

# A Study on Differentiated Teaching Strategy Applied to Multi-grade Science in Elementary Schools

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Recently, due to the declining birthrate, the number of mini-schools in Taiwan increases every year. Comparing to past classes, now both the chances for students interacting with peers and the options for teachers' teaching strategies have been largely restricted due to fewer students in a class. As a result, the multi-grade teaching becomes one of the major strategies for these mini-schools in coping with such a challenge. This study, adopting a set of measures of classroom observation, interviews with teachers, and document analysis, explores the journey how a differentiated teaching has been applied to multi-grade science taught in an elementary school, with a further analysis on what patterns of collaboration conducted among the teachers. The participants include two teachers and 11 upper graders in a remote school. Three conclusions found are: (1) adopting the multiple-group learning activity in multi-grade science teaching is a practical teaching strategy for differentiated teaching; (2) providing a teaching scaffold can support students in completing self-learning activities and cultivating self-regulated learning ability; (3) adopting a collaborative teaching model could contribute to differentiated teaching in a multi-grade science teaching. Based on these results, three research implications are further suggested.

Keywords: Collaborative teaching, Differentiated instruction, Natural science for elementary school, Multi-grade teaching