FROM "TELLING" TO "SHOWING": A ZHEJIANG MATHEMATICS PROFESSIONAL DEVELOPMENT MODEL FOR NOVICE TEACHERS' LEARNING FROM MASTER TEACHERS

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Organizers

This thematic afternoon is a collaboration among teacher researchers (Ms. Si Miao'er, a province-level teacher researcher for 30 years and Ms. Liu Minmin, a county-level teacher researcher), three master teachers from schools in Hangzhou city (Mr. Yu Zhengqiang, Ms Yuan Xiaoping and Mr. Tang Caibin) and novice teachers from Zhejiang province. Two university mathematics education professors (Professor Kong Qiping from East China Normal University) will serve as reactors for the session.

Aims and Underlying Principles

Teaching as a profession requires continuous professional learning. Through professional learning, they will change their instructional practice by changing their beliefs and increasing their knowledge, thereby improving student learning. Research on teacher learning has consistently shown the challenges of teacher learning on their changes in classroom instruction. Despite the challenges associated with changing instructional practice, educators around the globe have been exploring effective models for teacher learning with actual impact on instructional practice.

The purpose of this thematic afternoon is to share a successful model which has been implemented in Zhejiang for years. This model is based on the theories of situated learning, improvement sciences, and learning from masters. In this model, novice teachers, teacher researchers, and master teachers form a teaching research community, where novices learn directly from masters how to teach via the collective and collaborative activities of "master teachers' observing and discussing a lesson, and then novice teachers' immediate revising and delivering the lesson again." In the entire process which lasts from two to three days, a number of novice teachers observe and learn, and several teacher researchers and master teachers guide these novice teachers from the beginning to the end. Master teachers provide timely feedback for possible improvement and explain why certain improvement is needed for novice teachers.

Due to time limitations, this thematic afternoon will demonstrate five major steps: (1) a novice teacher delivers a lesson based on a collectively planned lesson on a topic; (2) teacher researchers and master teachers provide feedback about the lesson and discuss with the novice teacher, along with other observers, about how to revise the lesson (TELLING); (3) a master teacher who has observed the lesson actually deliver the lesson (SHOWING); (4) another novice teacher is randomly selected from the observers to revise and redesign the lesson and then teach the lesson again; and (5) teacher researchers and university professors comment on the lesson.

In this session, we will not only demonstrate the above five major steps, but also share the implementation strategies and effects of this model in Zhejiang province. We will open up for questions and comments to discuss the promises of this model as well as the challenges for implementation and scaling-up the model.

References

- Si, M. (2020). On-site lesson improvement: From "Telling you" to "Showing you". *People's Education*, 22, 55-58. (Original in Chinese)
- Si, M. (2020). The exploration of the research paradigm of "Three Stages and Ten Steps" for optimizing primary mathematics lessons. *Curriculum, Teaching Materials and Method, 40/9: 81-87.* (Original in Chinese)

Planned structure:

Planned timeline	Planned activity	Working format / responsible person
13:45-14:00	Play an opening video showing the past, current, and future of the Zhejiang model	Video playing with English dubbing and Chinese and English subtitles
13:45-14:00	The value and essentials of the Zhejiang "from Telling to Showing" model	Mini lecture by Si Miao'er
14:00-14:25	A novice teacher delivers a lesson based on collectively planned lesson on a topic	Classroom teaching
14:25-14:45	 Lesson discussion and revising Discuss the achievement of teaching objectives from the perspective of students Discuss the improvement strategies based on the characteristics of the teacher Focus on problems in class 	Discussions and collaborations between master teachers, teaching researchers and novice teachers
14:45-15:20	A master teacher delivers the lesson	Classroom teaching
15 : 20-15 : 40	Break (playing the opening video again)	
15:40-16:00	Another novice teacher delivers the lesson again	Classroom teaching
16:00-16:20	Reactions and comments	Prof. Kong Qiping and Professor Zhang Qinqiong
16:20-16:30	Questions and responses	Participants and organizers