

What does pedagogical reasoning imply for teachers of mathematics?

Jaguthsing Dindyal
<jaguthsing.dindyal@nie.edu.sg>

Ban Heng Choy
<banheng.choy@nie.edu.sg>

National Institute of Education, Nanyang Technological University, Singapore

Pedagogical reasoning is not a new concept. More than 30 years ago, Shulman (1987) expounded this idea in his famous paper, well known for its elaboration of pedagogical content knowledge (PCK). Shulman stated that teaching begins as an act of reason and continues as a process of reasoning. He also added that pedagogical reasoning is the basis for all actions by the teacher. In his model for pedagogical reasoning and action, Shulman proposed that teaching starts with comprehension of what has to be taught, followed by the transformation of that knowledge for teaching the students, which is followed by actual instruction, and an evaluation of the students' learning. The actions of the teacher then culminate in reflections, which lead to new comprehensions by the teacher. If teaching actions are based on pedagogical reasoning, then how do we enhance the pedagogical reasoning of teachers to improve teaching? In this round table, we will discuss this question and some related issues pertaining to the comprehension of mathematics teachers and the transformation of the comprehended ideas for teaching students. We will also highlight aspects of pedagogical reasoning from one of our recent projects and invite participants to share their own experiences.

Keywords: pedagogical reasoning, comprehension, transformation, teaching actions

References

Shulman, L. S. (1987). Knowledge and teaching: Foundations of the new reform. *Harvard Educational Review*, 57(1), 1-22

2019. In G. Hine, S. Blackley, & A. Cooke (Eds.). *Mathematics Education Research: Impacting Practice (Proceedings of the 42nd annual conference of the Mathematics Education Research Group of Australasia)* p. 829. Perth: MERGA