

THE CHINESE UNIVERSITY OF HONG KONG

Micro-Module Courseware Development Grant

Interim Report (March 2015)

Report due 31 March 2015

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PART I

Project title: **Foundation Courseware Package for Health Sciences Education**

Principal supervisor: **Isabel Hwang**

Department / Unit: **Teaching and Learning Unit, School of Biomedical Sciences, Faculty of Medicine**

Amount granted: **HK\$94,000**

Project duration: From January 2015 to August 2015

Date report submitted: **31 March 2015**

1. Project objectives

The project is on track to meet its objectives. The proposed *Foundation Courseware Package* will comprise 8-10 micro-modules that cover the major topics taught in Health Sciences I, which is one of the year 1 Faculty Courses offered by the Faculty of Medicine. Through these micro-modules, students will learn concepts that are often difficult to describe in books; for example, students can watch a clip on how an action potential is initiated in a neuron, or can learn about how different proteins within the cell membrane enter the cell.

By adapting to the flip-classroom model, students will gain some preliminary ideas about the topics and take a self-assessment quiz to guide them on what they should prepare for in the lectures. The use of these micro-module packages facilitates more focused discussions in the lectures. Therefore, the objectives have not been changed as a result of the experience of working on this MMCDG project.

2. Progress on process, outcomes or deliverables

To date, we have:

- set up a central webpage with a user-friendly layout that will contain all of the micro-modules in the near future;
- completed four micro-modules on the topics of
 - How can different molecules move across the cell membrane? (Micro-module 2)
 - Why do certain types of cells need to be excitable? (Micro-module 3)
 - What force drives our blood flow? (Micro-module 4)

- What is the relationship between compliance and elasticity? (Micro-module 5)
- designed a set of survey questions to be used at a later stage for student evaluations of the micro-modules; and
- made four flash animations to be compiled into the following micro-modules:
 - concept of resting membrane potential;
 - concept of action potential;
 - conduction system of the heart; and
 - measurement of blood pressure.

Major obstacles encountered during the development

- Some scientific and medical images (and animations) were not available for purchase and needed to be drawn by appointed graphic designers to avoid copyright issues.

Remaining tasks to be finished:

- 4-6 micro-modules to be completed by early Aug 2015.

The project is on time for completion by the end of August. A final report will be ready before the grant expiry date.

3. Evaluation Plan

The evaluation methods will remain as planned, and will include

1. an online survey, and
2. group interviews.

Groups of student helpers will be appointed to evaluate the finished products during the summer before the entire micro-module package is launched in September 2015.

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

Completed Products:

- A single HTML5 compliance website will integrate all of the micro-modules and relevant information for students. Because it is in the development stage, it is temporarily hosted on the TLRC server with the URL: http://facs.med.cuhk.edu.hk/iw/cdg_sample.
- Four completed micro modules are currently accessible from the URL.

- An evaluation survey has also been designed and can be accessed from <http://tinyurl.com/nn2fu63>. This will be available to students after they have completed each micro-module to evaluate its usefulness and identify improvements to be made.

Flip classroom activities planned:

- To introduce students to the topics that will be covered in lectures, they will be given access to the website one week before each class so that they can familiarise themselves with the micro-module materials.
- A self-assessment quiz with feedback will also be provided to ensure the students come prepared for the materials taught in class.
- During the lectures, the topics will be explained in more detail and student participation will be encouraged and more questions asked. There may also be a section in the lecture devoted to answering students' questions.
- A post-class quiz will also be available online to help students understand the areas that they struggle with, and additional teaching/explanation can be prepared.

Tools used:

- The recording service provided by the ITSC is mostly used for the audio narration part of the micro-module.
- A software package, the *Articulate Storyline*, is also consistently used for the creation of the micro-modules, as it allows the easy creation and compilation of the content (text, audio and video) into an interactive package that students can access via both the Web and on mobile devices.

~ End of this report ~