Special Issue on "Analyzing Lack of Scientific Knowledge in Bachelor of Education Programme"

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Abstract

Achieving quality in higher education is a complex task involving the interrelationship of many factors. The influence of the teacher is well established and has led to some general principles of good teaching. This study examines the lack of scientific knowledge in Bachelor of Education curriculum from the year 2015. Teachers-Educational Institutions can play a significant role in bringing changes to the Education System and can develop a Nation. Teacher Training Institute is actually a Teacher Teacher-Making Factory, which has been playing an important role in the formation of a nation and a nation for a long time. Here teachers of various pedagogy subjects are trained. For example - Bengali,Sanskrit, English, History, Geography, Biology, Education, Physics Mathematics and Chemistry, etc. Science is one of them. While studying Pedagogy on a specific subject in two year's Bachelor of Education Course, students also have to study other subjects and Pedagogics. In general two years Bachelor of Education courses can be divided into three categories, a) Theory Part, b) Practicum and c) Internship. This study focuses on the practical work and use of scientific knowledge on the overview of Maharaja Ganga Singh University, Bikaner in Rajasthan, India. The methodology of the study is a mixed type involving an interpretative, interview, observation and study secondary sources, like books, articles, journal, thesis, university news, expert opinion and websites etc. Finally, meaningful suggestions are offered.

Keywords: Practice Teaching, Teacher Education, Teacher Educator, Trainee Teacher, Teaching Experience.

Introduction:

Scientific inquiry is widely accepted as a method of science teaching. Understanding its characteristics, called Nature of Scientific Inquiry, is also necessary for a whole conception of scientific inquiry. Today Science plays a big role in the two- year Teacher Education programme. Science is a subject that helps in creating a mental, practical, and social right attitude of a person. Although most of the people think that m Science as useful and important but many people are afraid or mentally confused with scientific problems and Science anxiety. A Bachelor of Education is a two-year undergraduate professional degree that prepares students to work as Teachers in schools. In changing scenario the Teacher-Education Policy in India has evolved over time and is based on recommendations contained in various Education Committees or Commissions or Reports.

Now for two years, Bachelor of Education is a course which is mandatory for a career in Secondary and Higher Secondary Teaching in India. National Council for Teacher Education is a statutory body which regulates the courses in Teaching in India. Curriculum Framework for Teacher-Education proposes humanistic and liberal Teacher-Education Programmes with reflective practices. National Council for Teacher Education became a statutory body in 1993 by Act of Parliament to maintain norms and standards of Teacher-Education and brought out two National Curriculum Framework on Teacher-Education, during 1998 and 2009. For an intake of two basic units of 50 students each, that is total students' strength of 200, there shall 16 full-time faculty members.

The distribution of faculty across different curricular areas as – i. Principal/ HOD (One), ii. Perspectives in Education (Four), iii. Pedagogy subjects (Maths, Science, Social Science, Language) (total eight faculty), iv. Health and Physical Education (One), v. Fine Arts (One), vi. Performing Arts (Music/Dance/Theatre) (One). For pedagogy subjects (Maths, Science, Social Science, and Language) need to eight full-time faculty specified by Kothari in 2017. Here science faculty play a big role in that curriculum. The success of a Teacher Education Programme depends mainly on the proper implementation of Teacher Education in real classroom teaching, proper application and experiences. In 2017 R. G. Kothari specified some issues related to teacher education like as practical activities and qualifications of teacher educators.

The effective curriculum framework for teacher-education focuses on the advancement of Pre-Service Teachers and provides specific training for their school-based subjects. The curriculum is divided into three parts named as Theory Part, Practicum and Internship. In the theory part, perspectives in education, curriculum and pedagogic studies are going to teach. The Practicum part includes Tasks / Assignments and Workshops. The internship is a sub-part of practicum also. The researcher focused on scientific needs in the practical part. In that curriculum, there are many pedagogical subjects. Scientific is one of the pedagogical subjects. Overall Bachelor of Education curriculum science does not directly involve practical experiences. Scientific is indirectly linked to all other practical fields. Scientific knowledge is applied everywhere, so we can never deny science. The opportunity to use science directly without Teaching Methodology is very low in the Bachelor of Education curriculum. The researcher is here to find out how to apply science in some practical fields.

Objectives of the study:

i. Examine the science-activities of Teacher trainees in during the programme.
ii. Examine the practicum work in Bachelor of Education Curriculum.
iii. Find out Science application in Practical work.
iv. Find out the problems and challenges to introduce Science in Bachelor of Education.
v. Examine the responsibility of Science Teacher Educators.

Methodology:

This study employs an interpretative approach where qualitative data were collected and analysed by document study. The researcher collected data from students (Trainee Teachers) and faculty (Educators), interviews of senior faculty and department chairs, and document analysis of program and policy documents.This study secondary sources, like books, articles, journal, thesis, university news, expert opinion and websites etc.

Population:

The population of study included some B.Ed. students from session 2018, enrolled in the two years Bachelor of Education programme under Maharaja Ganga Singh University, Bikaner, Rajasthan

Sample Selection:

A representative survey sample was collected by using a stratified random sampling strategy. Also using a purposive sampling strategy for collecting purposive sample.

Purpose of study:

To analyse the practical work related with science and searching a new way to linked up science. This study was conducted in following dimension as – i. Present practicum curriculum. ii. Involving science techniques. iii. Roll of science Teachers. iv. Problems of scientific use and its remedy.

Delimitations:

The study was delimited to Bachelor of Education programme under Maharaja Ganga Singh University, Bikaner, Rajasthan.

Limitations of the Study:

This research method has some limitations. A relatively small number of collected information surveys have been taken (Trainee Teacher and faculty) from the Bachelor of Education Programme.

Results and Discussion:

If the two-year Bachelor of Education course is divided, then it can be divided into three parts. A part of which is a practical field. The researcher mainly focused on the application of science in the practical field. Here are the practical areas used in many ways. For example, the seminar presentation, workshop, assignment, etc. Students complete their curriculum by using all these applied applications. Practical work that students can learn in a various mode like as:

Table-1: Mode of Transaction involve in different practicum work in Bachelor of Education

Mode of Transaction			
Discussions	Lectures.	Group Discussions	Pair and Share
Audio-Video	Field visits & sharing experiences	Symposium	Panel discussions
Film Show	Problem Solving	Case Study	Assignment
Creative literature	Games	Exercises	Round table study
Reflective questioning	Writing diary	Project work	Field trip
Seminar	Demonstration	Workshop	Slide/film show
Action research	School visit & sharing experiences	Practical work	Reflecting writing
Meditation	Anecdotes	Role play	One act play
Story-telling	Lab work	Observation	Web surfing
LCD projection	Designing WBI	- -	- -

Students learn practical work through different Modes which are mentioned above. Practical work is associated with all the pedagogical subjects and entire curriculum. Some specific practical work is involving with soft type science. Although science pedagogy is fully involved with science knowledge. Some practical work is indicating here: i. Action research. ii. Science teaching. iii. Qualitative data analysis. iv. Statistical data analysis. v. Preparation of Graph etc.

Importance of Science:

Without the help of science, it is not possible to complete these practical works. All students of Bachelor of Education course are not belong to science. There are various subject and students come from different subjects. But all of them have to take the necessary help of science. So science is needed for everyone. Different scientific methods such as addition, subtraction, division, multiplication are used regularly. In addition to the statistical method, the use of standard deviation, mean, mode, tally mark, quartile, etc. is seen here. There is no such thing that science is not related to the subject. Science is referred to as the 'queen of science'. With science - language, science with science, science with sociology and social science all has intimate relationships. Obviously, it can be said that since the subjects have science related, then there is a link to science in the practical field of those subjects too. For example, it can be said that if someone wants to determine a mental age, then it would be necessary to calculate. On the other hand, if there is a historical time period or analysis of the judgments of a king's reign, then it is necessary to take the help of time-graph, which is a part of science.

Challenges of Science applications:

The main problem is that everyone wants to avoid science. There is no place for learning different types of science in the syllabus. For example, let's say we can apply it to the practical aspects of geography. Science is essential for the latitude of a place to determine longitude. Also, if we want to convert qualitative data to quantitative data, then we need to get help in science. In order to learn this great use of science, students have to face problems in many areas where there is no curriculum in place. As a result, scientific fears were created among the students. In the absence of a proper scientific teacher, there is a lack of scientific knowledge among the students. Science is closely associated with all other subjects. Due to the lack of Science teachers, students are prevented from creating scientific mentality. This course does not have any type of practical work that will create practical work with regard to

Science in composing the curriculum. Although indirectly using Science, Science is neglected directly. There is a shortage of new phenomena, qualities, skills, knowledge, science-lab, science TLM etc. All students do not currently have access to high-quality teaching and curriculum. In addition to the technical aspects of Science, the cognitive aspect also has considerable importance. Without proper Scientific sense, it is not possible to do anything correctly. The Scientific participation is very rare, with the practical work included in the B.Ed. curriculum. The big question to the teacher is how he will add science to other practical work. Of course, the curriculum needs to be renewed. Challenges of science teaching in a school internship is very worrying[3]. If we look at the teacher training institutions then we can see that there are not satisfactory results. The lack of proper Teacher educators is also present here.

Discussions:

It is hard to notice that there are many practical activities, but the science relationship with them is very low. In this case, only teachers can help to connect science in different cases. But it is not possible to use science as it would be with the curriculum if it does not add to it properly. Science has not been given clear guidelines for any two years Bachelor of Education course. This will create a lack of proper science mentality. There is a lack of appropriate curriculum as well as proper Teacher educators. Independent students and teachers have no guidance on reading and writing as well as training. Acceptance of the NCTE guidelines and accept the approved courses of the university as text. What is the scientific curriculum for students with special students or special needs? Teachers can give guideline-maps about how science can be more enriching and linked to other topics. But in the syllabus, it needs to be mentioned. There are various Mode of Transaction but proper steps or formats are absent.

Conclusion:

In the classroom, the simulation activity prevents the creative thinking of scientific activities. The secondary and higher secondary level science teaching curriculum occurs in three main aspects: domain-specific training, educational knowledge (teaching methods), and practical activities. There is, in fact, no such time that science will be specified. scientific is required but will not be used. Science has not been given place in any place in the syllabus. If scientific knowledgeand scientific usage are mentioned in the syllabus, students will get more importance in science. If you can connect science with the use of technology, science will be more appealing to students. The curriculum will become richer if connecting the experimental work with the practical fieldsthat are in the syllabus.

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