THE CHINESE UNIVERSITY OF HONG KONG

Micro-Module Courseware Development Grant

Scheme 1: Basic Scheme

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 Religion, Psychology and Health
Principal supervisor:	Dr. CHOW Wai Yin
Co-supervisor(s):	Nil
Department / Unit:	Department of Cultural and Religious Studies
Project duration:	From January 2016 to December 2016
Date report submitted:	December 31, 2016

1. Project objectives

Is the project on track to meet its objectives?
Have the objectives been changed as a result of the experience of working on your MMCDG project?

The objective of this project, as set in the proposal, is to produce five micro-modules used as a part of Flipped Classroom strategy in the course "CURE 2115 Psychology of Religion". This objective has been completed by five short multimedia micro-lectures to facilitate students to (a) understand human behavior and mental process performing as a part of a particular religion through the scope of psychological studies of religion; and (b) to explore the relation between religion, physical and mental health.

2. Process, outcomes or deliverables

Please specify the number of micro modules produced, and the course(s) (with course codes and titles) that have used the micro modules in Part IV, and provide more detailed descriptions here.
Has the nature of the deliverables been changed?
Have you adjusted your timeline?
Overall, was the project completed satisfactorily?

Five micro-modules were accomplished from January to April 2016. Each module was produced in short multimedia micro-lecture (around 8-10 minutes) to facilitate students to understand the key concepts before the class. Topics include (1) *Psychological views on Religious Conversion*; (2) *Psychological views on Faith Development*; (3) *Psychological views on Religious Orientation*; (4) *Psychological views on Religious Experience*; and (5) *Religion and Physical Health*. With my academic background in education and psychology, and user-friendly software & hardware such as Camtasia, Surface Pro 3, and Plantronics Headset, the production process was smooth and the project was completed satisfactorily.

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?

The Evaluation Plan was operated according to the proposal set:

a. The effectiveness of flipped classroom strategy was evaluated by in-class ***short quiz*** and ***discussion***. The statistic tracking shown on Backboard showed that students' participation rate in flipped classroom was considerably high. Students also gave positive feedbacks that they well understood the concepts presented in the micro-lectures, and the results of in-class ***short quiz*** were satisfactory. We therefore assume the objectives set for the micro-lectures were achieved.

b. Students' perceptions on the effectiveness of Flipped Classroom Teaching were evaluated by quantitative and qualitative surveys. The surveys were conducted on April 25, 2016. The results are shown in the next session.

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.

Five MMCDs were output as mp4, and uploaded as SCORM package onto Blackboard through the course platform CURE 2115 "Psychology of Religion" (under the category

"Course Content") for students to download.

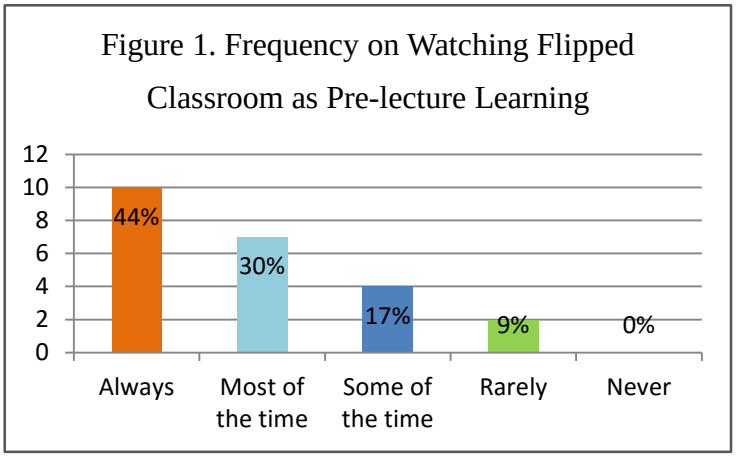


Figure 1. Frequency on Watching Flipped Classroom as Pre-lecture Learning

At the completion of the semester, students were asked to complete an 8-question survey about their experiences in flipped classroom. A 5-point Likert scale ranging from "always" (1) to "never" (5) was used to capture students' perceptions on the learning effectiveness of flipped classroom. Three open-ended questions were used for students to comment the learning/teaching model.

For calculation of each question's mean and standard deviation, the Likert Scale was given values of 1 (always) to 5 (never). The open-ended questions were examined for common themes among students. Completion of the survey was fully anonymous as no identifying questions were asked within the survey. Of the 29 students who completed the course, 23 completed the survey.

Independent Learning Achieved

The flipped classroom model is a method for encouraging students to learn independently. Figure 1 shows that students gained control of the learning process at their own pace. 100% of respondents had watched the micro-modules before attending the lecture class. 74% of them (of which 44% always, 30% most of the time) watched the micro-modules regularly. About 17% of them said they watched the micro-modules before class some of the time. Only two students indicated that they rarely watched the micro-modules provided on Blackboard. According to the statistics tracking shown on Blackboard, the average time that the enrolled students devoted in this course was 9.17 hours.[1] This was higher than other courses without using "flipped classroom" strategy taught by the same teacher in the same semester (e.g. the average time that the students devoted in "CURE 2144 Life and Death in Religions" was 6.27 hours.). On the other hand, as statistics tracking shown at Blackboard, self-paced learning usually took place on Sunday and Monday.[2]

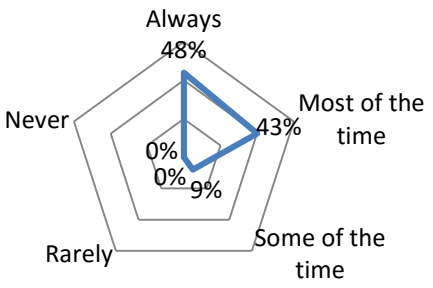
Basic Concepts Delivered

[1] The record on Blackboard indicated the total time that the enrolled students spent on preparing lectures was 265.93 hours. The average time for preparing the lectures of 29 students in the class is 9.17 hours.

[2] "CURE 2115 Psychology of Religions" was scheduled on every Monday afternoon (15:30-16:15) in term 2 of 2015-16. Statistics tracking showed students spent 197.7 hours on Sunday and Monday.

Our flipped classroom model used micro-lectures to facilitate students to learn, clarify and extend their learning of basic concepts outside traditional classroom. Figure 2 shows 48% respondents always used micro-lectures to clarify the basic concepts before the class; another 43 % respondents thought most of the time micro-lectures helped them to understand the basic concepts. Only total 9% of the students held the lesser preference on using the micro-lectures.

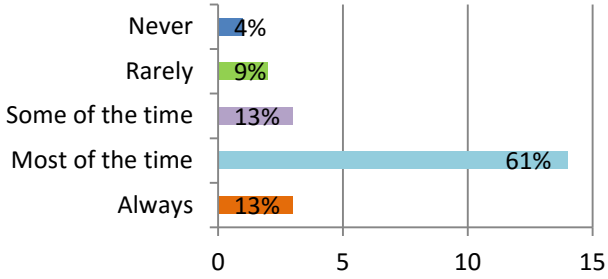
Figure 2. Preference on using micro-lectures to learn basic concepts before the class



Effectiveness of in-video Quizzes

Short in-video quizzes were used to evaluate students' understanding of new concepts. Figure 3 shows that 74% of the respondents (of which 13% always, and 61% most of the time) thought that in-video quizzes helped them to grasp the content of micro-lectures; 13% of the respondents (of which 9% rarely, and 4% never) thought in-video quizzes might be an effective way to grasp the content of micro-lectures.

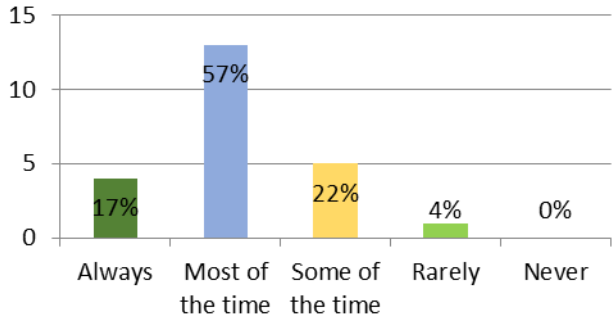
Figure 3. Effectiveness of the in-video quizzes on grasping the content of micro-lectures



Time to Spare for Class Discussion after Micro-lectures

Figure 4 shows that almost 74 % of the respondents gave positve feedbacks that they always/most of the time could spare time for further discussion after watching micro-lectures. Only 4% of the respondents rarely could spare time for class discussion. The results reflect that the flipped classroom model could provide students opportunity to discuss and further develop the material they learned.

Figure 4. Effectiveness on sparing time for class discussion after watching Flipped Classroom



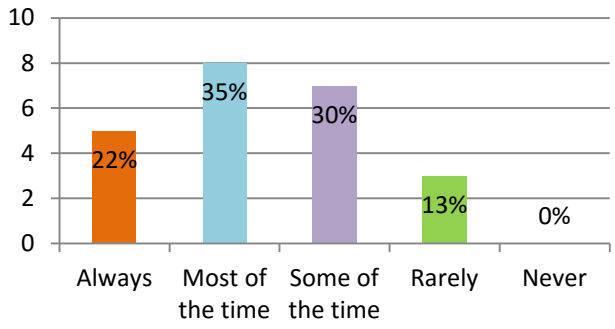
In fact, it is hard to involve every student in class discussion due to the limited time available. The use of "Discussion Board" at

Blackboard could provide a space for students to share thoughts and ideas on class materials after the class. According to the Blackboard record, there were totally 120 posts created within the semester in this course.

Flexible Learning

The flipped classroom model is designed for students to gain control of their learning process through structured materials (e.g. video-lectures and quizzes) outside the classroom. Students may play, pause or replay the video whenever they need. Figure 5 shows that 22% of respondents always found that the micro-lectures helped them to learn according to their own pace. 35% agreed they could go at their own pace. 30% and 13% respectively found some of the time/rarely helped them to learn according to their own pace.

Figure 5. Effectiveness on the video-lectures learning according to students' pace



Improved Learning Outcome

Last, we evaluated the effectiveness of flipped classroom on students' application of concepts acquired out of class. As the short quizzes embedded in video-lectures were used to help students acquire new concepts, the scores of quizzes could not be interpreted directly as a measure of students' academic progress. Rather, we expected students could apply new knowledge in their final term paper.

Two variables existed at Blackboard, students' total time spent on merely micro-modules and learning materials on Blackboard (e.g. assigned readings), and were measured. We thus examined the relationship between the time the students spent on the learning materials (micro-modules and reading materials) and their final paper scores (see the table below):

Score (total 100)	No. of students[3]	Average Time spent on Micro-Modules and Reading materials and in the whole semester
86 ~100	9	10.75 hours
85~75	9	10.69 hours

[3] 27 out of 29 students were selected for calculation. Two of the students did not submit their reflective paper in the semester.

74~50	9	6.68 hours

We divided the enrolled students into three groups according to the final paper scores, top 9, middle 9, and bottom 9. As the above table shows, the top 9 students spent 10.75 hours on watching micro-modules and reading materials, which was more than the middle 9 (10.69 hours) and bottom 9 (6.68 hours) students. It also shows that the students who spent more time on micro-modules and reading materials could get higher scores in term papers, in comparison with the students who spent lesser time on the self-learning materials on Blackboard. In addition, positive correlation was found between the time spent on micro-modules and reading materials with students' term paper scores ($r = .636$, $p = .00036 < .05$, $n = 27$).

PART II

Financial data

Funds available:

Funds awarded from MMCDG $ 97,500

Funds secured from other sources $ 0
(please specify_____)

Total: $ 97,500

Expenditure:

Item	Budget as per application	Actual Cost	Balance
Senior Staff for Teaching Relief (Sept – Dec 2016)	HK$60,000	HK$55,440	
Part-time RA (Jan-Apr 2016)	$120 x17 hours x 4 weeks x 4 months + MPF	HK$38,815.49	
Software for Micro-Modules and Flipped Classroom Teaching	Articulate Storyline ($1000)	-----	
Total:	HK$97,500	HK$ 94,255.49	HK$3,244.51

PART III

Lessons learnt from the project

Please describe your way forward.
Please describe any of the following item(s) accordingly:

- *Key success factors, if any*
- *Difficulties encountered and remedial actions taken, if any*
- *The role of other units in providing support, if any*
- *Suggestions to CUHK, if any*
    - *Example: what should be done differently?*

Three open-ended questions were used to ask students to share their favorite experience in the flipped classroom. Theme analysis shows that some of the students liked flipped classroom because:

a. flexibility of learning with regard to time and place;

b. clear and well organized micro-modules with animation can help them to grasp the basic concepts before the class;

c. watching micro-modules like reviewing reading materials - this encouraged them to read more and deeper in a specific issue or concept.

d. they could watch the micro-modules at home and came to class prepared;

e. class became the place to work through problems and discussions;

f. micro-modules help them to develop a self-learning habit.

Challenge in the Flipped Classroom

On the other hand, theme analysis shows that some of the students did not enjoy the new learning model because:

a. when reviewing the micro-modules at home, students could not get immediate answers to their questions as often happened in the traditional classroom;

b. they experienced technological problems with flipped classroom, like downloading problem, login problem, etc.;

c. high-quality discussion activities could not be maintained if the classmates came to the class unprepared;

d. they prefer face-to-face teaching and learning when conceptual knowledge is the subject matter.

Suggestions

Based on the student responses collected, it could say that learner-content interaction, learner-teacher interaction, and learner-learner interaction were important elements for effective flipped classroom learning. Flipped classroom learners may spend most of their time digesting content through thinking and reflection. Well-organized presentation, interactive videos, ease of accessing online content may increase learners' motivation to interact with course content (Havice, Davis, Foxx, & Havice, 2010).

On the other hand, the self-paced nature of the flipped classroom is a benefit for those using it, but this may also be a disadvantage for some students. Some students may not be capable of managing their study and time in discipline manner. Students may benefit from deadlines and support provided by teachers.

Learner-teacher interaction also contributes to effective flipped classroom learning. Respondents gave feedback that they could not get immediate answers to their questions in micro-lectures as often happened in the traditional classroom. Although students could keep notes and began class with Q&A discussions, teacher might employ other remedies like online discussion forums, blog posts, and journal writings in order to help students record their spontaneous reactions and questions to new information.

Also, course design would affect learners' interaction with their teacher. Course design with low flexibility can reduce learner-teacher interaction. The more rigid the course outline, the less autonomy a learner has (Giossos, Koutsouba, Lionarakis, & Skavantzos, 2009). A structured course design may provide basic course information (e.g., course objectives, teaching strategies, evaluation methods) as well as specified guidelines along with each task or assignment (Lee & Rha, 2009).

The amount of collaborative learning design in online settings seems to be an important factor that leads to the effect of flipped classroom learning. However, if the flipped classroom teaching is used in a short period of time (e.g. within 13-weeks), the given time constraints may decrease students and teachers' willingness to involve a great amount of group activities

Giossos, Y., Koutsouba, M., Lionarakis, A., & Skavantzos, K. (2009). Reconsidering Moore's transactional distance theory. Retrieved from http://www.eurodl.org/index.php?article=374.

Havice, P. A., Davis, T. T., Foxx, K. W., & Havice, W. L. (2010). The impact of rich media presentations on a distributed learning environment: Engagement and satisfaction of undergraduate students. *Quarterly Review of Distance Education*, 11(1), 53-58.

Lee, H. J., & Rha, I. (2009). Influence of structure and interaction on student achievement and satisfaction in web-based distance learning. *Educational Technology & Society*, 12(4), 372-382.

PART IV

Information for public access

Summary information and brief write-ups of individual projects will be uploaded to a publicly accessible CUHK MMCDG website. Please extract from Part I the relevant information to facilitate the compilation of the publicly accessible website and reports.

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) Keyword 1: Psychology

Keyword 2: Religions

Keyword 3: Mental process

Keyword 4: Human behavior

(Least relevant) Keyword 5:

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:** *If a publicly accessible project website has been constructed, please provide the URL.* Nil.
(b) **Webpage(s):** *If information of your project is summarized in a webpage (say a page in the department's or faculty's website), please provide the URL(s) here.* **MMCD 1** https://elearn.cuhk.edu.hk/courses/1/2015R2-CURE2115/content/_1579152_1/Psychology%20and%20Religion%201_Freud.html **MMCD 2** https://elearn.cuhk.edu.hk/courses/1/2015R2-CURE2115/content/_1692239_1/Jamw%20Fowler%202.html

MMCD 3

https://elearn.cuhk.edu.hk/courses/1/2015R2-CURE2115/content/_1597295_1/Allport.html

MMCD 4

https://elearn.cuhk.edu.hk/courses/1/2015R2-CURE2115/content/_1692439_1/William%20James.html

MMCD 5

https://elearn.cuhk.edu.hk/bbcswebdav/pid-1869704-dt-content-rid-5516579_1/courses/2015R2-CURE2115/Religions%20and%20Physical%20Health%282%29.mp4

(c) **Tools / Services:**

If you have used any tools or services for the project, please provide names of the tools or services in here.

Nil.

(d) **Pedagogical Uses:**

If any flipped classroom activities have been conducted, please provide information in here. If relevant, please indicate how your project output can be used to support flipped classroom activities.

Nil.

(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.

Course Code/ Target Students	**Term & Year of offering**	**Approximate No. of students**	**Platform**
CURE 2115	*2nd term 2015-16*	*29*	*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	0
(d) In any other event held in HK (e.g. UGC symposium, talks delivered to units of other institutions)	0
(e) In international conference	0
(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	0
(h) Others (please specify) Micro-lectures	5

3. A one-page brief write up

Please provide a one-page brief write-up of no more than 500 words and a short video.

This project was designed to produce 5 micro-modules (see Table 1 shown below) to support a Flipped Classroom Pedagogy in an undergraduate course CURE 2115 Psychology of Religion, helping students to (1) understand human behavior and mental process performing as a part of a particular religion through the scope of psychological studies of religion; and (2) to explore the relation between religion, physical and mental health.

Micro-module	Objectives	Teaching Strategies / The content of micro-module will be used in the

		class:
1. Psychological views on Religious Conversion (I)	This module introduces students to Freud's understanding on human's conversion behavior.	… to encourage student to analyze two mental processes underlying the old and the new view's on human conversion behavior.
2. Psychological views on Religious Conversion (II)	This module introduces students to James Fowler's understanding on human's conversion behavior.	
3. Psychological views on Religious Orientation	This module introduces students to Allport's theory of Religious Orientation: ①Intrinsic religious orientation; and ② Extrinsic religious orientation	… to encourage students to discover religious orientation in reality is *more complicated than a simple dichotomy*.
4. Psychological views on Religious Experience	This module introduces students to William James' theory of "Varieties of Religious Experience"	… to help students to explore more that religious experience can be *evaluated in two dimensions – from the inside or from the outside*. Religious experience includes dispositional and situational factor.
5. Religion and Physical Health	This module introduces students the positive effects of religion on physical health from the topics of ①lifestyle ②social networks, ③psychological state, and④ the effect of PSI	… to encourage students to use some real life examples to illustrate the positive relation between religion and physical health