THE CHINESE UNIVERSITY OF HONG KONG

Micro-Module Courseware Development Grant

Scheme 1: Basic Scheme

Interim Report (2017-18) (Additional Call)

Report due 31 August 2018.
Please return by email to mmcd@cuhk.edu.hk

PART I

Project title: Articulation of Metabolic Pathways Using Articulate Storyline (Powerland)
Principal supervisor: Dr LEE Kit Ying, Rebecca
Other members of the Project Team: Ms Daisy CHEN, Mr NG Yat Nam
Department / Unit: School of Biomedical Sciences
Project duration: From March 2018 to October 2018
Date report submitted: 6 August 2018

1. Project objectives

Students always encounter difficulties in studying biochemical pathways. They are especially weak in understanding the relationships between metabolic pathways and their integration because these pathways are always taught one by one in class. This interactive courseware aims at arousing students' interest in learning electron transport chain and oxidative phosphorylation using the Articulate Storyline eLearning authoring software. The first three phases of the *Metabolism Metro* have been completed already. According to the feedback of the students, they all thought that the courseware helped their learning. Thus, Phase 4 of *Metabolism Metro*, Powerland (i.e. this project), was started in March this year. In this project, we have used animations to present abstract concepts as pre-class learning materials, and flashcards as post-class revision materials.

This project follows the original project objectives.

2. Progress on process, outcomes or deliverables

This courseware will be used in two courses: MEDU2600 Molecular Medicine and Genetics and SBMS1103 Biochemistry of Human body.

Timeline of the project development:

Date	Phase	Activities
Project Phase		
Feb, 2018	Preparation	Setup the contents of the topic
Mar, 2018 - Aug, 2018 (FINISHED)	Preparation and development (1) – Powerland	- Development of courseware - Animation illustration setup - Graphics by Articulate Storyline
Aug, 2018 - early Oct, 2018	Preparation and development (2) – Revision mode	- Preparation of contents - Graphics by Articulate Storyline
Mid-Oct, 2018	Evaluation	Student surveys* (Previous students who have learnt the topic without the courseware will be invited to try the courseware. Their feedback will be included in the report and for further improvement of the courseware)
Late Oct, 2018	Report Writing	Writing of the report
Post-Project Phase		
2018-19 Term 1	Dissemination	Launching the courseware for the class MEDU2600 Molecular Medicine and Genetics
2018-19 Term 2	Dissemination	Launching the courseware for the class SBMS1103 Biochemistry of Human Body

We have slightly modified our original plan and break the Powerland into 6 micro-modules and generated 6 animations for the students (each around 20 sec). The reason to have this change is because the concepts taught in this courseware are quite complex and it is difficult for the students to digest them all at one time. Instead, we have added a new component "tour guide" to guide the students walk around the courseware and give them an overall picture of the whole reaction, and adding 6 more animations (micromodules) to teach them the concepts one by one.

We choose to develop the Powerland first because animation development is the most time-consuming and we wish to finish them during the summer vacation. For the remaining two months, we will finish the revision mode.

List of project outputs to date:

1. Animation 1: Complex I
2. Animation 2: Complex II
3. Animation 3: Complex III
4. Animation 4: Complex IV
5. Animation 5: The ATP synthase
6. Animation 6: Uncoupling reaction
7. Big map design
8. Tour guide design

3. Evaluation Plan

As we are unable to collect students' feedback at the end of the term, we are going launch a trial run in October and invite a group of students who learnt the topic before to try the courseware. Their feedback will be collected and summarized in the final report.

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

This courseware will be integrated in the CU eLearning system (Blackboard). We shared our courseware production (Phase 2) in the Teaching and Learning Innovation Expo last year. In May, we also joined the eLearning Forum Asia 2018 in Taipei and shared our experience in the courseware development with teachers from other countries.