

Research Article

A Study on Epistemic Cognition of Student Teachers

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Abstract

In the context of student-teachers, Epistemic Cognition is important as it shapes their attitudes and approaches to learning and teaching. Epistemic Cognition refers to the ways in which individuals understand and reason about knowledge and knowing. It involves the beliefs, values and strategies that individuals use to acquire, evaluate and apply knowledge. The aim of the study is to examine whether previous teaching experience and parents' profession of student teachers in Chennai region make difference in their Epistemic Cognition. A total of 1083 student teachers participated in the descriptive survey research. This study revealed that difference exists between Epistemic Cognition of student teachers with and without previous teaching experience. By enhancing their Epistemic Cognition, student-teachers can become more effective educators who can help their students develop critical thinking skills, engage in meaningful learning and become lifelong learners.

Keywords: Epistemic Cognition, Epistemology, Student teacher, Teacher trainees, Perspective Teachers

Introduction

Epistemic Cognition refers to the ways in which individuals understand and reason about knowledge and knowing. It involves the beliefs, values and strategies that individuals use to acquire, evaluate and apply knowledge. In the context of student teachers, Epistemic Cognition is important as it shapes their attitudes and approaches to learning and teaching. As future educators, student-teachers need to develop a deep understanding of how knowledge is created and evaluated, and how to engage in critical thinking and reflection to enhance their own learning and that of their students. Epistemic Cognition is a complex and multidimensional

construct that involves various aspects, such as beliefs about the nature of knowledge, the source of knowledge, the certainty and uncertainty of knowledge and the process of knowledge acquisition. Student teachers' Epistemic Cognition can be influenced by their prior experiences, cultural background and educational context. Therefore, it is important for teacher education programs to promote the development of student teachers' Epistemic Cognition. This can be achieved through various approaches, such as explicit instruction on Epistemic Cognition, modelling by expert teachers, and utilising opportunities for reflection and discussion. By enhancing their Epistemic Cognition, student teachers can become more effective educators who can help their students develop critical thinking skills, engage in meaningful learning, and become lifelong learners.

Review of Related Studies

Neena Sawhney and Sneha Bansal (2015) conducted a study on *Metacognitive Awareness of Undergraduate Students in Relation to their Academic Achievement*. The objective of the study was to find out the relationship between metacognitive awareness and academic achievement of undergraduate students. The sample of the study comprised of 100 undergraduate students from various colleges of Chandigarh using Metacognitive Awareness Inventory (MAI) by Schraw & Dennison (1994). The findings of the study reveals that there is a significant difference in academic achievement of undergraduate students with high and low scores in metacognitive awareness.

Irshad Ali Dar (2016) conducted a study on *Epistemological Belief of Senior Secondary Students*. The objective of the study was - to find out the differences in epistemological beliefs of senior secondary students with respect to their gender. The sample size was 600 senior secondary students from six different districts of Jammu and Kashmir state. The tool used in this study was Epistemological Belief Questionnaire (EBQ) constructed and standardized by the investigator from the adoption of Schumer. The simple random sampling technique was used in this study and data was analysed statistically. The findings of the study reveals that no significant differences were found among senior secondary students in terms of gender on Certain Knowledge, Quick Learning and Innate Ability dimensions of epistemological belief. But they differ significantly on Simple Knowledge dimension. Boys possess mature beliefs as compared to Girls on Simple Knowledge dimension of epistemological belief.

Objectives of the Study

- To examine the difference in Epistemic Cognition among Student teachers with respect to their previous teaching experience.
- To examine the difference in Epistemic Cognition among Student teachers with respect to their parents' profession.

Research Design

The research employs the descriptive survey method. With the assistance of the research supervisor, the investigator developed and validated the Inventory employed in this study. There are 26 items in the Epistemic Cognition Inventory. The data was obtained using stratified random sampling technique from a sample of 1083 Student teachers at 14 colleges of education in Chennai as well as its surrounding metropolitan area of Tamil Nadu state comprising of colleges of Government, Government-aided, and Self-financing.

Analysis and Interpretation

H₀₁: There is no significant difference in Epistemic Cognition among Student teachers with respect to their previous teaching experience.

Table 1

Epistemic Cognition of student teachers with respect to previous teaching experience

Source	Previous teaching experience				df	t-value	p-value & Level of Sig,
	Teaching experience (N=268)		Inexperience (N=815)				
	Mean	SD	Mean	SD			
Epistemic Cognition	107.779	10.898	106.254	9.311	1081	2.057	P=0.039 P<0.05

The Table-1 shows that, since the p value is less than 0.05 for Epistemic Cognition, the Null hypothesis is rejected at 5% level of significance. Hence, there is significant difference in Epistemic Cognition of student teachers with respect to their previous teaching experience, favoring student teachers with teaching experience.

H₀₂: There is no significant difference in Epistemic Cognition of student teachers with respect to their parents' profession.

Table 2

Epistemic Cognition of student teachers with respect to their parents' profession

Source	Parent's profession				df	t-value	p-value & Level of Significance
	Teachers (N=305)		Other professions (N=778)				
	Mean	SD	Mean	SD			
Epistemic Cognition	108.454	10.777	107.417	10.598	1081	1.263	P=0.207 P>0.05

The Table-2 shows that, since the p value is greater than 0.05 for Epistemic Cognition, the Null hypothesis is accepted at 5% level of significance. Hence, there is no significant difference in Epistemic Cognition of Student teachers with respect to their parents' profession.

Discussion

This study reveals that the mean score of respondents with teaching experience is higher than that of inexperienced respondents in Epistemic Cognition. Research has shown that student teachers with teaching experience tend to have more sophisticated Epistemic Cognition than novice Student teachers. For example, they may have a better understanding of how knowledge is created, evaluated, and used, and may be more likely to use evidence-based practices in their teaching. Additionally, Student teachers with experience may be more open to new ideas and perspectives and may be better equipped to handle uncertainty and complexity in their teaching. These attributes can help them to be more effective in promoting students' critical thinking and problem-solving skills.

The study further revealed that there is no difference in Epistemic Cognition of student teachers with respect to their parents' profession of teaching or not. One possible explanation for this lack of difference is that the development of Epistemic Cognition is influenced by a variety of factors beyond parental profession, such as educational experiences, personal interests and cultural background. Other factors, such as the quality of teacher education programs and the teaching practices of the educators, they interact with, may also play a more significant role in shaping student teachers' Epistemic Cognition.

Conclusion

Teaching experience can provide opportunities for student teachers to develop their Epistemic Cognition and to refine their teaching practice. By enhancing their understanding of the nature of knowledge and learning, student teachers with previous experience can better support their students' academic and personal growth. Developing Epistemic Cognition in respondents with inexperience teaching requires a deliberate and systematic approach that involves providing explicit instruction, modeling effective practices, promoting reflection and discussion, providing opportunities for inquiry-based learning, including providing feedback and assessment. By enhancing their understanding of knowledge and learning, novice student teachers can become more effective in promoting critical thinking and problem-solving skills in their students. It is important to note that while parental profession may not have a significant impact on Epistemic Cognition, other factors related to socio-economic status or cultural background may still influence student teachers' educational experiences and attitudes towards learning. As such, it is essential for teacher education programs to recognize and address the diverse backgrounds and experiences of student teachers to promote a more inclusive and equitable learning environment.

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