SYMPAB - (15887) - PROFESSIONAL DEVELOPMENT OF SCIENCE TEACHERS FOR INQUIRY INSTRUCTION

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Short Abstract

In spite of its long tenure, inquiry-based science teaching has remained an elusive ideal in many classrooms across the globe. Professional development (PD) is a well-recognized way of supporting teachers in both learning about and through inquiry. Over the last several decades there have been a host of inquiry PD initiatives that have been designed to support practicing teachers in learning about inquiry and in enacting inquiry-based instruction in their classrooms. In addition, literature reviews have synthesized issues related to supporting teachers in enacting inquiry and several meta analyses have reported on the impact of inquiry-based teaching on student learning outcomes In this chapter, we draw on this body of research to identify some of the main challenges that exist for supporting science teachers in engaging their students in inquiry-based instruction. We frame these challenges in terms of wicked problems (Rittel &Webber, 1973), or problems that will haunt science education researchers for years to come. The wicked problems we have identified for inquiry professional development are: (1) supporting teachers in understanding what inquiry is and how to enact it, (2) teacher development offered as a 'one size fit all' approach that does not address particular needs of teachers, and (3) preparing teachers to exploit the affordances of learning technologies. We then use the literature base to discuss how current research has endeavored to address these "wicked problems" and set forth a research agenda that will begin to help the community grapple with these problems in the future.