indicated a high level of satisfaction, and increased student participation was evident to any observer. Students were more willing to volunteer answers and ask questions of the instructor in order to clarify material, and team discussions resulted in many new points being introduced. The findings of the study proved that constructivist teaching method in teaching of English communication skills at BEd is far better as compared to traditional method. From the findings of the study, the following conclusions were drawn:

1. The mean score of experimental group was almost equal to the mean score of control group on pre-test. Therefore, it is concluded that both the groups were equal before the start of experiment.
2. The mean score of experimental group was significantly different from the mean score of control group. It found that the experimental group performed better than the control group on post test.
3. The mean score of experimental group in reading portion of English communication skills at BEd level was significantly different from the mean score of control group. It can be concluded that the experimental group performed better in reading portion of English communication skills at BEd level than the control group on post test.
4. The mean score of experimental group in grammar portion of English communication skills at BEd level on was significantly different from the mean score of control group. The results of experiment and control groups were reveres in pre-test. It can be concluded that the experimental group performed better in grammar portion of English communication skills at BEd level than the control group on post test.
5. The mean score of experimental group in writing portion of English communication skills at BEd level was significantly different from the mean score of control group. It can be concluded that the experimental group performed better in writing portion of English communication skills at BEd level on the content area of organization of life than the control group on post test.

RECOMMENDATIONS

Findings and conclusions of the present study suggest that modern and practical instructional techniques and strategies may be employed in the context of Pakistan's classrooms settings especially in the subject of English communication skills at BEd level because a nation's progress and prosperity largely depends on its advancement in the field of globally accepted English Language to understand modern concepts and different cultures and education plays the role of ladder in achieving this goal. In this context, the teacher's main task is not only to acquaint the learners with information but also to use that information in an appropriate way in the real world. In the light of findings and conclusions of the study, following specific and future recommendations are made to improve the teaching of English communication skills at BEd level.

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