

Abstract of thesis entitled
**Field-based Teaching and Learning in Environmental Education:
A case study on official curriculum in Hong Kong**

Submitted by

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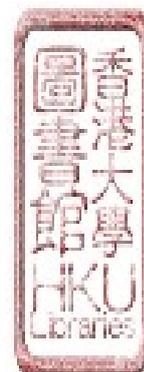
for the degree of Doctor of Philosophy

at The University of Hong Kong

in June 2016

In order to tackle challenging environmental problems that we are facing, environmental education (EE) is important to educate the masses to possess necessary awareness, knowledge, attitudes and skills to participate in solutions of current problems and the prevention of new ones. EE is best implemented in the *Threefold Approach* which integrates education *about*, *in* and *for* the environment. Of which, education *in* the environment is heavily linked to outdoor education. This study particularly focuses on outdoor education related to teaching and learning for subject teaching and EE in the school curriculum which is regarded as Field-based Education (FBE). With the focus on the New Senior Secondary Curriculum (NSS Curriculum), this study aims at investigating the best practices for the implementation of field-based EE and understanding its roles, situations, challenges and opportunities to formulate strategies for better implementation of field-based teaching and learning to benefit EE in Hong Kong schools. According to the proposed theoretical framework of field-based EE in the NSS Curriculum, a mixed method approach was used including evaluative case studies on current field-based EE programmes and questionnaire survey of secondary school teachers and administrators. The case studies evaluated ten programmes organized by two field studies centres and an ENGO with the use of multiple data collection methods in a triangulation approach. The questionnaire survey had surveyed 102, 86 and 60 Biology, Geography and LS teachers respectively while the questionnaire survey of school administrators received 23 valid questionnaires.

Based on the findings, a *Model of effective field-based environmental education* was postulated for the best practices of implementing field-based



teaching and learning for EE. This model is important and useful when teachers and environmental educators design and implement education *in* the environment through conducting field-based EE programme. While EE is implemented in a whole-school cross-curricular approach, this study showed that field-based EE was not effectively implemented. Students had positive perceptions of field-based learning but the current opportunities for them to join field-based programmes did not match with their expectations. The prevailing approach of FBE in the NSS Curriculum is dominated by field research with field excursion. Effectiveness for EE was moderate in which knowledge gain was the main learning outcome while the success in stimulating pro-environmental attitudes and behaviour should be further improved. Differences in perception to field-based EE and actual practices of utilizing FBE were found between teachers of the three subjects. Mismatches were also identified for each subject and these are crucial for planning specific strategies to improve the implementation of field-based EE in the curriculum. Major difficulties for teachers in organizing field-based programmes were the lack of time due to compact school timetables and heavy workload for teachers. External bodies have an important role in field-based EE with the provision of field-based programme and teacher training. As education *about* the environment is dominated in the implementation of school EE while education *in* and *for* the environment need to be further developed, recommendations were given for improving field-based teaching and learning for EE in the official school curriculum.

An abstract of exactly 500 words

