

Professional development of secondary science teachers

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The professional development is an essential aspect of teacher education. Especially with the introduction of curricular reforms in science teaching in 2015, teachers in-service need to update their knowledge and skills required for professional development in order to implement reforms successfully. The aim of this study is to enhance professional development of secondary science teachers through workshops. This study was planned according to the mixed method approach including three main phases; need survey, planning and conducting workshops and obtaining teachers' views on participation in workshops. A sample of sixty secondary science teachers was drawn from Kegalle education zone using stratified random sampling. Data were collected with the use of teacher questionnaire, participant observation, semi-structured interviews and documents. Quantitative data were analyzed using descriptive statistics while qualitative data were analyzed using thematic analysis.

Teacher responses revealed that 69% of them had only one opportunity to enhance subject matter knowledge while 18% and 10% had two and three opportunities respectively. Sixty eight percent of the sample responded that they need guidance to organize activities in classrooms especially for competency 2 and 3 in the grade six science syllabus which focused on state of matter and energy. Furthermore higher percentage of teachers (83%) responded that they need guidance to organize lessons for a given competency. The results of the need survey showed that 64% of them were in the view that they need to be aware of new methodologies and assessment techniques for teaching science. Five themes would be identified by analyzing qualitative data gathered through participant observation and interviews. Those themes were teachers' active involvement in group work, motivation towards acquiring new methodologies and assessment techniques, use of skills and experience acquired through workshops in their own teaching and developing hands-on experience by engaging in activities and participants' satisfaction towards organizing workshops.

Professional development of the secondary school science teachers' in-service can be achieved through well prepared workshops conducted by knowledgeable experienced resource persons once the teachers' professional needs are identified.

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