

Innovative Practices in D.El.Ed Student Teachers with Reference to Learning Outcomes of Social Science: A Way to Improving the Questioning Skill

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Abstract

Constructivist class rooms are structured in such a way that learners get deeply involved in learning experiences, meaning making actions, imagination, hypothesising, and drawing inference. The teacher needs to recognise how pupils use their own experiences, prior knowledge and perception. So far as some topics like; “Our Environment, Atmosphere” etc. were selected for classroom transaction and student teachers were involved in preparing questions. According to the constructivist approach, the student teachers were able to prepare questions in groups and individually on the social science topics. In order to conduct a study on developing the questioning skills on social science in class VII, the researcher formulated the following objectives. These are; (a) to examine the present status of the student teachers in preparing the questions on the social science topics, (b) To develop the competencies of questioning skill through strategic intervention with reference to LOs of Social science. (c) To evaluate the competency of student teachers in preparing variety of questions after orientation. (d) to assess the achievement of students in social science. The tools like pre-test and post- test questions and model question papers were prepared by the researcher and administered for the collection of data. The sample was purposively selected and consisted of 50 numbers of student teachers of Govt. ETEI, Bagudi, Balasore for the study. After two weeks of intervention a post test was conducted and it was found that only 65% student teachers could make high order questions, which was only 30% in the beginning. 80% of the student teachers could prepare worksheet based on the social science concepts. All together so many questions like probing questions, exploratory questions, thought answer type questions, multiple choice questions, one-word answer type questions were developed during the workshop. They were of high order and low order. This strategy is useful for the slow learner and the high achievers. Other schools can also use these strategies.

Keywords: questioning skill, intervention, constructivist pedagogy, student teachers

DOI: 10.7176/RHSS/12-23-04

Publication date: December 31st 2022

INTRODUCTION:

One of the major focuses of UEE is to provide quality education to all the children irrespective of caste, creed, colour and sex at the elementary level. In order to fulfil the objective, the learning competencies in each and every subject at different grades/ levels are to be fulfilled by the students. To ensure the minimum learning achievement of the children the teacher has to adopt new techniques for developing their competencies. Quality education totally depends upon the quality teacher or a good teacher and a good teacher can be made through the quality teacher education. So that teacher education is most important part of educational system and teacher also a pivotal thing in teaching learning process. Teaching is a two way process not one way process. For the effective teaching, teachers have to find innovative and effective techniques to present new concepts for motivating children. The classes have to be interactive with dialogue and sufficient learning materials. A teacher must be aware of the following essentials teaching skills such as; planning a lesson, motivating students, selecting, Preparing and using of teaching learning materials, adopting teaching-learning strategies, designing learning activities, essentials of the content, consolidation, elaborations, group activity, continuous and comprehensive evaluation, discipline, multi-level and multi grade activities, effective communication and interaction, etc. These are the most important aspects in teaching learning process. “Good teaching looks effortless because a teacher's knowledge and experience are invisible. Teaching is a tricky blend of action, a way of contextualizing knowledge. Good teaching is, in fact, complex and challenging, and even the best teachers face difficulties translating formal knowledge into effective practice (Blase, 2006)”. The ability to ask and answer questions is central to learning. For more than two thousand years (since Socrates) the question has been an integral part of teaching. Only within the last decade and half, however, has extensive research been directed to questions and questioning strategies. The information which has been generated from this research indicates that teachers largely have been asking the wrong questions. We have been focussing primarily on questions regarding the specific information students processed rather than questions to promote learning. In the past, teachers primarily questioned students to ascertain whether or not they were learning the book contents and to

see if students were paying attention in class. Now a days questions play central role in the learning process. Because of this, we as teachers need to plan our questions carefully. If a teacher utilizes questions effectively, students will discover that the question is a very valuable learning tool for which students' achievement can be assessed. And it is also an important device through which they can organize their thinking to achieve certain objectives.

REVIEW OF RELATED LITERATURE:

The art of questioning skill is most important part of a teacher in teaching learning process. Studies reveals that the purpose of questioning is to provide teachers with knowledge to assist them in making decisions about improving classroom instructions and it also enhances the students thinking, achievement and attitudes. William Willen argues that questions are used to stimulate students' participation, to conduct a review of materials previously read or studied, to stimulate discussion of a topic, issue or problem, to involve students in creative thinking, to diagnose students' abilities, to assess students' progress, to determine the extent to which objectives have been achieved, to arouse students' interest, to control students, behaviour, to personalize subject matter, and to support students, contributions in class.

Furthermore, Amdesselase suggests that questioning serves a number of purposes. It is used to clarify and focus attention on important ideas, to promote new ways of looking at an issue, to encourage further inquiry, and to prepare oral evaluation and examinations.

RATIONALE:

In teacher education programme, pre-service teacher education programme is a hardship work in educational system. As the pre-service teacher education programme creates future teacher, its role is also very important. High quality teachers need high quality training. So that pre-service training programme calls for high quality teachers with infuse of all kinds of resources, dedication, determination etc. for developing education system. The student teachers will show high performance in teaching learning process when they taught by teachers with higher knowledge of the subject. Therefore, teacher educators have to develop knowledge of their content areas as well as in pedagogy. The student teachers will be more benefitted when teacher educators demonstrate and implement varied pedagogical approaches in the courses. During the practice teaching it was found that student teachers made so many mistakes in planning the lesson, designing the activities and most important in framing questions according to the learning outcomes. They are not good at designing questions. The questions are not properly distributed. No corrective exercise is done in each and every type of questions. In relation to this the researcher wanted to orient the student teachers in designing the variety type of questions and to assess the performance of students in social sciences.

OBJECTIVES:

The Objectives of the study were;

- (a) To examine the present status of the student teachers in preparing the questions on the Social Science topics.
- (b) To develop the competencies of questioning skill through strategic intervention with reference to LOs of Social Science.
- (c) To evaluate the competency of student teachers in preparing variety of questions after orientation.
- (d) To assess the achievement of class-VII students in Social Sciences as a result of the quality question based intervention.

HYPOTHESIS:

The adopted strategy will have the positive impact on improving the questioning skill of student teachers and students achievement in social sciences.

DELIMITATION OF THE STUDY

The study was concentrated on the following topics meant for the students of Class-VII; viz

- a. Our Environment
- b. Atmosphere

METHODOLOGY

Tools: The tools like pre-test and post- test questions and model question papers were prepared by the researcher and administered for the collection of data.

Sample: Two way sample technique was adopted. One sample consisted of **50** numbers of student teachers of Govt. ETEI, Bagudi, Balasore and **25** nos. of class VII students of a practicing school was purposively selected for the study.

Statistical Techniques:

Calculation of Percentage, Mean percentage, SD, 't'- value and Graphical methods were followed.

Procedure to be followed:

Taking into the above objectives, an orientation programme was given to the student teachers in workshop mode on the preparation of questions in social science. Before going to prepare the questions, the student teachers did the following exercises viz, concept mapping and content analysis of the selected topics. It was done in groups, the work done by the student teachers were prescribed by them and a detailed discussion was made with modification of their work. Then topics were distributed group wise among the student teachers. They were asked to read the topics thoroughly before preparing questions. Some examples, model questions were presented by the researcher and the student teachers were asked to prepare questions. Then they categorised the questions under three heads, viz- high order, mediocre and low order questions. In preparing questions both subjective and objective type of questions were taken into account. Focus was given on open ended questions with 'Why and How' type of questions. The student teachers were also oriented in preparing worksheet based on the social science concepts. All together so many questions like probing questions, exploratory questions, thought answer type questions, multiple choice questions, one-word answer type questions were developed during the workshop.

INTERVENTION TO BE EXTENDED:

The Interventions were adopted following the due procedure;

Stage-1: (Whole Reading of the Content)

In this stage, student teachers were divided into 10 groups and topics were also distributed among the groups. Then they were asked to read the topic thoroughly. After reading the contents the students did the concept mapping and content analysis of the selected topics. Some model questions were presented to them through PPT and the student teachers were asked to prepare the questions on the basis of LOs of the concerned topics.

Stage-2:

Then the questions will be discussed and necessary corrections will be made then and there concept wise. Factual questions will be replaced by reason based questions to develop the reasoning ability of the students. For example; why some rivers like Ganga and Jamuna don't dry up in summer? If there would be no snow fall in Himalaya's what changes would occur in climatic condition in India in respect of physical changes? etc.

Stage-3:

Clarifications were made and asked to prepare quality questions; the questions were presented in relation to addition and deletion accommodating desirable questions to develop the creative thinking of students.

Stage-4:

The prepared questions passed for screening and filtering process to get questions of high order and questions to the level of average students.

Some Questions are as follows:

- a. What is an echo system?
- b. What do you mean by natural environment?
- c. Why is our environment changing?
- d. How is atmosphere important for us?
- e. How lithosphere helps human being?
- f. How do human beings modify natural environment?
- g. Distinguish between biotic and abiotic environment with examples.
- h. Why wet clothes take longer time to dry on a humid day?
- i. Why do green plants use carbon dioxide?
- j. How is Ozone layer important for us?
- k. If there is no Ozone Layer in environment how it will be affected in human being?
- l. Why is there no air pressure on the moon?

(Question Bank was developed including various types questions like subjective, objective, open ended, probing questions, exploratory questions, thought answer type questions, multiple choice questions, one-word answer type, short type, very short type questions etc.)

STAGE-5: (Interactive Discussions through Questions)

The students were asked to present the questions in groups and they categorised the questions under three heads i.e. high order, mediocre and low order. Then question were asked in groups. One student was recorded the all questions. Then students were asked to answer the questions. After that answers sheets were corrected by the student teachers.

STAGE-6: QUIZ

In this stage a quiz was organised by the students. All questions were presented phase wise. Some pictures, video clips were displayed and students were asked to identify the question and gave the answers.

The status of questions before Intervention and after intervention as follows:

QUESTIONS BEFORE INTERVENTION	QUESTIONS AFTER INTERVENTION
<ol style="list-style-type: none"> 1. In what ways is the atmosphere useful to humans? 2. What is an ecosystem? 3. What do you mean by natural environment? 4. What do you mean by lithosphere? 5. What is biosphere? 6. Give the name of two major components of biotic environment. 7. What do you mean by human made environment? 8. Define natural environment. 9. What are the major components of environment? Etc.... <p>(Except this, the following questions were prepared)</p> <p>MCQ Fill in the blanks True/ False One word type answer Matching type</p>	<ol style="list-style-type: none"> 10. Why is our environment changing? 11. How is atmosphere important for us? 12. How lithosphere helps human being? 13. How do human beings modify natural environment? 14. Distinguish between biotic and abiotic environment with examples. 15. Why wet clothes take longer time to dry on a humid day? 16. Why do green plants use carbon dioxide? 17. How is Ozone layer important for us? 18. If there is no Ozone Layer in environment how it will be affected in human being? 19. Why is there no air pressure on the moon? 20. How man modifies his environment? 21. Plants and animals depend on each other. Explain <p>(Except this, the following questions were prepared)</p> <p>22. MCQ 23. Fill in the blanks 24. True/ False 25. One word type answer 26. Matching type</p>

RESULTS AND DISCUSSIONS

After the intervention the performance of the students were assessed by administering a post- test. Then the mean score of the learners was calculated and statistical techniques were applied using S.D and 't' value. The result of the pre-test and post-test was compared. And the performance of student teachers in preparing different order of questions was also assessed and the result is shown as below.

Table-1: Performance of Student Teachers in Preparing Questions

Types of Ques.	N	Before Intervention		After Intervention	
		(In No.)	(In %)	(In No.)	(In %)
High Order	50	15	30%	32	65%
Mediocre		25	50%	15	30%
Low Order		10	20%	03	5%

From the above table it shows that there is an improvement in preparing the different categories of questions with reference to Blooms model (knowledge, comprehension, application, analysis, synthesis & evaluation etc.). After two weeks of intervention a post test was conducted and it was found that only 65% student teachers could make high order questions, which was only 30% in the beginning. 80% of the student teachers could prepare worksheet based on the social science concepts. After intervention so many questions like probing questions, exploratory questions, thought answer type questions, multiple choice questions, one-word answer type questions were prepared.

GRAPHICAL REPRESENTATION:

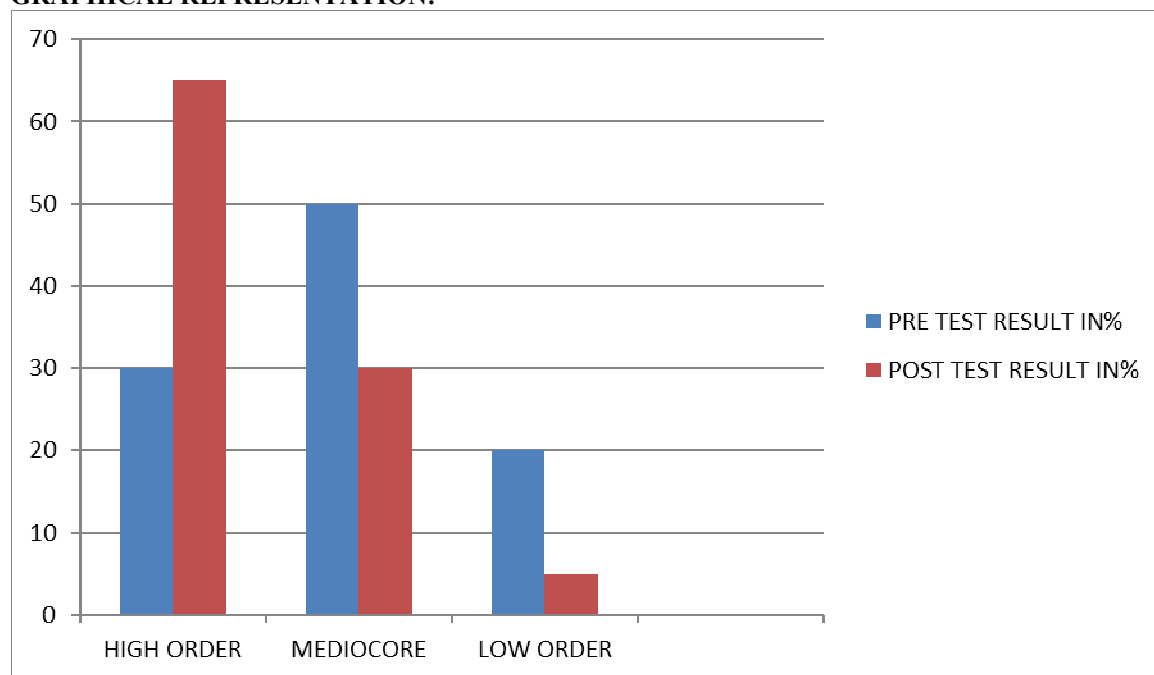


Table- 2: Performance of students in Social Science

TEST	N	MEAN	S.D	't' value	Remarks
Pre-test	25	4.8	2.07	2.07	Significant at 0.05 level
Post-test	25	6	1.95		

On the basis of these results it is proved that the effect of the adopted strategy has exerted a positive impact on learners' achievement. The mean of Pre-test i.e. 4.8 whereas mean of Post – test was 6, defines that the achievement level of students in posttest is higher than the pre- test, the 't' value of the data is 2.07 which is higher than the tabulated 't' value at 0.05 level of significant. It implies that there is a positive significant difference in students' achievement from pre-test to post- test.

FINDINGS

- ❖ Strategies used by the researcher were useful and benefitted the student teachers to enhance their skills of preparing the questions.
- ❖ Previously factual and convergent type of questions were more, rarely divergent questions were made by the student teachers.
- ❖ Consequent upon the intervention the student teachers prepared divergent and reflective questions.
- ❖ When they were prepared questions individually it was not sound or qualitative in nature but when they prepared the questions in group it became more qualitative in nature.
- ❖ Demonstration of Model questions exerted positive impact on students.
- ❖ During group work self-learning skill among the student were developed.
- ❖ Text book analysis and concept mapping clarified their doubts regarding hard spots which helped them to prepare good questions.
- ❖ They became sharp in putting questions and self-reading habit was developed.
- ❖ After this exercise power of reasoning was also developed.
- ❖ The student teachers applied these questions during their practice teaching in the upper primary school. They could acquaint with the techniques of framing the different types of questions.
- ❖ The students were able to answer the questions easily.

SUGGESTIONS AND CONCLUSION

Instead of the applied innovative idea in lesson, student-teacher/teachers can think of other innovative ideas for designing lesson plan as well as in preparing different types of questions. Traditional approach should not be all together thrown but improvement can be brought about in the light of innovative ideas. Activities should be the central point in all the lesson plans but activity should not be designed for activity sake, rather it should be innovative and reflective. As the student trainees were acquainted with the traditional approaches for more than

one year. Ice breaking exercises was not possible, only through one round training. Hence there is at least three round of training on one workshop to help them acquire first-hand knowledge of framing the different types of questions.

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