Teachers’ Beliefs about the Subject and its Practice: A Pilot Study

RUCHI GARG
ASSISTANT PROFESSOR
MATA SUNDRY COLLEGE FOR WOMEN
UNIVERSITY OF DELHI

Abstract
A great deal of education for children depends on what they learn in the school especially in the developing countries like India where majority attends a formal school in order to get a certification. Consequently, the factors responsible to shape any classroom processes becomes important from research point of view as they can affect the students’ performance substantially. Teachers’ beliefs are considered to be the most important factor that decides the overall learning environment of the class. Their beliefs about the subject, learners and teaching learning process are the basis of what they do in the classroom. This paper attempts to study teachers’ beliefs about the subject i.e. EVS and its classroom practices. A five-point likert scale was developed that contained 25 items on the nature of the subject and its classroom teaching. The data was collected from 32 pre-service teachers for the pilot study. The results of the study showed that teachers have a vast range of beliefs about the nature of EVS that mainly matches with the constructivist approach. The teachers believed that EVS is a subject that is taught in an integrated form by taking concepts from science and social science. Additionally, the learner is treated as an active learner who can observe and reach to his or her own conclusion.

Key Terms: Beliefs, Classroom practices, EVS

Introduction
Teachers’ beliefs can be defined as their convictions, personal constructs and opinion about teaching and learning that has the power to influence their instructional practices. Perry (1999) shared that prospective and in-service teachers both develop their belief as a result of two experiences which were the years spent as a student and teacher. It is also seen that these beliefs take years to modify and mainly resist any kind of change. These beliefs are so strong that they provide a direction to the teacher for planning a lesson, taking a decision to choose the content and using strategies for assessment. Clark and Peterson (1985) discussed the importance of teachers’ beliefs in the classroom and how it strengthen students’ Science concepts because teachers’ beliefs lead to certain actions that consequently impact students’ actions.

The beliefs of teachers about the teaching learning process can be broadly divided into two categories: direct transmission beliefs about teaching and constructivist beliefs about teaching. In the first type, teachers mainly present students the content in a clear way through demonstration where the focus is given on getting the correct answer. Here, the students mainly remain silent during the learning and their performance is determined with their background knowledge. Contrastingly, teachers with constructivist beliefs act as a facilitator and provide guidance to students where they can solve any problem on their own. Here, the students get the answer before teachers and use of reasoning during the process is seen (OECD, 2009).

This paper is a part of the doctoral work that attempts to study the classroom processes in the context of teachers’ beliefs about the subject and its practices. Here, the focus is given on the first phase of that study where knowing the teachers’ beliefs seems important before entering into the classroom. Originally, the study used two subjects: Mathematics and EVS however in the present study, teachers’ beliefs about EVS and its practice is taken. It is very much clear that EVS is a subject that is taught in the primary years of school education and a formal textbook is provided from class 3 to 5. Since there are no separate textbooks of EVS for class 1 and 2, it is taught in the integrated form with the help of language and mathematics. The EVS subject deals with science and social science areas collectively in a more meaningful manner as the little children understand their surroundings holistically, not in the fragmented form.

Review of related literature
Biesta, Priestley & Robinson (2015) conducted a study titled, “The role of beliefs in teacher agency” in Scotland. The research focused to study the implementation of Curriculum for Excellence that was designed to transform the design, content and structure of Scottish education in the context of teachers’ beliefs, judgements and motivation. The study used an ethnographic research design. One primary and two secondary schools were used as a sample and two experienced classroom teachers were identified for each setting. Observation, semi-structured interviews and group discussions were the tools for the study conducted for one year duration. The results of the study showed that there was a mismatch between teachers’ beliefs and the discourse planned by the institutions. Teachers’ beliefs about children reflected that they are doubtful about children’s capabilities and see their role as the active one in the classroom setting. Students with ‘poor’ ability easily get the label of mad or stupid by the teacher for not performing. Their beliefs about the educational purposes are short term in nature where they focused more on day to day planning of the subject, not able to look the wider perspective.
Haney, Lumpe & Czerniak (2002) conducted a study titled “From Beliefs to Actions: The Beliefs and Actions of Teachers Implementing Change” in which they used the framework of Ford’s Motivational Systems Theory to analyse teachers’ beliefs. The objective of the study was to study the relationship between teachers’ personal beliefs about teaching science and their skill to implement science instructions successfully. They used Contexts Beliefs about Teaching Science (CBATS) and Science Teacher Efficacy Beliefs (STEBI) tools for data collection. 10-16 teachers from a list of teachers working in Local Systematic Change district were selected as the sample and their classes were also observed. The results of the study showed that for majority of the teachers, beliefs were the clear predictors of their classroom actions. However, there was one teacher whose actions were contrastingly different from others even if she had showed a strong capability and context beliefs on the standardized tools. It was analysed that the teacher had not reflected upon her classroom actions properly due to which there was a gap between the beliefs and the actions.

Muis & Reynolds (2002) wrote an article titled “Teachers’ Beliefs and Behaviours: What Really Matters?” The purpose of this work was to study the relationship between teachers’ behaviours, beliefs, knowledge and self efficacy and the students’ performance in mathematics. 2148 students and 103 primary teachers were selected as sample of the study in United Kingdom. The instruments comprised of achievement test, classroom observation and questionnaire for teachers. Quantitative analysis of the data was done. The results of the study showed that teachers perceive themselves to be more knowledgeable in the teaching of numbers than other areas. Teachers perceive themselves as effective and well-informed. The model used to analyze statistical data did not reject the hypothesis that there is a significant relationship between students’ performance and teachers’ beliefs, knowledge and self efficacy. The findings also pointed to the number of consequences for teacher professional development and pre-service training in the subject.

Objectives

The objectives of the study are:

- To study teachers’ beliefs about the nature of EVS
- To study teachers’ beliefs about the EVS classroom practices

Methodology

This work is a pilot study of the doctoral work that aims to study the classroom processes in the context of teachers’ beliefs about the nature of the subject and its practices. The data was collected from prospective teachers who were pursuing Bachelors of Elementary Education in Mata Sundri College for Women that is a four year degree programme to prepare elementary teachers. They were studying in the 4th year and completed around 6 month school internship recently. The whole class of 48 students were given the rating scale and 32 of them filled that scale. A five point likert scale was developed to collect the data that contained 25 items in the form of statements and examples covering the areas like nature of EVS, role of the learner and teacher in EVS classes, role of teaching learning material, assessment etc. The responses received on the rating scale in the Google form were analysed to make sense of their beliefs.

Findings and discussion

This part has been divided into two parts keeping the focus of the statement or item in mind. Thought there were many statements related to each part, some are selected to discuss as examples to analyse teachers’ beliefs.

- Beliefs about the nature of the EVS

It is important to clarify that EVS as a subject is the combination of science and social science concepts that are taught in an integrated manner in the form of EVS. Therefore, the items would include discussion around how various national documents have specified its nature and teaching at the primary level. Teachers’ responses on three items can be seen in the following graphs:

Environmental studies’ is the same as ‘Environmental Education’ because its main objective is to encourage plantation and resource conservation.
The teacher asks students questions like ‘Do you feed birds in your surrounding? Or ‘Are there any utensils made of clay in your house?’ these questions are irrelevant for an area like EVS.

In the ‘food’ chapter in EVS textbook on one hand teacher talks about the food made of Bajra, wheat and Rice (Science part) and on the other hand, she also shares the story of a girl who couldn’t eat due to the shortage of food (Social Science part). Separate books could teach these concepts in a better way instead of a single EVS book as it creates confusion among children.
Figure 3: Teachers’ responses on item no. 4

All the above graphs clearly shows that teachers believed that EVS is an important part of children’s learning that begins right from the time children enter into the school. As per the data received in the first statement, 22 teachers out of 32 do not agree with the view of equalising environmental science with environmental education that has limited scope than EVS. They believed that the scope of EVS is wider that include a discussion on the natural, social, physical and cultural environment of the child. The data received in second statement or example, mixed kinds of responses were seen about teachers’ beliefs as majority of teachers believed that questions related to children’s surroundings and work done in the family are important for discussion as part of EVS however, 3 out of 32 teachers had contrasting view in this regard. Questions based on children’s family like ‘Is your family involved in clay work?’ were not relevant for them from the perspective of EVS subject. The third example is interesting and deals with one of the most crucial characteristics of EVS subject that centres on teaching science and social science in an integrated form. The teachers’ beliefs are in consonance with the views shared by National Curriculum Framework, 2005 as they accept that concepts like food considering both parts i.e. science and social science should not be taught separately. Since the prospective teachers have completed their internship in schools, they have the experience of teaching this subject. There were many more items on the nature of EVS which also matched with the ideas prescribed by various documents.

- **Beliefs about the method of teaching EVS**

The following graphs share the teachers’ beliefs about the methods and techniques that are required for EVS.

The teacher asks students to observe feathers of a butterfly and an owl to make them understand the difference between an insect and a bird, not telling them directly that 'a butterfly is not a bird'. This method wastes a lot of time of the class.
If a child fills yellow color in the tree, the teacher need not ask her the reason for choosing this color but clearly tell her to fill green color.

Figure 5: Teachers’ responses on item number 8

The teacher asks students to make their own bird or fish using paper in EVS class and discuss the theme ‘Animal’ after this. The students will try to explore more about animals through this way of learning.

Figure 6: Teachers’ responses on item number 9

The results of the above items showed that majority of teachers had a constructivist belief of teaching EVS as they strongly agreed to the methods that they creates a free learning environment for students where students can explore various concepts and develop their understanding based on their observation, experimentation and reasoning. Responses on the first statement showed that they accept the method that give chances to students to take active part in the discussion with the help of strengthening various environmental studies skills even though it takes a lot of class time. Similarly, the second situation where the child uses his or her won creativity and fill yellow colour in the tree tells us that teachers’ beliefs are very much in perceiving the child as an observer and give importance to his or her experiences and actions. That means these teachers do not focus on the method that prevents children to use their creativity and imagination in the process of learning. 91% teachers had a belief that using some craft and hands on activity might enhance children’s interest in the concept learning as shown in the above graph. As already shared, there were many statements that focused around teaching earning material, assessment and role of the teacher, majority of teachers showed constructivist beliefs to these statements.
Conclusion

The study made an attempt to study the teachers’ beliefs about the nature of EVS and its practices. The result showed that teachers had a strong belief that the subject should be taught in an integrated form and no separation of science and social science concepts is allowed. Their beliefs about the students also hold a constructivist view where they treat the child as an active learner who has the ability to learn any concept through exploring their surroundings; observation and experimentation are also included in the skills to be worked upon on a daily basis. Since the majority had almost similar beliefs even if the beliefs are considered to be the most individual thing, one can say that their teacher education programme might play a significant role in the formation of the beliefs. Further, they had also experience teaching EVS during their internship programme, they might have explored various methods and techniques and considered the constructivist view as the essential one for the teaching and learning of EVS. We might have a deep understanding of these beliefs when we observe them teaching EVS in the class and observing how their beliefs get unfold during this process.

References