

This project is about implementing a “flipped classroom” for the course of Subject, Curriculum and Teaching in Primary Mathematics offered to the students of PGDP.

As its name suggests, a flipped classroom aims at facilitating students to gain key theoretical concepts before they come to the class and then use class time to engage in discussion about the new information and put those new ideas into practice. Ten micro-modules have been developed on an ePlatform called schoology to cover ten topics in primary mathematics learning and teaching. These ten topics are: 1. Primary mathematics curriculum; 2. Planning mathematics lessons; 3. Basic techniques on mathematics pedagogy; 4. Use of teaching aids in mathematics pedagogy; 5. Teaching of numbers and algebra; 6. Teaching of measures, shapes and spaces; 7. Teaching of data handling; 8. Preparation for teaching practice; 9. Mathematics assessment; 10. Mathematics activities

For each micro-module, the students have to watch a video of around 15 to 20 minutes. The total duration of the ten modules is 3 hours. Frontline mathematics teachers were invited to share their real-life teaching experience in the videos, such as how to prepare a lesson plan and how to make use of the teaching aids before the class. The videos are presented in the style of interview.

Students are also encouraged to think about the reflections questions posted in the video. The questions will then be discussed in the lesson. Finally, they have to complete a multiple-choice quiz.

For the evaluation plan, this project was assessed by students’ performance in the pre-class video viewing quiz, and a focus-group interview. Over speaking, students were positive towards to flipped classroom and experienced its benefits to their learning. Students generally scored an average of 95% or above of the quizzes. In addition, the analysis of the focus-group interview data indicated that the flipped classroom could motivate students’ self-directed learning. According to the participants’ views, the real-life experience shared by frontline mathematics teachers was valuable, the length of the pre-class videos was appropriate and the post-video quizzes were useful in guiding them to summarize the key messages given in the videos. At the same time, it was suggested that more difficult math topics could be covered, and more follow-up actions on the reflection questions could be taken during the lectures.

To conclude, the use of a flipped classroom approach enables the students to learn at their own pace because the videos can be watched as many times as they wish. At the same time, course instructors can obtain instant feedback from the quiz analytics so that just-in-time teaching strategy can be implemented in the lectures. It helps create a win-win situation for teachers and students