

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: Development of VR/AR enhanced micro-modules for cell biology

Principal supervisor: Ngai Hung-Kui

Department / Unit: School of Life Sciences

Project duration: From March 2018 to October 2018

Date report submitted: July 27, 2018

1. Project objectives

This project aims to develop a set of e-learning modules on cellular metabolism and to motivate students' learning using the latest VR and AR technologies. After six months of work, the project has been carried out smoothly and all the milestones have been completed according to the schedule. There is no major amendment to the project objectives and so the learning modules will be delivered on time.

2. Progress on process, outcomes or deliverables

Progress

The major project components and outputs are described below:

i. VR Module

A mobile App on "ATP synthase" was developed in collaboration with ITSC (Mr. Ray Lee). Applications for putting the software onto the Google Play Store and App Store are in progress.

ii. AR Module

A mobile App on "Metabolites" was developed in collaboration with ELITE (Mr. Eddie Kwok). Applications for putting the software onto the Google Play Store and App Store are in progress. In the meantime, the design and production of colored paper-cards will be fine-tuned so as to improve the efficiency and accuracy of signal recognition.

iii. Video Clip

A 2-min introductory video clip was produced in collaboration with ELITE (Mr. Eddie

Kwok). It was submitted for publicity in May 2018.

Remarks

1. Apart from the difficulty in coordinating with different supporting departments, there are no insurmountable obstacles to our work.

2. The project will be completed on time.

3. Evaluation Plan

As all the scheduled work have been completed smoothly, the evaluation will be conducted and concluded as planned.

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

i. The key components of this project have been presented in the International Lilly Education Conference held in Maryland, USA in May 2018. The presentation is entitled “Implementation of Flipped Classroom in Undergraduate Biochemistry Courses”. The website of the Conference is: <https://www.lillyconferences-md.com/>

ii. The AR & VR mobile Apps were used by student users in two different types of undergraduate courses. It includes “LSCI1000 Biochemistry of Health and Diseases (2nd Semester)” and “UGEB2361 Great Discoveries in Life Sciences (Summer Term)”.

iii. A 2-minutes video clips were submitted for publicity.

Remarks:

The learning modules and mobile Apps will also be used in the major course BCHE3080 Bioenergetics and Metabolism in the 1st semester of 2018-19.

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