

Project Summary

Project Title: *Catering for students' learning diversity through rich tasks and collaborative learning (junior secondary mathematics)*

Project Number
(To be assigned by the EPMS)

2012/0461

Name of Organization: Division of Science, Mathematics and Computing, Faculty of Education, The University of Hong Kong

(1) Goals and objectives: The project aims to address the issue of students' learning diversity in junior secondary mathematics by helping teachers develop skills and strategies of rich tasks and collaborative learning, for enhancing students' motivation for learning mathematics.

The objectives are:

- (i) Develop teachers' skills and strategies for designing rich tasks and collaborative learning;
- (ii) Enhance students' attitude, motivation, and generic capacity for learning of mathematics;
- (iii) Develop a teacher development package for rich tasks and collaborative learning.

(2) Targets: Mathematics teachers and junior secondary students.

Expected number of beneficiaries:

Directly: 20 in-service secondary school mathematics teachers from about 10 to 15 Secondary schools; about 700 participant students; about 300 teachers in the dissemination seminar.

Indirectly: Potentially all mathematics teachers and their students in Hong Kong

(3) Implementation Plan:

(i) Duration: 1st April 2014 to 31st March 2016 (24 months)

(ii) Process / Schedule:

04/2014 – 03/2015 (12 months)	Stage I: Project Set up and Pilot Study: Project set up; recruitment of staff, participants schools and teachers; an introductory and 2 training workshops; pilot of 2 batches of rich tasks.
10/2014 – 09/2015 (12 months)	Stage II: Implementation: trials in classrooms, 4 training workshops, ongoing refinement; evaluation and classroom video recording.
10/2015 – 03/2016 (6 months)	Stage III: Production of a teacher development package, a workshop and a dissemination seminar for Hong Kong mathematics teachers.

(iii) Collaboration with other parties / partners: The project will collaborate with 10 to 15 local schools on the innovation of rich tasks and collaborative learning.

(4) Products:

(i) Deliverables/outcomes: (1) 8 training workshops; (2) A dissemination seminar; (3) A teacher development package (including a sample of rich tasks, pedagogical guidelines, etc.) that can be used for school-based staff development.

(ii) Dissemination /outcomes: 8 training workshops, a dissemination seminar and 2 dissemination workshops for local mathematics teachers, the teacher development package delivering to all of Hong Kong secondary schools; subsequent research.

(iii) Commercialization potential of deliverables / outcomes: The rich tasks in the teacher development package have the potential to develop into student learning kits.

(5) Budget:

(a) Staff Cost	(b) Equipment	(c) General Expenses	(d) Contingency	(e) Services	Overall Grand Total
\$1,679,160	\$ 38,500	\$ 152,000	\$6,205	\$13,335	\$1,889,200

(6) Evaluation:

(i) Performance indicators:

1. Teacher participants acquire skills and strategies for designing rich tasks and collaborative learning after training workshops
2. Student participants show positive attitude towards mathematics after the project

(ii) Outcome measurements: Questionnaires, interviews, school examination scores