The role of modeling mathematics teaching in improving mathematical teaching skills for student teachers

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This qualitative study used action research methodology, in five stages, to discover the effectiveness of a teaching model for teaching basic mathematical teaching skills to students training to be mathematics teachers at the College of Education, Taibah University, Saudi Arabia. In Stage 1, the researcher reviewed studies and research on effective mathematical teaching skills, and constructed a five step model (orientation, concept, generalizing, practice and closure). In Stage 2, 15 student teachers participated in a teaching methods course for seven weeks of intensive professional development. This related to understanding and implementing the five-step model, and exploring practical examples. In Stage 3 the student teachers implemented the model using a collaborative action research approach. The process involved student teachers visiting each other and coding evidence of model implementation. In Stage 4, the student teachers and researcher met again. This time, the participants spent two lectures involved in reflection and learning to preparing their final reflection project. In Stage 5, the student teachers and the researcher held a two-day conference during which they presented their reflections and findings. Student teachers emphasized that the model can be applied to the conventional syllabus, which developed their teaching skills, besides gaining positive attitudes towards teaching.