

## ***Beyond teaching practices: dialogue as a tool for conceptual change for future teachers***

### **Theoretical and educational significance of the research**

The imperative to advocate for dialogic teaching practices often grapples with the constraints imposed by limited resources earmarked for teacher training (Author, 2021). Developing the proficiency necessary to effectively implement dialogic practices necessitates a considerable investment of time and access to skilled professionals, resources that are not always readily available within the educational framework. This predicament yields two significant outcomes: firstly, the scant integration of dialogic approaches within educational settings, despite a wealth of empirical evidence affirming their efficacy as documented in scholarly literature (Sedova, Salamounova & Svaricek, 2014; Alexander, 2020); secondly, the peril of trivializing or misinterpreting the underlying principles and strategies (Reznitskaya & Gregory, 2013).

In addition, several studies reveal how epistemic cognition, defined as thinking about the construction and justification of knowledge, plays an important role in the in shaping teachers' practices (Brownlee, Schraw, & Berthelsen, 2011; Johnston, Woodside-Jiron, & Day, 2001; Kang, 2008; Maggioni & Parkinson, 2008; Muis & Foy, 2010; Windschitl, 2002), but the acquisition of dialogue facilitation techniques does not automatically lead to a change in epistemic cognition (Reznitskaya & Wilkinson, 2019; Khishfe & Abd-El-Khalick, 2002)

In response to these challenges, we conceived a training and research protocol, targeting students enrolled in the Primary Education course at the University of Milano-Bicocca. This protocol was designed to immerse future teachers in dialogic practices, initially positioning them as active participants to experience firsthand the transformative potential and nuances of this pedagogical approach. The goal behind the project was not to prepare a comprehensive program that would provide future teachers with all the tools to master dialogic strategies, but rather to provoke a conceptual change that would enable them to fully understand the potential of dialogic teaching and create an intrinsic motivation to continue training in the field.

The dialogic practices tested were Socratic Challenge (Author, 2023) and Inquiry Dialogue with the use of the Argumentation Rating Tool (Reznitskaya & Wilkinson, 2021). The initiative prioritized fostering an appreciation for dialogic engagement, coupled with a commitment to undergo the requisite extensive training independently. This entailed not only active involvement in dialogic sessions but also deliberate engagement in metacognitive reflection to deepen understanding and refine pedagogical strategies. The goal of this approach is thus to cultivate a disposition for lifelong learning and innovation, and to lay the groundwork for autonomous exploration and development, possibly leveraging the support of AI tools.

### **Aims**

The research aimed to explore the potential of this professional development protocol by examining participants' perceptions and looking for possible evidence of conceptual change.

## **Methodology**

Given the exploratory nature of the research question, we opted for a qualitative, participatory and naturalistic research design (Guba, 1978). The participants, 16 future teachers, final-year students of the Primary Education Course, were selected according to the criterion of purposeful sampling (Merriam & Tisdell, 2016), specifically, students who were particularly involved during the dialogic teaching activities offered during the university courses, who showed openness and willingness to communicate their experiences and participate in the research (Bernard 2017; Palinkas et al, 2015). Students contacted were informed in advance about the purpose and methods of data collection and consented to participate in the study by providing informed consent. Data were collected through semistructured interviews (before and after participation in the program), 4 focus groups, and analysis of analyses conducted by female students in their dialogic sessions with elementary school children during internship activities. The verbal interactions were audio-recorded and transcribed verbatim. The transcripts were analyzed using an inductive and bottom-up approach, following the criteria of reflexive thematic analysis codified by Braun and Clarke (2006; 2019).

## **Findings**

A preliminary examination of the data reveals that active participation in dialogic sessions and metacognitive reflection on them allowed future teachers to critically reflect on their professional identity and associated practices. From the words of the future teachers, signs of conceptual change regarding the potential of dialogue and the role of the teacher emerge. Initially, participants perceived dialogic teaching as a simple platform for student expression, without recognizing the fundamental role of critical analysis of arguments in promoting effective dialogic teaching. However, as the course progressed, a deeper understanding of the theoretical framework underlying dialogic teaching and the connection between theoretical principles, facilitation practices, and educational goals began to emerge. At the center of their critical reworkings is the recognition of error as a catalyst for promoting critical thinking within dialogic teaching. The participants have embraced the idea that research and becoming familiar with error investigation are pivotal for establishing an inquiry-based dialogic teaching approach. This recognition underscores their commitment to fostering a learning environment that encourages critical thinking and active engagement with the subject matter. By acquiring these skills, the participants appear to have gained the ability to continue their education autonomously, possibly utilizing AI tools.

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