

Investigating Iranian teachers' conceptions of teaching and learning

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Abstract

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Introduction: Teachers' beliefs are the essential factor in their practice. However, the source of many teachers' beliefs is their personal experiences from their experiences as students and teachers. The purpose of this study was to investigate the conceptions of Iranian teachers about the concepts of learning and teaching and examine its compatibility with contemporary scientific perspectives, especially cognitive science of learning.

Methods: In this research, the phenomenological method was used, which examines various ways of understanding a concept or phenomenon from the perspective of a specific group of people. Participants in the study were 15 elementary school teachers whose beliefs about learning and teaching were examined through in-depth semi-structured interviews.

Results: The results revealed that during the recent educational reforms, Iranian teachers have become more aware of the role of teachers in providing various experiences for students. At the same time, the differences and contradictions between student-centered and teacher-centered concepts are still unclear to teachers. They have interchangeably referred to these two approaches. Teachers are also unaware of the importance of the role of previous knowledge as an organizing framework for new experiences and information, pay little attention to the role of social factors in learning, consider the place of knowledge in mind, and despite the great emphasis on emotional factors they lacked scientific theories about it. In addition, teachers have a limited understanding of memory and attention despite the growing interest in incorporating cognitive psychology and cognitive neuroscience concepts in teacher education.

Conclusion: According to previous findings, the belief system of Iranian teachers is also inconsistent and contains contradictory beliefs. A careful examination of the contradictions and the reasons for their formation will illuminate future interventions to improve the classroom.

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Extended Abstract

Introduction

Teachers' beliefs are the most influential factor affecting classroom practice. According to previous studies, teachers bring pre-conceptions about teaching and learning to the educational settings from their own experiences as

students. These pre-conceptions work as a framework of understanding and interpreting new information and are resistant to change. At the same time, the tremendous change from traditional approaches to constructivism

and an increasing tendency to the neural underlings of education have encountered teachers with lots of new concepts to learn. Simultaneously studies in different countries have provided pieces of evidence that teachers hold many misconceptions and neuromyths. All of these have made studies in the area of teachers' conceptions worthwhile, especially when it comes to subsequent interventions. There are also limited inquiries into teachers' conceptions through in-depth interviews in Iran. Also, previous studies in Iran approached teachers' conceptions in particular subject areas like math or were interested in teachers' epistemological beliefs and neuromyths. The present study aimed to explore Iranian teachers' conceptions of teaching and learning as an interrelated system, including neuroscience concepts and cognitive psychology concepts like memory, and attention. Finally, it was to see to what extent they are consistent with the scientific theories and understanding of learning.

Methods

To do such, a phenomenological methodology was applied in which different ways of experiencing a phenomenon by a specific group of people at a collective level are examined. In-depth semi-structured interviews were conducted with 15 elementary school teachers at a private school in Tehran. It is worth mentioning that schools in Iran were divided into two types of schools: public and private schools. Private schools in Iran can recruit teachers who graduated from different majors and universities based on school demand. However, public schools can only recruit teachers from notable universities for teacher education. Both schools provide their teachers with workshops and short courses in the newest approaches to teaching. Written consent was obtained from all participants (mean age= 30 years; mean experience= 10 years). One of the researchers conducted all interviews, which lasted 40 minutes on average, and intra-rater reliability

was calculated after six months. The idea here was to see if teachers spontaneously refer to scientific underlying of learning and teaching in response to questions like “how does learning occur?” and then to ask probe questions like “what is the role of attention, memory, and other mental processes in learning?” to provoke details. The data were analyzed as a whole, and descriptive categories were formed based on the similarity between teachers' expressions.

Results

The results revealed that Iranian teachers have become aware of the significance of providing students with activities and giving them more chances for having an active role during educational reforms, while the distinction between student-centered and teacher-centered approaches was not well understood. In other words, “being active” was understood by teachers as being physically active and doing hands-on activities and being engaged in activities, which primarily were designed only by teachers rather than being mentally, cognitively, or meta-cognitively active. In fact, teachers showed confusion between learning and teaching strategies. Teachers also neglected the role of social factors that were unable to see prior knowledge as a framework for understanding new information and placed the knowledge inside the mind. Despite being aware of the importance of motivation, they lacked scientific theories about it. One important and exciting part of Iranian teachers' beliefs were their conceptions about memory and attention. Teachers considered “memory as a place” for information rather than as a process and “attention as a gate” for information needed only for deep learning rather than all kinds of learning.

Conclusion

Similar to the previous studies, teachers showed incon

sistencies in their pedagogical belief system, with evidence of having traditional and modern conceptions of learning and teaching at the same time (e.g., student-centered and teacher-centered). The implications of these results lead us to address these inconsistencies and co-existences explicitly. Teachers also did not show evidence to have a comprehensive understanding of underlying learning processes like memory and attention, despite the growing interest in incorporating cognitive psychology and cognitive neuroscience in teacher education. It shows that the gap between scientific studies and classroom practice is still huge. Any changes in teachers' approaches toward teaching and learning need belief change. Some previous studies suggested implementing a conceptual change approach, which has shown to be promising in confronting misconceptions. They implied that teachers need to be aware of their beliefs as the first step of change and get dissatisfied with them. It must be mentioned that our research was limited to young and middle-class teachers with having previous workshops in the newest approach in education. Future researches need to investigate teachers with different cultural and educational backgrounds.

Ethical Considerations

Compliance with ethical guidelines

Participating in the research was totally voluntary, personal information was kept confidential, and the participants were informed about the research goals. Written consent was obtained from all participants.

Authors' contributions

The first author designed and performed experiments, analyzed data, and prepared the manuscript. The second author contributed to designing the research, analyzing the data, and revision the manuscript. The third author contributed to the critical revision of the data analysis method and text revision.

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Conflict of interest

The authors declare that there is no conflict of interest.