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Exploring the use of mathematics observation tools across the contexts of the United States, Norway, and Finland: How do these tools shape our understanding of instructional quality when applied in different school settings?

Abstract: (max 300) (total 247)

Teaching observation instruments based on research of effective mathematics instruction are increasingly used for teacher evaluations and forms the basis of teacher preparation programs, professional development programs, and student assessments. Because observation instruments now travel across sites, we need research on the cross-cultural validity of these instruments to know how the instruments can be used in other cultures. This study investigates how three mathematics teaching observation instruments from the USA portray the teaching of an algebra lesson in lower secondary school taught by three locally recognized expert teachers from Norway, Finland and the USA respectively. The instruments used were the Reformed Teaching Observation Protocol (RTOP), Mathematics Quality of Instruction (MQI) and the Mathematics Classroom Observation Protocol for Practices (MCOP). The researchers chose these three instruments based on validity tests and their wide use. The total of three lessons, three researchers' ratings and three instruments produced 27 observational reports. Audio-recordings of the researchers' discussions about the rating of the lessons were also made. The data from using the observation instruments, documented conversations, and item level analysis were used to explore how these tools are interpreted, what qualities of teaching the instruments measure across contexts, and what qualities of teaching that were not measured. The three tools were created in the United States and reflect the reforms, standards, and objectives specific to that context. Results from this study indicate the applicability of current instruments to other contexts and shed light on how the instruments construe instructional quality in mathematics.