

THE CHINESE UNIVERSITY OF HONG KONG

Micro-Module Courseware Development Grant

Scheme 2: Studies in Foundation Courses

Final Report (2015-16)

Report due 31 December 2016

Please return by email to The Ad hoc Committee on Planning of eLearning Infrastructure
mmcd@cuhk.edu.hk

PART I

Project title: Micro-modules for UGFN1000 classroom flipping

Principal supervisor: KIANG Kai Ming

Co-supervisor(s): NG Ka Leung Andy, CHEUNG Hang Cheong Derek, WU Jun Vivian

Department / Unit: Office of University General Education

Project duration: From January 2016 to December 2016

Date report submitted: 29/12/2016

1. Project objectives

The Project met its objectives of providing a suite of micro-modules for 5 of the 11 classics in the course to facilitate classroom flipping of the course In Dialogue with Nature by the end of the year. This objective has not been changed.

2. Process, outcomes or deliverables

There are now 140 videos/exercises produced and uploaded to the designated website for the course UGFN1000, In Dialogue with Nature. In addition to the originally proposed, these 140 videos/exercises now also include sharings by former students to create more student-oriented contents. These include videos on interesting examples related to the text from the eyes of students and recorded students discussions on related topics.

The products are now integrated into a KEEP customized course page. It has been officially launched the students in 2016/17 Term 1 to use.

The project is on time and the work for the proposed items for this grant are now all completed satisfactorily.

3. Evaluation Plan

Surveys for evaluation, as was planned, have also been conducted. Moreover, an online survey was also provided to the users to collect further feedback. These survey results all indicate that the students who used the micro-modules agreed that it is helpful to their understanding and discussion of the course content – an important indication of meeting the objective of this project.

4. Dissemination, diffusion and impact

Journals:

KIANG Kai Ming, Hin-Yan Chan, Andy Ka-Leung Ng and Derek Hang-Cheong Cheung, “Effectiveness of Micro-Modules in a Science Classics Course”, *American Journal of Educational Research*. 2016, 4(13), 917-926.

Conferences/Expo:

KIANG Kai Ming, “Improving the effectiveness of a science classics-reading course through the use of micro-modules”, The 47th annual ASERA Conference, 27 June – 01 July 2016, Canberra, Australia.

NG Andy Ka-Leung, Derek Hang-Cheong Cheung and Kiang Kai Ming, “E-Learning Implementation in a Compulsory Science General Education Course”, *Multidisciplinary Academic Conference on Education, Teaching and Learning (MAC-ETL 2016)*, 10 Dec – 11 Dec, 2016, Prague, Czech Republic.

KIANG Kai Ming, Andy Ka Leung Ng, Derek Hang Cheong Cheung, Vivian Jun Wu, “Micro-module Courseware Development: Micro-modules for UGFN1000 classroom flipping”, *Teaching and Learning Innovation Expo*, 16 Dec, 2016, CUHK, Hong Kong.

Website:

【網上講堂】與自然對話 – 網上輔助課堂 In Dialogue with Nature – Supplementary courseware, <http://cu-genews.com/2016/09/08/505/>

The developed micro-module website has been used by more than 10 lecturers who teach the course In Dialogue with Nature. The number of registered users to the website is now above 240 and is expected to increase with further promotion. Moreover, lecturers who teach this course from the CUHK (Shenzhen) have also shown high interest in the website during the Teaching and Learning Innovation Expo 2016. They were given the access subsequently and shall start to promote the website to their students from 2017 onwards.

PART II

Financial data

Funds available:

Funds awarded from MMCDG	\$ 90400
Funds secured from other sources (please specify _____)	\$ 0
Total:	\$ 90400

Expenditure (Estimated as of 28 Dec 2016):

Item	Budget as per application	Expenditure	Balance
Student helpers for video recording and editing	\$11000	\$9900	\$1050
Student helpers for online exercises	\$21450	\$19910	\$1540
Student helpers for hosting the discussion board	\$11000	\$8800	\$2200
Student helpers for data entry and analysis of the surveys	\$16500	\$18150	-\$1650
Contract for Service	\$20000	\$20000	\$0
Dissemination cost (journal publishing)	\$3000	\$2850	\$150
Web storage cost and misc. IT cost	\$7450	\$3000	\$4450
Total	\$90400	\$82610	\$7790

PART III

Lessons learnt from the project

It is anticipated that the team would apply future MMCDGS to continue producing more micro modules for the other texts (Text 1-6) that are not covered in this year grant (The work was focused on Text 7-11 of the course this year.)

This project has involved the use of many student helpers. This helps the project to minimize the cost as well as generating contents that are deemed to be appropriate for the students to use. They however are difficult to be managed (both time and quality). Close supervision is necessary. In technical issues, ITSC has offered some valuable help in setting up the MMC website.

Another key success factor for this project is the detailed evaluation method. We have spent great effort in producing the entry-exit surveys, conducting it, and then analyzing it. These have resulted as a valuable feedback on the effectiveness of the deliverables of this project and are reported in peer-reviewed journals and international conferences.

PART IV

Information for public access

The Chinese University of Hong Kong has launched two compulsory classics-reading courses for all students since 2012. One of these courses, In Dialogue with Nature, requires students to read science-related classics in order to cultivate their scientific mindset. Students have been reportedly encountering difficulty in studying this course due to the lack of relevant knowledge. A set of micro-modules was developed to supplement students with concepts that are deemed to be fundamental to the understanding of the classics. There are now 140 videos/exercises produced and uploaded to the designated website for 5 of the 11 classics to facilitate classroom flipping.

1. Keywords

Please provide five keywords (in the order of most relevant to your project to least relevant) to describe your micro-modules/pedagogies adopted.

(Most relevant) In Dialogue with Nature

Science Classics

Micro-modules

Classroom Flipping

(Least relevant) KEEP

2. Summary

Please provide information, if any, in the following tables, and provide the details in Part I.

Table 1: Publicly accessible online resources (if any)

(a) Project website:

https://moodle.keep.edu.hk/course/view.php?id=113

(with first time registration password: UGFN1000)

(b) Webpage(s):

http://cu-genews.com/2016/09/08/505/

(c) Tools / Services:

<i>KEEP, Elite, Articulate Storyline</i>
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(d) Pedagogical Uses:

The website is designed for classroom flipping of the course In Dialogue with Nature. The basic idea is to have the micro-modules to give further background knowledge to the students in various aspects related to the comprehension of each specific classic text in addition to the corresponding 1-hour lecture. This allows freeing up the 2 hours invaluable face-to-face teacher-student interactive tutorial for deeper discussions and reflections on the core questions and be able to relate them to modern issues and themselves.

(c) Others (please specify):

Table 2: Resources accessible to a target group of students (if any)

If resources (e.g. software) have been developed for a target group of students (e.g. in a course, in a department) to gain access through specific platforms (e.g. Blackboard, facebook), please specify.

<u>Course Code/ Target Students</u>	<u>Term & Year of offering</u>	<u>Approximate No. of students</u>	<u>Platform</u>
UGFN1000	Term 1 2016/17	240	KEEP
UGFN1000	Term 2 2015/16	210	Blackboard

Table 3: Presentation (if any)

Please classify each of the (oral/poster) presentations into one and only one of the following categories

	Number
(a) In workshop/retreat within your unit (e.g. department, faculty)	0
(b) In workshop/retreat organized for CUHK teachers (e.g. CLEAR workshop, workshop organized by other CUHK units)	0
(c) In CUHK ExPo jointly organized by CLEAR and ITSC	1
(d) In any other event held in HK (e.g. UGC symposium, talks delivered to units of other institutions)	0
(e) In international conference	2
(f) Others (please specify)	0

Table 4: Publication (if any)

Please classify each piece of publication into one and only one of the following categories

	Number
(a) Project CD/DVD	0
(b) Project leaflet	0

(c) Project booklet	0
(d) A section/chapter in a booklet/ book distributed to a limited group of audience	0
(e) Conference proceeding	0
(f) A chapter in a book accessible internationally	0
(g) A paper in a referred journal	1
(h) Others (please specify)	0

3. A one-page brief write up

In Dialogue with Nature (the course code is abbreviated as UGFN) adopts the classics reading approach to cultivate scientific literacy for the undergraduate students in the Chinese University of Hong Kong (CUHK). UGFN is one of the two compulsory courses in the General Education Foundation (GEF) Programme specially designed for the four-year curriculum in CUHK. Beginning from 2012, it became compulsory for all approximately 4000 students per year. Distributed over two regular semesters and summer semester each year, the students are put into approximately 180 classes of maximum 25 students concurrently run by over 15 full-time and part-time lecturers.

While UGFN has been successful in helping students to attain the objectives, it is of concern that, students often reported that they would need to know more background knowledge to facilitate their reflections. As a 3-unit course, each week, a 1-hour session of lecture and a 2-hour session of interactive tutorial are dedicated for each of the 11 classics within UGFN syllabus. However, teachers and students often reported that the 1-hour lecture is insufficient to provide necessary background knowledge for the students to handle the specific classic text on their own. It is common that most of the time in the 2-hour interactive tutorial is used not for the discussion of the core questions but for the comprehension of the textual meaning of the classic.

Beginning from 2015, an attempt had been made to develop a series of micro-modules to facilitate classroom flipping of the course. As of the end of 2016, there are now 140 videos/exercises produced and uploaded to the designated website for 5 of the 11 classics to facilitate classroom flipping. The remaining 6 could be the future work of this project. There are various types of videos that we have prepared. 38 videos were filmed while we conducted live lecture on the supplementary materials. 39 videos were filmed using the self-recording facility provided by Elite. 48 videos were edited from seminars conducted by guest speakers. 5 videos were produced by former students. These were contents deemed to be interesting from students' perspective. 7 videos of Student discussions on relevant topics they found interesting were also recorded. On top of the videos, a series of online interactive exercises was provided to serve as checkpoints for the students who have watched or read the materials.

The micro-modules were implemented in the Knowledge and Education Exchange Platform (KEEP). On the KEEP course homepage, the micro-modules are arranged according to the main character of each classic text and students can choose the text they are interested by clicking on the corresponding button. Then, students are directed to a content page. They can choose the topic by clicking on the corresponding link to watch the video or attempt the

interactive exercises.

After the launch of the KEEP course website for the students to use in Semester 1 of 2016/17 academic year, there are now more than 240 users registered. The number is expected to increase further in the coming semesters when more promotion will be conducted by the course lecturers.