The perceptions of pre-service and in-service teachers regarding a projectbased STEM approach to teaching science

Abstract

Whilst much attention has focused on project-based approaches to teaching Science, Technology, Engineering and Mathematics (STEM) subjects, little has been reported on the views of South-East Asian science teachers on project-based STEM approaches. Such knowledge could provide relevant information for education training institutions on how to influence innovative teaching of STEM subjects in schools. This article reports on a study that investigated the perceptions of 25 pre-service and 21 in-service Malaysian science teachers in adopting an interdisciplinary project-based STEM approach to teaching science. The teachers undertook an eight hour workshop which exposed them to different science-based STEM projects suitable for presenting science content in the Malaysian high school science syllabus. Data on teachers' perceptions were captured through surveys, interviews, open-ended questions and classroom discussion before and at the end of the workshop. Study findings showed that STEM professional development workshops can provide insights into the support required for teachers to adopt innovative, effective, project-based STEM approaches to teaching science in their schools. Whilst much attention has focused on project-based approaches to teaching Science, Technology, Engineering and Mathematics (STEM) subjects, little has been reported on the views of South-East Asian science teachers on project-based STEM approaches. Such knowledge could provide relevant information for education training institutions on how to influence innovative teaching of STEM subjects in schools. This article reports on a study that investigated the perceptions of 25 pre-service and 21 inservice Malaysian science teachers in adopting an interdisciplinary project-based STEM approach to teaching science. The teachers undertook an eight hour workshop which exposed them to different science-based STEM projects suitable for presenting science content in the Malaysian high school science syllabus. Data on teachers' perceptions were captured through surveys, interviews, open-ended questions and classroom discussion before and at the end of the workshop. Study findings showed that STEM

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