MATHEMATICS PHOBIA IN TEACHER TRAINEES

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Abstract

Mathematics class room is becoming increasingly diverse. Mathematics is all around us. Our life is governed by time and to understand time we need to understand mathematics. Teacher trainees must speak the language of mathematics to be successful in learning mathematics. Word problem solving in mathematics is an important aspect of learning mathematics and mathematical thinking. We need mathematics at every moment in our life. Many people enjoy mathematics in and out of the school, but at the same time mathematics anxiety and fear of mathematics subject is not new.

Keywords: Mathematics, Phobia, Maths, Education, TLP

Since years we have noticed that fear of mathematics has even contributed in deviating from one's career. Students decide their field of further studies on the basis of many factors. Various factors that affect their selection of subject are their aptitude towards that subject but the most important factor is the teacher teaching a particular subject. In B.Ed teacher trainees have to take up two subjects on the basis of their graduation. It has been observed that the teacher trainees at B.Ed level show fear towards Mathematics. The present paper intends to study the causes and probable solutions of Phobia towards Mathematics. It is a study consisting of a population of 200 B.Ed trainees.

Significance of the Study

Mathematics is one of the most important fields because it is a foundation in studying other subjects such as science, physics, chemistry which still rely on mathematical calculations and thinking process. As stated in the Basic Education Core Curriculum that mathematics is highly significant for the developmentof the human mind.

It enables a person to think logically and systematically, to analyze various problems or situations, to anticipate, to plan, to make decisions, to solve problems and to apply mathematics to daily life.

Indeed, mathematics is not only a tool that helps with the accuracy of obtained results in any kind of problem solving but also an imperative instrument in workplaces, regardless of which line of work that requires careful thinking and reliable problem solving process.Researchers knew their teacher trainees over the period of ten months and found that most of the trainees do have mathematics phobia.

Looking into the mentioned importance of mathmatics in ones life, researchers have plan to undertake the action research on causes of mathematics phobia towards the subject. A self-constructed questionnaire was administered to study the causes of phobia towards mathematics. The obtained data is analyzed statistically. The findings and the feedback are presented in the research paper.

Objectives of the study

To identify the probable causes of mathematics phobia in teacher education; To design the follow up work for mathematics phobia in teacher trainees

Statement of Problem: Mathematics Phobia in Teacher Trainees, KSV, Gandhinagar of the year 2018-2019.

Population: The teacher trainees of B.Ed colleges having mathematics as one of the method subject constitute the population of the study.

Sample: The teacher trainees of the Faculty of Education of two colleges i.e. R. H. Patel English Medium B.Ed College and S.S. Patel College of Education constituted the sample of the study.

Methodology

Tool: A self-constructed questionnaire was administered on 165 teacher trainees. Action Research was carried out on the B.Ed trainees. The tool was based on three different areas. In order to arrive at the probable causes of phobia in mathematics, the causes are bifurcated into following components. Causes related to faculty who takes mathematics; Causes related to teacher trainees; Personal causes

Causes related to faculty who takes mathematics subject: Faculty is not approachable; Faculty does not include tough portion of the content undertaken; Faculty does not bother to give time to note down important points; Faculty does not show any enthusiasm in teaching; Faculty focuses only to particular students; Faculty does not give enough examples and case studies; Faculty does not use innovative methods.

Causes related to Teacher trainees: Fundamental concepts are not clear, they do not show seriousness; Dislike of the subject from the beginning as it was not conceived properly; Do not know the answers of the questions; Do not understand the content of the question itself; Hesitant to answer in front of peers due to language problem; Do not have readiness to learn concepts at this stage.

Personal Causes: Teacher trainees have study mathematics at the school level only and having got the gap of many years all together, have created the phobia of mathematics; Teacher trainees are not willing to study because their preliminary concepts are weak; Teacher trainees avoid asking questions because they are hesitant or have language problem; Teacher trainees do not have to learn mathematics concepts at this stage; Teacher trainees feel shy to learn fundamental concepts.

Data collection: Data was collected from the teacher trainees of Faculty of Education. Questionnaire was administered and frequency and percentage have been calculated.

Analysis

Objective 1: To identify the probable causes of mathematics phobia in teacher education

Analysis of objective 1: It was found that 80 % of the trainees were responded positively for taking up action research on them. They opine that these types of action research every teacher should do, because it is not only paybacks trainees but also faculty comes to introspect one's own teaching and modifies accordingly; 85% of the trainees confessed that they had studied mathematics only till 12th standard. They had no link with mathematics at their graduation and post graduation level; 72% trainees felt that they disliked mathematics because their fundamental concepts were not very clear; 15% trainees shared that at this stage they have many other commitments

because of which they are not able to spare sufficient time to learn the basic concepts; 4% trainees are hesitant and shy of asking their doubts in the class of mathematics; 2% trainees say that they are not able to understand and interpret the problem.

Objective 2: To design the follow up work for mathematics phobia in teacher trainees

Analysis of objective 2: Based on the outcome of the result it was opined that action research is extremely helpful in teaching -learning process because the teaching has been crafted as per the needs of the trainees. Here, a lot of interaction, discussion, interest, initiative by trainees etc. take place, which fetches enormously E -prep culture in the class. Researchers have become motivated to do action research in proper time gap to bring the E-Prep culture in their classroom to achieve the eventual goal of teaching; It was also learnt from the research that the faculty needs to develop more of content mastery along with pedagogical skills. It was also thought that with the B.Ed becoming of two years more time can be spared at the content mastery of the trainees as content mastery will help them to become a better teacher; Along with the Content Mastery & explanation with sufficient examples, the faculty has to work on innovative and easy techniques for learning concepts of mathematics which will further help the trainees in their teaching practices; For those trainees who have left their touch with mathematics since long can be given extra classes specially customized for them. They can be given some online practice sessions also; Beyond everything, a mathematics teacher educator has to be self motivated to bring about a change in the mindset of trainees..She needn't show her language skills but should aim at trainees easy understanding techniques. Teacher should have proper eye contact, and should use positive re-inforcers to appreciate trainees. Faculty need to identify weak students and give proper guidance separately. Important contents being made more clear by giving more drill work.Faculty needs to frame the questions which are easily understandable and to the point. These all actions are definitely going to be beneficial for trainees.

Framing the Probable suggestions: If faculty uses learning by doing method rather than normal lecture method with LCD etc., interest will be generated which in turn may lead to sustaining of teacher trainees and avoid phobia in mathematics; If faculty explains the entire concept in depth with necessary rules, illustrations and case studies and with supporting pictures in the beginning, teacher trainees demonstrate their understandability and phobia in mathematics will go downward; If faculty has content mastery, good class room management skills then mathematics phobia will fade away and their concentration will remain undisturbed in class; If faculty maintains a better eye contact, and has presentable body language then teacher trainees will bound to show interest and their phobia of mathematics will die away; If faculty allocates time for teacher trainees to copy down the important concepts and Rules in class, this drags their concentration and reduces distraction; If the faculty shows a motivated and enthusiastic attitude by coming to the level of teacher trainees, their understandability increases and reduces phobia in mathematics; If faculty identifies distractive teacher trainees and brings them back mentally, then phobia will be reduced; If the faculty gives proper attention to all teacher trainees then they feel interested in class and

phobia is lost; If faculty uses simple language while explaining concepts to the level of teacher trainees which is easily understandable then interest will be generated and phobia diminishes; Faculty members practice simple language while explaining concepts to the level of teacher trainees which is easily understandable.

Conclusion

As a researcher at the end would like to imply that mathematics is a problem solving reasoning abilities and way of communication and expressing it. It is a mode of telling the story, which is enjoyed by all levels of students. To make it a joyful sessions let the students create their own methods of solving problems and appreciate every step that they take up in classroom sessions. It is very essential for a mathematics teacher to enjoy the subject himself/herself only then can a teacher create interest of students in the subject. It should no longer be a phobia rather practiced and solved with greatest joy. This is achieved only when Educators are flexible, accepts every child's uniqueness interests, strengths and weaknesses, eventually linking with daily life's state of affairs.

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