

Investigating Teachers' Pedagogical Content Knowledge and Grade 5 Students' Achievement in Science Process Skills

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Abstract

This study aims to investigate teachers' pedagogical content knowledge for science process skills, to explore teachers' instructional behavior in teaching science based on their pedagogical content knowledge, and to investigate science process skills achievement of Grade 5 students. In this study, two sets of questionnaire: questionnaire for primary level teachers and science process skills assessment question for Grade 5 students were used in quantitative study. For qualitative study, an interview form, documentation form and observation checklists were used. The instrument is validated by teacher educators' review. A total of 590 primary level teachers from Monywa and Kalay Townships were selected by using proportional stratified sampling method. Among them, 14 teachers were purposively selected for qualitative study. According to cluster sampling method, all of 480 Grade 5 students were participated in this study. In analyzing the collected data, Descriptive statistics, Item Percent Correct (IPC), Independent samples *t* test, and the cyclical process were used. According to the findings, it was found that there were 30.34% of the participant teachers had *below satisfactory level*, 61.02% of the teachers possessed *satisfactory level*, and 8.64% possessed *above satisfactory level* of pedagogical content knowledge for science process skills. It was also found that there were differences in teachers' instructional behavior in terms of their PCK for science process skills. Moreover, Grade 5 students differed fairly in science process skills achievement depending on their teachers' PCK and instructional behavior.

Key words: Science Process Skills, Pedagogical Content Knowledge for Science Process Skills

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