

THE CHINESE UNIVERSITY OF HONG KONG

Micro-Module Courseware Development Grant

Scheme 2: Studies in Foundation Courses

Final Report (2017-18)

Report due 31 October 2018

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

PART I

Project title: Integration and enhancement of the existing micro-modules platforms for UGFN1000 classroom flipping

Principal supervisor: KIANG Kai Ming and WU Jun Vivian

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

Department / Unit: Office of University General Education

Project duration: From December 2017 to October 2018

Date report submitted: 23/10/2018

1. Project objectives

The Project is on track and met its objectives of:

- 1) Integrate other animation type micro-modules developed under different projects for the same course into the current KEEP platform.
- 2) Generate a featured micro-module as an introduction for each part of the course.
- 3) Produce more student discussions style micro-modules.
- 4) Produce more lecture style micro-modules.

We have not changed the objectives.

2. Process, outcomes or deliverables

As a continuation project, we have developed 39 new micro-modules of various types and integrated 6 animation-type micro-modules into our current supplementary courseware website on the KEEP platform for the course UGFN1000 in Dialogue with Nature. These micro-modules of different types, belonging to 7 of the 11 official texts in this course, are listed in the following table. Together with the other existing micro-modules, we have now close to 200 micro-modules on our website.

We didn't encounter any obstacles so far and we would still aim to complete the remaining micro-modules on time.

Text 1: Plato	<p>1 micro-module as the featured video (S5) COMPLETED</p> <p>Duration of the micro-module (mm:ss): 3:30</p> <p>4 micro-modules in 1 series of lecture style micro-modules (S1) COMPLETED</p> <p>Duration of the micro-module (mm:ss): 22:17, 15:58, 16:55, 15:12</p> <p>4 micro-modules in 1 series of discussion style micro-modules (S15) COMPLETED</p> <p>Duration of the micro-module (mm:ss): 19:20, 17:24, 20:14, 20:53</p>
Text 2: Aristotle	<p>8 micro-modules in 2 series of lecture style micro-modules (S1) COMPLETED</p> <p>Duration of the micro-module (mm:ss): 30:25, 12:39, 11:01, 18:35, 33:34, 28:26, 15:28, 17:47</p>
Text 4: Darwin	<p>1 micro-module as the featured video (S5) COMPLETED</p> <p>Duration of the micro-module (mm:ss): 3:40</p> <p>2 micro-modules of animation types (S12) are INTEGRATED</p> <p>Duration of the micro-module (mm:ss): 4:34, 5:09</p>
Text 5: Watson	<p>2 micro-modules of animation types (S12) are INTEGRATED</p> <p>Duration of the micro-module (mm:ss): 4:36, 5:50</p> <p>4 micro-modules in 1 series of discussion style micro-modules (S15) COMPLETED</p> <p>Duration of the micro-module (mm:ss): 15:33, 15:25, 16:57, 17:26</p>
Text 6: Carson	<p>12 micro-modules in 3 series of lecture style micro-modules (S1) COMPLETED</p> <p>Duration of the micro-module (mm:ss): 18:03, 21:21, 21:18, 23:44, 17:51, 16:49, 18:28, 22:47, 19:28, 21:06, 19:45, 26:29</p>
Text 7: Poincare	<p>1 micro-module as the featured video (S5) COMPLETED</p> <p>Duration of the micro-module (mm:ss): 3:40</p> <p>4 micro-modules in 1 series of discussion style micro-modules (S15) COMPLETED</p> <p>Duration of the micro-module (mm:ss): 16:08, 16:11, 16:54, 17:53</p>

Text 8: Kandel	2 micro-modules of animation types (S12) are INTEGRATED Duration of the micro-module (mm:ss): 5:25, 6:38
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3. Evaluation Plan

Have you altered your evaluation plans?

What monitoring data did you collect?

Does your evaluation indicate that you have achieved your objectives?

Surveys for evaluation have been continuously conducted for every semester. Their opinions about the micro-modules are analysed after the collection of the surveys. Out of the 1337 students participated in the surveys in 2017/18, 365 (27%) have used the micro-modules platform. This is considered as a high percentage considered that the use of it is not compulsory. Registered accounts on our KEEP course website are now over 1300 (as at the time of writing this report). We anticipate this new batch of micro-modules can further increase student's awareness and interest to use them.

Among the reasons for not using the website, we provided a list of possible reasons for the students who didn't used the platform to choose from. Two reasons are most significantly important: ~64% of students said they were too busy; ~47% said that there is a lack of promotion. Furthermore, an investigation conducted shows that if the micro-modules were coupled with online discussion as an assessment, the usage of the micro-modules, the rating of the micro-modules, and the understanding of the content knowledge have all increased. Given these findings, we shall aim to upgrade our promotion campaign of our micro-modules website and consider linking the websites with online discussion for our classes of students.

4. Dissemination, diffusion and impact

Please provide examples of dissemination: website, presentations in workshops or conferences, or publications.

Please provide examples of diffusion: how the project results/process/outcomes/deliverables have been used in your unit and other parts of CUHK or other institutions?

Please provide examples of impact: how the project results (micro modules) can be adapted to other disciplines.

The micro-modules are now all accessible via our KEEP course. To access, one will need a KEEP account to access it. The steps are as follow:

- 1) **Login/Create** your KEEP account at <https://keep.edu.hk/> (please create your account with your cuhk email address. It will require you to activate the KEEP account using that address)
- 2) **Visit** <https://moodle.keep.edu.hk/course/view.php?id=113>
- 3) **Self-enrol** into the course with this self-enrolment key: **ugfn1000**

The results of the overall project have been presented in the following conferences/expos and journals:

Conferences/Expos in 2017/18:

CHEUNG Derek Hang Cheong, Andy Ka-Leung Ng, Isaac Ka-Tai Wong, “Seeking for a Cost-effective Way in Online Courseware Production: From Students’ and Teachers’ Perspectives”, *World Congress on Education 2018*, Dublin, Ireland, 15th -18th Jul 2018.

CHEUNG Derek Hang Cheong, Andy Ka-Leung Ng, Isaac Ka-Tai Wong, “Content Analysis on Students’ Cognitive Achievement in a Micro-module Coupled Discussion Forum”, *9th International Conference on Language, Education, Humanities and Innovation 2018*, Osaka, Japan, 10th – 11th May 2018.

NG Andy Ka Leung, Derek Hang-Cheong Cheung, Isaac Ka-Tai Wong, “Effectiveness and Preference of Different Types of e-Learning Courseware: A Students’ Perspective Study”, *9th International Conference on Language, Education, Humanities and Innovation 2018*, Osaka, Japan, 10th – 11th May 2018.

CHEUNG Derek Hang Cheong, Andy Ka-Leung Ng, Kai-Ming Kiang, Isaac Ka-Tai Wong, “Coupling micro-modules with online discussion forum: a content analysis study”, *Teaching and Learning Innovation Expo 2017*, CUHK, Hong Kong, 7th Dec 2017.

KIANG Kai-Ming, Derek Hang Cheong Cheung, Andy Ka-Leung Ng, , Vivian Jun Wu, “Micro-modules for UGFN1000 classroom flipping”, *Teaching and Learning Innovation Expo 2017*, CUHK, Hong Kong, 7th Dec 2017.

CHEUNG Hang Cheong Derek, WU Jun Vivian, NG Ka-Leung Andy, Kiang Kai Ming,

Website:

【網上講堂】 與自然對話 - 網上輔助課堂 In Dialogue with Nature - Supplementary courseware:

<http://cu-genevs.com/category/learning-resources/網上講壇-micro-module/>

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 1000 students and is expected to increase with further promotion. Moreover, lecturers who teach this course from the CUHK (Shenzhen) are also using the website. As an integrated platform of micro-modules, it is expected that we will continue to integrate micro-modules developed by other PI teaching the same course, so that students can be benefited from the ease of access.

Moreover, this project has been selected by the eLearning community of Practice as one of the demos for new teachers at CUHK to learn from.

PART II

Financial data

Funds available:

Funds awarded from MMCDG	\$ 100000
Funds secured from other sources (please specify _____)	\$ 0
Total:	\$ 100000

Expenditure:

Item	Budget as per application	Expenditure	Balance
Student helpers for video recording/editing and misc. work	\$16,500	\$31,243	\$-14,743
TA	\$60,000	\$48,431	\$11,569
Technical cost for preparation of the in-video quizzes, animations, use of specialized studios, etc.	\$20,000	\$20,000	\$0
Dissemination cost (journal publishing) and misc. cost	\$3,500	\$232	\$3,268
Total:	\$100,000	\$100,000	\$94

PART III

Lessons learnt from the project

It is anticipated that the team would apply future grants to continue producing more delicate micro modules that helps introduce and integrate the large number and diverse style of micro-modules that we developed.

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

This is a continuation work on our existing project that aims to flip the classroom for UGFN1000, In Dialogue with Nature. In the past few years, the team has already developed over 160 micro-modules and has structured them as a supplementary courseware on the KEEP platform. It is evidenced that the courseware has received positive feedback and has effectively increased the quality of the discussions in the tutorials. As a continuation project, we have developed 39 new micro-modules of various types and integrated 6 animation-type micro-modules into our KEEP platform. These new micro-modules serve to provide more diversity and help create a more integrated experience for the students to use these now close to 200 micro-modules on this website. So far, the platform has already served over 1300 students after the full launch of the platform.

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)
<p>(a) Project website:</p> <p>https://moodle.keep.edu.hk/course/view.php?id=113</p> <p>(with first time registration password: UGFN1000)</p>
<p>(b) Webpage(s):</p> <p>http://cu-genews.com/category/learning-resources/網上講壇-micro-module/</p>
<p>(c) Tools / Services:</p> <p><i>KEEP, Elite</i></p>

(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>
<i>UGFN1000</i>	<i>201819 T2</i>	<i>1500</i>	<i>KEEP</i>
<i>UGFN1000</i>	<i>201819 T1</i>	<i>1500</i>	<i>KEEP</i>

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)	<i>Please insert no</i>
(b) In workshop/retreat organized for CUHK teachers (e.g. CLEAR workshop, workshop organized by other CUHK units)	<i>Please insert no</i>
(c) In CUHK ExPo jointly organized by CLEAR and ITSC	<i>2</i>
(d) In any other event held in HK (e.g. UGC symposium, talks delivered to units of other institutions)	<i>0</i>
(e) In international conference	<i>3</i>
(f) Others (please specify)	<i>Please insert no</i>

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	<i>Please insert no</i>
(b) Project leaflet	<i>Please insert no</i>

(c) Project booklet	<i>Please insert no</i>
(d) A section/chapter in a booklet/ book distributed to a limited group of audience	<i>Please insert no</i>
(e) Conference proceeding	<i>Please insert no</i>
(f) A chapter in a book accessible internationally	<i>Please insert no</i>
(g) A paper in a referred journal	<i>Please insert no</i>
(h) Others (please specify)	<i>Please insert no</i>

3. A one-page brief write up

This is a continuation work on our existing micro-modules platform that aims to help flip the classroom for UGFN1000, In Dialogue with Nature. 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.

In the last three years, the team has developed over 160 micro-modules and has structured them as a supplementary courseware on the KEEP platform. So far, it has already served over 1000 students after the courseware is fully launched two years ago. It is evidenced that the courseware has received positive feedback and has effectively increased the quality of the discussions in the tutorials. Yet, with the increasing number of micro-modules produced, there were some pressing issues that needed to be addressed for it to be fully utilized as a classroom flipping tool by all the students taking UGFN1000 every year.

First, there were multiple platforms of micro-modules developed under different projects for the same course. Under this project, we have integrated them into our KEEP platform for the ease of access by the students. It also can increase the publicity of the platform so that it can benefit more students.

Second, for were so many micro-modules on the platform, students may not know where to start and which would be suitable for them to watch. We generated a featured micro-module as an introduction for each part of the course, i.e. three featured micro-modules in total. Each of them highlights the essence of the corresponding part so that students can quickly grasp the main theme and be aware of what to look for before they go on to further explore the platform on their own.

Third, most of our micro-modules were recorded in a lecture style. Over the last year, we recorded a more variety of micro-modules which are to share more from the students' perspective. Some of these were recorded as student discussions led by a lecturer or a field expert. Some others were micro-modules generated covering topics by different speakers so to generate a more diversity of voices of micro-modules available in this platform.