

**THE CHINESE UNIVERSITY OF HONG KONG**

**Micro-Module Courseware Development Grant**

**Scheme 1: Basic Scheme**

**Interim Report (2016-17)**

Report due 31 October 2017.

Please return by email to [mmcd@cuhk.edu.hk](mailto:mmcd@cuhk.edu.hk)

**PART I**

Project title: Developing mathematics teachers' professional knowledge: Using video-stimulated recall in teacher education programme

Principal supervisor: Dr. Zhang Qiaoping

Department / Unit: Department of Curriculum and Instruction

Project duration: From May 2017 to April 2018

Date report submitted: 31<sup>th</sup> October 2017

**1. Project objectives**

This Project aims to create an online platform with five micro-modules that support student teachers from the PGDE programme of Faculty of Education to prepare them for their teaching practice at secondary schools. These modules will supplement and complement the classroom instruction and can also be used for teachers' self-access to develop autonomous learning. These five modules are teaching methodologies and strategies, tasks and examples, representations of mathematical concepts, teacher-students' interactions, students' voices and understanding. All the modules are launched on the CUHK Blackboard platform. The platform can serve as an analytical tool for students to develop their professional knowledge through critical reflections on mathematics teaching in the local context. This project is right on track to meet the above objectives.

**2. Progress on process, outcomes or deliverables**

At this moment, four modules have been worked out on the Blackboard platform, which included 1) Representations of mathematical concepts; 2) Teacher-students' interactions; 3) Teaching methodologies and strategies; and 4) Understanding students' learning; In addition, some of these had been presented to the class. Then, we will get into evaluation stage. Students' comments on the content, design and effectiveness will be collected in December, which can help us refine the whole modules and the platform. The last one module will be prepared well (Mathematical tasks and examples) at the end of January, 2018. The final report will be ready before the grant expiry date.

### **3. Evaluation Plan**

During the trial process, we found students' personal experience is more important than the tracking number of views. Thus, the evaluation plan will be mainly based on an online questionnaire survey and focus-group interviews among student teachers, which is also mentioned in the proposal. In particular, the online survey will be done at the end of their teaching practice. The focus-group interview will be conducted in the middle of December.

### **4. Dissemination Activities (reports, websites, video links, products, etc.)**

All four completed modules could be found in below website

[https://blackboard.cuhk.edu.hk/ultra/courses/\\_96352\\_1/cl/outline](https://blackboard.cuhk.edu.hk/ultra/courses/_96352_1/cl/outline)

Each module will begin with a short lecture by the use of an annotated PPT, followed by a video clip. This video is related to the theme of each module. Students are required to see the video clip before class and then give their comment on the related questions. These questions are shown in the linked discussion board. During classroom teaching, the teacher will summarize students' comments, provide feedbacks, and re-explain the theme of the video clip. In order to help student understand the theme of each module, a handout or further reading material will be provide on the same platform after lesson. This can help them connect theory of instruction with teaching practice.

#### **MMCD1: Representation of mathematical concepts: How to teach concepts**

Introduction: Within this module, you will learn how to teach mathematical concepts, in particular, how a teacher represents concepts to students.

#### **MMCD2: Teacher-students interactions: How to communicate with students**

Introduction: Within this module, you will learn how to communicate with students in classroom teaching, in particular, what problem that a teacher may ask will be effective to promote interactions? and how to questioning and respond to students?

#### **MMCD3: Teaching methods and strategies**

Introduction: Within this module, students will learn how to use different methods or strategies to teach mathematics. Introduction of different teaching models/strategies could refer to L6 & L7 handouts (pdf files). Currently, three aspects are included in this module:

- How to do introduction and review at the beginning of a mathematics lesson
- How to use ICT in mathematics teaching
- How to use traditional method to enhance students' mathematical thinking

#### **MMCD4: Students' voices and understanding: How to understand students' learning**

Introduction: Within this module, you will learn how to understand students' learning in mathematics, in particular, what they (the students) think about mathematical concepts or procedures? and why they held these understanding?