Pre-service science teachers' epistemological beliefs and teaching reforms in Tanzania

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Abstract
In an effort to understand why recent initiatives to promote learner-centred pedagogy in science teaching made a little change in the actual teaching practices of science teachers, this study explored pre-service science teachers' beliefs about science knowledge and their teaching practices. Six pre-service science teachers were interviewed to explore their beliefs. Moreover, lessons taught by pre-service teachers were observed to see how their beliefs manifest in their teaching practices. This was followed by post-observation interviews focusing on critical incidences observed. Findings showed that pre-service science teachers hold dualist views about science. They viewed science knowledge to be simple, rigid and derivative of specific bodies of knowledge handed down by authorities such as textbooks and experts. Consistent with their beliefs, pre-service teachers asked factual questions and sought pre-determined textbook-based answers from students. They adopted transmissive teaching strategies to propagate textbook-based science knowledge. It was concluded that the way science teachers uptake the aspired learner-centred teaching may be partly due to incompatible beliefs they hold.

Keywords
Learner-centred pedagogy,
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