

STUDY OF EPISTEMIC BELIEFS OF PRE-SERVICE TEACHERS

**Summary of
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SUMMARY

Introduction

The prime concern of epistemology is the study of knowledge and knowing. Epistemology is the philosophical study of knowledge, and what knowledge means for someone to know something. Epistemology is all about personal conceptions of knowledge. Thus, the study of such personal conceptions of knowledge is commonly referred to as the personal epistemology of epistemic beliefs. Beliefs about knowledge and knowing are coherent with the teacher and his/her teaching. Teaching strategies and learning outcomes of pre-service teachers and/or in-service teachers are influenced by their beliefs. These beliefs are derived from epistemology and introduced as *Epistemological Beliefs*. In the context of Philosophy and education, personal epistemological beliefs are how individuals acquire knowledge about something and develop their beliefs and the pattern in which such epistemological beliefs influence the cognitive processes of thinking and reasoning.

Epistemic beliefs

Beliefs, about knowledge and knowing, have direct influence on teaching strategies and learning outcomes of pre-service teachers. Hofer & Pintrich (1997) define epistemic beliefs, as *beliefs about knowledge and knowing, within an individual*. These beliefs provide a lens to understand the entire process of developing and delivering knowledge. A teacher's identity is the result of his/her knowledge and knowing in general, and beliefs, about knowledge and knowing in particular, which is called the epistemic beliefs of a teacher. Beliefs of the teacher particularly pre-service teachers, deliver their mastership as a lens through which they may understand their teaching material and demands of learning, and then may able to interpret their teaching strategies and learning outcomes.

The present study basically differentiates two closely related concepts:

Epistemology: It is related to the philosophical analysis and conceptualization of curriculum content and assessment for knowledge.

Epistemic Beliefs: It is related to the intrapersonal, psychological conceptualizations that individuals hold regarding knowledge and knowing.

Epistemic Beliefs of pre-service teachers

Several factors have a great influence on the way of the teaching behaviour of a teacher; Epistemic Belief (EB) is one of them. Therefore, it is very important to understand the educational development and the beliefs of a pre-service teacher. The content of knowledge and the influences of that content on teachers' behaviour, the developed beliefs of a teacher have an important role in teaching. On the basis of different studies on epistemic beliefs of pre-service teachers, there can be at least two sides identified in the area of personal beliefs: one focuses on the developmental aspect of personal epistemological theories of pre-service teachers and the other one is concerned with the dimensional structure of epistemic beliefs.

Statement of the Problem

“Study of Epistemic Beliefs of Pre-Service Teachers”

Terms Defined

Epistemic Belief: The study of knowledge is called epistemology, derived from the Greek word episteme, meaning to know or to understand. In this study, *Epistemic Belief is considered as individuals' beliefs about knowledge and knowing, acquired from their surroundings.*

Pre-Service Teacher: Pre-service teachers are considered as those would-be teachers who are receiving their education before their teaching profession at the secondary level or who are studying in Bachelor of Education (B.Ed.).

Aim of the study

This study aims to gain a better understanding of the beliefs of pre-service teachers, the changes, occurs during development of their epistemic beliefs and the sources that help in developing the beliefs of pre-service teachers. And also, the study aims to find the dimensions that would help to clarify the basic concepts related to knowledge and knowing.

Need and Significance of the Study

Epistemic beliefs are that which deals with the nature of knowledge and knowing. These beliefs affect interpretation and process of learning tasks and comprehension. In the field of education, epistemic belief is an important construct

and is frequently used to predict the learning strategy and achievement of the pre-service teachers. With the help of present study we would be able to know that how pre-service teachers develop their beliefs and how does it matter for developing their knowledge and knowing. It will help us to find out the evolving patterns and the way he/she would use their epistemic beliefs in their academic life. This study, explicitly may define multiple levels of epistemic beliefs.

Rationale of the study

All the studies are based on the developing epistemic beliefs of a person, and are concentrated only one level epistemic beliefs, that is, the impact of epistemic beliefs on teaching and learning (Braten et. al. 2008), but no study has viewed that really provides any information on the contingency of different levels, for understanding effect of teacher learning process on the academic achievement and outcomes of students. Few studies consider multiple levels of epistemic beliefs in their research design (Schommer-Aikins and Dull, 2013). No study suggests a solution of following questions:

- How does a teacher can explore his/her beliefs and how a “teacher education program” will be lucrative for him/her?
- How does a teacher promote his simple epistemic beliefs towards sophisticated beliefs?
- What are the changes occurs in developing teachers’ core beliefs?

Objectives of the study

Objectives of the study are as follows:

1. To explore the multiple dimensions of Epistemic Beliefs (EB).
2. To find out the various sources to develop the Epistemic Beliefs of pre-service teachers (EB).
3. To find out changes in beliefs during the development of Epistemic Beliefs (EB).
4. To explore the influences of Epistemic Beliefs on teaching and learning outcomes of pre-service teachers.
5. To find out the evolving patterns of Epistemic Beliefs of the pre-service teacher.

6. To have a better understanding of Epistemic Beliefs of pre-service teachers regarding teaching and learning conceptions.

Research questions

1. What are the multiple dimensions of Epistemic Beliefs (EB)?
2. What are the various sources to develop the Epistemic Belief (EB) of pre-service teachers?
3. How the beliefs change during the development of Epistemic Beliefs (EB) in pre-service teachers?
4. How does the Epistemic Beliefs (EB) of pre-service teachers influence their teaching strategies and learning outcomes?
5. How do pre-service teachers develop their Epistemic Beliefs (EB)?
6. What is the basic understanding of EB, regarding teaching and learning conceptions of pre-service teachers?

Delimitations of the study

- The study was delimited to the pre-service teachers at B.Ed. level.
- The study was delimited to the Lucknow city only.

Summary of the review related literature

There is some definite reason to conduct this study. As in review, different studies done differently. Reviews indicate the bright path of epistemological studies. Researchers identify some issues and gave their suggestions for future research. In the first review, the researcher identifies various schools of philosophy that have epistemological questions. But there is no suggestions are given for pre-service teachers' beliefs. This study talks about universal Epistemic Beliefs (EB) but no idea given about beliefs of pre-service teachers. Next, Hofer and Pintrich provide a basic understanding of epistemology and epistemic beliefs. As there are various aspects of life where the study is needed regarding the beliefs of an individual. Hofer again pointed out that, most of the studies regarding EB conducted on teaching and learning. But there is no more work on other aspects of academics. The result of Conley et al.'s, study, shows that the different groups may have different ways of expressing knowledge and ways of thinking that could create group differences in epistemic beliefs. This result may be an important avenue for future research. The personal effects involved such as prior knowledge in science, except gender,

Ethnicity, SES, and achievement that should be investigated in the future. Hofer introduced some emerging paradigm named epistemic metacognition. She fined the relationship between epistemic metacognition and online searching. This study may fruitful for other countries. But in the Indian context, online learning is not much relevant to other countries. Hofer introduced the contribution of Pintrich in the realm of psychology, especially in knowledge and knowing. Based on this paper, in the field of culture, applications to education and in other, different aspects of personal epistemology further research is needed. Hofer again responded on Muis et al.'s study. In her article, she raised an issue of domains regarding EB and told that researchers noted that there are two main domains identified. Further researches in these two domains are needed. The study in these two was conducted in the psychology discipline. The study of Sarah et al. is based on Business Trainers' EB. Both trainers and teachers have a specific belief system, the EB. But in this study, the only belief of trainers included. These beliefs unconsciously control the business training situation as well as the teaching practices of a teacher.

The study of Ayspay identifies the approaches of teaching. Their study shows that two kinds of teaching practices are adapted by teachers—constructivist approach as well as the traditional approach. Teachers preferred constructivist conception (approach) than traditional. This study is based on a specific culture of Tanzania. Bennet conducts her study on biology students. It was purely qualitative. Her study suggests that there is a relationship between teaching and authentic inquiry whereas authentic inquiry is developed by developing the EB of a science teacher. This study is limited to science teachers and their authentic inquiry only. Hennessy et al. studied the philosophical approach of EB. They introduced three epistemic frameworks. Takayoshi et al. studied the factors affecting the EB of biology students. The experience related to biology might not be sufficient to develop the beliefs about the subject and learning of the subject. This study was restricted to biology students. Dr. Prakash studied on EB of trainee students at the primary level. His study was delimited on three different districts of Jammu & Kashmir in India. Green and Hood's study was conducted to investigate the relationship between gender and academic achievement concerning epistemic beliefs. Further study may consider socioeconomic status, the status of the family their culture and so on. P. Sarantos studied computational approach towards EB, purely based on the use of computer applications by science students especially physics educators at the secondary level.

This study indicates the way of the influence of expertise and other sources on changing EB. In Feng Deng et al.'s study, Survey methodology is used. Epistemic beliefs (EB), Pedagogical Beliefs and the constructivist use of ICT are highly correlated. This study along with survey interviews would also be used to get a deep understanding of pre-service teachers' EB. The findings of White and Chant's study shows that the pre-service teachers are focused on the teacher-centered and instructional context of teaching and learning rather than on classroom context, the students' nature, and their learning. In the present study, the researcher will try to understand the beliefs of pre-service teachers in the context of students' nature and their learning. The study of Michael examined the relationships between pre-service and in-service teachers' epistemological and pedagogical beliefs. In this study, only teachers' pedagogical beliefs were examined. It sounds very interesting to find that teaching-learning conception (TLCQ) worked better in the Tanzanian context and not the epistemic beliefs questionnaire (EBQ). So, there is a need to develop a questionnaire of epistemological beliefs that fits the Tanzanian context to be used in Tanzania and may generalize in other countries. Aaghizade and Jadid indicate that a single study cannot determine the effect of epistemic beliefs (EB) and gender on translation quality. Findings of the study of Albert highlight the need for teacher education programs framed in light of its design to explore challenges & transform pre-existing beliefs. Study suggested a need for a teacher education program to develop more sophisticated epistemic beliefs. The sample size was very small as it was only six that is not sufficient to represent a large population. The study was restricted to science teachers only. Antony and Jennings raised the issue of efficacy beliefs and emotional states of teachers. In this study, emotional states like joy, satisfaction, anxiety, depression, and stress on the efficacy beliefs of pre-service teachers, play an important role, in creating a quality learning environment. The researcher suggests future work on EB, to understand the effect of interest in a particular subject or a particular teaching method of pre-service service teachers. Berding et al. suggest a need for concentrated research on domain-specific and topic-specific levels of epistemic beliefs and the learning process and outcomes. The study was limited to the business administrator as retailers, wholesalers, industrial assistants, etc. In the study of Chin et al., a school-based curriculum is utilized in the education system of Malaysia. Epistemic beliefs and incremental theories are used to adopt student-teaching practices. The questionnaire was composed of 8 items and the 6-point Likert scale item response format. Researchers follow different research

traditions in their study and find out that knowledge is complex and learning is a gradual process. Leila and Brownlee identified different kinds of approaches but they did not explore them very well. Thus, they leave a clue for further study to explore all kinds of approaches, for developing a better understanding regarding epistemic beliefs (EB).

Conclusion

The summary indicates that there is a research gap that has been identified. To fulfill that gap present study is conducted. The present study is purely based on beliefs of 'Pre-Service Teachers'. This study will recognize the way of thinking, way of making teaching-strategies, their learning and so on. This study is dedicated to explore the beliefs of pre-service teachers within or out of the classrooms.

Methodology

Research design

Nature of the present study demanded the *Survey Research Design*, so the study was designed and conducted under *Descriptive Survey Method* to meet the objectives. Survey research is non-experimental and can be qualitative, quantitative or the combination of both. As investigator wants to seek in-depth information related to beliefs of pre-service teachers. So investigator adopted mixed method research instead of qualitative or quantitative.

Population

The population of the study is pre-service teachers of different university or colleges, studying in Lucknow city. To narrow the topic in order to make it more pin-pointed the target population was the pre-service teachers of last year or B.Ed. 4th semester.

Sample & sampling technique

Total 200 data were collected from the target population. The aim of the selection of target population was equal participation (50% each) of both genders, male and female. But due to inappropriate size of both samples from target population, the actual participation of male was 46% and female was 54%.

So the expected data= 200 (100=male; 100 female)

And observed data = 200 (93=male; 107 female)

These pre-service teachers, as a sample, were selected by using *purposive method of sampling* under *non-probability sampling technique*.

Data collection

Researcher used so many items from different sources. As, from a questionnaire consisting 63-items, adapted by Schommer (1990), an inventory (32 items) by Schraw, Bendixen and Dunkle, (2002) and a survey (38 items) by P. Wood & C. Kardash's, (2002). 50-items were drawn out of these sources. The 50 EBQ consists of five factors, namely structure of knowledge as they are simple or complex (10items), certainty of knowledge as changeable or certain (9 items), control of knowledge as fixed or innate (12 items), source of knowledge as authority or expert (11 items), and development of knowledge as quick learning or not (8 items). Each of the 50 EBQ items was rated on a 5-point Likert scale. Where, 1 stands for strongly disagree and 5 for strongly agree.

The need for in-depth exploration of pre-service teachers' thinking obligated the adaptation of an interpretive approach in which semi-structured interview conducted. This interview was done using a set of guiding questions. Questions were set by the researcher based on the insights gained from the literature reviews on pre-service teachers' beliefs about knowledge and knowing.

Tools

There were two kinds of tools, adapted to meet the entire knowledge of a persons' core beliefs, questionnaire and semi structured interview. 20 participants were drawn randomly from the target population for interview (10 male and 10 female). Most of the participants were taken from BBAU. While 200 sample (93 male and 107 female) from the target population were drawn for questionnaire, from different universities and colleges. The whole study was based on a mixed method of research. This method was adapted for dealing with a better understanding of Epistemic Beliefs, (EB) of pre-service teachers.

Data analysis

Data collection and data analysis have done simultaneously. The data analysis was based on statistical procedure. Factor analysis, Mean of the scores and Standard deviations are used in statistical analysis.

Procedure

Investigator recruited students from bachelor of education (B.Ed.) courses from different colleges as well as universities of Lucknow city. Students received booklet of questionnaire related to epistemic beliefs, with full information. This questionnaire instructed to complete within 60 minutes. Investigator first introduces the term epistemic beliefs (EB) and then the purpose of this study, to all participants. The reason behind this was to have active participation of them and to draw more accurate result. Students were free to contact if needed, via mobile phone or email. In the case of interview, students from a single class selected randomly. Semi-structured interview completed in a single setting. It was a digitally voice recorded interview and taken by direct, face to face and/or indirect, by mobile.

Findings

Findings of Research Question 1:

- In the present study five dimensions of EB were found. Which are structure of knowledge (SK), certainty of knowledge (CK), control of knowledge (CoK), source of knowledge (SoK) and development of knowledge (DK). Having the mean value of 32.27, 28.23, 33.10, 37.45 and 25.82 respectively among 200 pre-service teachers. All the dimensions deviated (SD) with 6.26, 5.70, 8.18, 6.77 and 4.82 respectively with their mean among pre-service teachers.
- Here, first dimension is SoK. This dimension indicates the genesis path of the knowledge. This path can be originated from the surroundings of an individual or insight. It also emphasize on the ability to question the knowledge and to check the validity of the source.
- Second dimension of EB is CoK. This dimension indicates the control and ability to excel the knowledge of pre-service teachers.
- The third dimension of EB is SK, indicates complexity, subjectivity and self reliance of knowledge of pre-service teachers. Who scored well in this section do believe that knowledge can be excelled or retained with the efforts of knower.

- The fourth dimension of EB is CK emphasized on dynamic nature of knowledge. It does not believe static nature of knowledge and those pre-service teachers, who scored high in this section, do believe in the nature of change of the knowledge. It shows their scientific temperament and progressive behavior regarding knowledge.
- The fifth dimension of the EB is concerned with the nature of knowing and it also indicates readiness to acquire knowledge and how fast an individual could gain, not only factual knowledge but also understanding of the phenomenon.
- Score of this dimension shows that the scorers believe, on logic, argument and evidences to generate knowledge. Scorers also believe to testify the knowledge on the ground of rationality.

Findings of Research Question 2:

- There are so many kinds of sources from which individuals progress their beliefs from simple (naïve) to sophisticated. Like Shulman (1987) emphasized on craft knowledge or wisdom of practice; Buehl & Fives (2009) emphasize on personal experience and logic.
- The present study found that there are various categories of sources under which an individual develops his/her EB. Such as literary and non-literary contents, human nature, social interaction, personal experience, formal and non-formal environment, experts, culture, logic, argument, rationale, surroundings and many more.
- These sources tend to be changed with the course of development of beliefs and become questionable with increasing degree of complexity of knowledge. According to Anupam, “like, I do not know about anything and someone is telling, then he knows more than me, so he is an expert. According to time expert may change so that I may become knowledgeable and want to know more about something. I will need a more knowledgeable person or authority than previous. Thus the perception about the previous expert will change for me.” This statement was supported by other participants, as Divakar said, “the knowledge imparted by experts (authority) may be questionable. As our experiences grow, our need in life increases, so the role of experts also changes.”
- Need and importance of sources of individual changes concerning time and situation. As Prince said, “it is not necessary that whatever is true, will be true tomorrow. Because of truth changes according to time, situation and place.”

- Form of complexity and need of the sources may differ from person to person. Jayati said, “It is not necessary that the need and circumstances, that are for me remain the same for others.”
- Arguments, debates, and discussions could also lead to the source of the knowledge according to pre-service teachers. Here, C. P. Mishra said, “if two peoples are disagree with each other it may be beneficial for us because in this way we can cross-examine their knowledge and extract the best thing from it.

Findings of Research Question 3:

- Participants accept that knowledge is not definite, it is tentative. C. P. Mishra said, “Empirical and reasonable thinking continues to evolve and the concepts that have in the social change, thus we can say truth is changeable.”
- Pre-service teachers admitted that first, we accept the power of traditional knowledge and then as our level of knowledge increases, life-related experiences are developed and jointly they develop our own beliefs that move us from traditional to the constructivist mode of thinking.
- As pre-service teachers progress in their course, they admitted that their beliefs changes and they tend from simple to sophisticated.
- At the beginning of the course scorer has the least information about the course but along with time, as they move towards the end of the course, the beliefs change from general to a specific domain. As knowledge and experience increases, they become more topic-oriented.
- Scorer believes in change and accepts that nothing is certain. They also believe in the change of knowledge and it becomes more complex over time.
- Classroom instruction, teaching material, the impact of expertise and many other multiple sources play an important role in the change of beliefs of pre-service teachers.
- Experiences along with age also contribute to change of beliefs during the development of the EB of pre-service teachers. Varsha said, “If someone is older than me even one year, he has more experience than me and one step ahead of me.”

Findings of Research Question 4:

- In the beginning, pre-service teachers believe in the traditional mode of teaching for better performance in the examination. As they think that traditional

approaches are good for better academic records but at the end of the course they believe that innovative and constructive mode of teaching is more powerful for their motivation and self-development. Alka supports the practical knowledge and experiments (constructive mode) and said, “There are some things in the society about which they have to think practically. Common people in the society live in a limited range and think in the same scope but the person who has scientific thinking can tell things more gracefully.”

- As they admitted that their beliefs tend to develop from simple to sophisticated mode of thinking, their score shows that an individual with simple beliefs has a low score and poor academic records but the individuals with sophisticated beliefs, are highly motivated towards their goal and have high academic achievements.
- Classroom instruction, teaching-learning materials, self-motivation and advice of expertise have a direct impact on learning outcomes. Aarti said, “self-motivation is needed for specific knowledge, you have to be ready for learning new things, then an expert can teach you.”
- Findings indicate that participants believe in trial and error and hard work. They also believe that efforts can improve their learning ability, teaching strategies, and learning outcomes. As Varsha said, “learning ability can be improved through efforts. The higher trial and efforts the greater the ability to learn.”
- Content of classroom lectures, availability of other sources of knowledge also influence the teaching strategies and learning outcomes of pre-service teachers.

Findings of Research Question 5:

- Scores indicate that pre-service teachers tend towards a higher level of thinking and Metacognition.
- In the beginning, they show a dualistic approach in thinking. They believe in a dual-mode of knowledge but as their beliefs progressed day by day, they think in multiple directions and have many more solutions for a particular problem. Thus they show a multidisciplinary approach in thinking.
- Individuals show the realistic approach of knowledge as he/she evaluates their ability and achievements and many more.
- Individuals’ thinking full of competitions in class or particular field makes his/her performance more evolved and reliable.

- Scores indicate that an individual evolves their beliefs in multiple dimensions. These findings are the same as the finding of Schommer (1990). That multiple dimensions are:
 - Structure of knowledge (SK)—simple to complex.
 - Certainty of knowledge (CK)—certain or tentative.
 - Control of knowledge (CoK)—fixed by birth/innate ability.
 - Source of knowledge (SoK)—acceptance of authority.
 - Development of knowledge (DK)—speeds of knowledge acquisition.

Findings of Research Question 6:

- Findings indicate that there are five dimensions of EB. These dimensions show the process of knowledge and knowing in pre-service teachers. As the beliefs are correlated to cognition and metacognition. Teaching strategies depend on cognition and metacognition. Thus the teaching strategies are influenced by personal beliefs (EB) of an individual and teaching strategies have a direct impact on learning outcomes (Schommer, 1990).
- Findings indicate that beliefs in two factors, out of five dimensions (EB), structure of knowledge (SK) and development of knowledge (DK) are more developed within 200 pre-service teachers.
- Male and female both have strong beliefs in SK and DK. The mean score of them indicates that females have stronger beliefs in SK and DK than males.
- Scorers believe in both the traditional teaching approach as well as the constructivist approach. According to Arti, “the role of experts is very important in learning, but sometimes we see that some people are inborn talented but still need guidance” (traditional approach).
- Score of SK and DK indicate that pre-service teachers believe in changes and follow different teaching strategies according to need.
- Pre-service teachers believe to adopt a constructivist teaching approach, as they believe in change and think that everything can be learned by efforts and hard work.
- Scorers believe more in a constructivist teaching approach as it would help students to develop their beliefs in logical and critical thinking.

- In dimension control of knowledge (CoK) have the least scoring, it indicates that most of the pre-service teachers do not believe in the fact that learning is fixed by birth. They believe that learning outcomes can be enhanced progressively through multiple efforts, motivation and hard work.

Conclusion

The beliefs of the pre-service teachers, who participated in the questionnaire and interview, hold under five dimensions of EB, which are similar to the dimensions of Schommer (1990). Pre-service teachers believe that developments of their personal beliefs are interconnected with their surroundings, culture and influenced by experts. They also believe that as age and experiences increase their beliefs also change. The smarter and effortful person will have a strong EB about knowledge and knowing. Participants agree that a teacher should have a constructivist approach instead of traditional approach, to make their teaching strategies and learning outcomes more effective. They also agreed that for exam preparation and to do well in academic performance, traditional teaching strategies may be good but in higher studies, there should be a teacher with constructivist and innovative. To be a good teacher, along with the knowledge we should also be a smart learner. Pre-service teachers considered the situation of disagreement or contradiction as a repository of knowledge and whenever there is a possibility of getting any information related to their work, they would also like to take full advantage of it. Almost all pre-service teachers believed that everyone has their vision and beliefs for the same thing. They considered teachers (expert) as a guide and facilitator in teaching and learning. Although the learner self is in the main role of his/her learning. If the teacher adopts different teaching strategies then he/she can enhance the learning outcomes of the learner. By reducing learners' mistakes, a teacher can give more output in less time.

Educational implications of the study

Findings of this study have important implications regarding multiple factors of epistemic beliefs (EB)—the study will provide a better understanding of the developmental process of students' beliefs that would help in adopting new teaching strategies and thus their learning outcomes may be enhanced by adapting different ways. Findings of this study indicate the utmost importance of teachers/experts. This study would provide a platform for teachers to develop their conceptions towards teaching-

learning process. This study might help teachers to understand individual differences and thus teachers would be able to contribute their efforts towards the development of students in all aspects of learning outcomes. This study is hoped to help, to adapt different teaching approaches by teachers. A classroom is full of differences as the difference in IQ level, culture, parenting etc. as all students are not the same in that way and thus, their needs are also not the same. This study will provide the insight to develop a new methodology of teaching and resourceful environment for students, accordingly. This study made a sincere effort to underline the individual's learning capabilities and these capabilities may improve through several efforts. Teachers may understand the learning process of average students and would help them in improving their abilities. This study will provide a better understanding of importance of external factors such as parents, surroundings, teachers and classroom environment and how these factors influence the learning abilities of students. It would be helpful to understand the needs of students in learning. This study is based on examining pre-service teachers' beliefs. It will provide a mean for understanding the relationship between the beliefs of teachers and students and also the learning outcome of students.

Suggestions for further research

Reviews show that no research is complete in its way. More work is done to clear some doubts, more remain unclear. More answers obtained from various questions, more questions raised. The epistemic beliefs (EB) have a vast area in its own. Beliefs are developed in various aspects of the life of an individual. This study was delimited to the pre-service teachers of the various institutions of Lucknow city. Future research could shed the light on beliefs of an individual in different aspects of life regarding culture, physical and mental health, lifestyle, online resources and so on. The present study is based on pre-service teachers' responses, future research needed to study the beliefs of in-service teachers. These teachers may belong to an elementary level, secondary level, and higher secondary and/or to higher education. This study, as delimited to Lucknow City, further study may be made on populations of other cities of the country. This study touches the only surface of issues, a deep and more concise study is needed.