

THE CHINESE UNIVERSITY OF HONG KONG

Micro-Module Courseware Development Grant

Scheme 1: Basic Scheme

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: Micro-module for Dietary Fats Metabolism

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Co-supervisor(s) Dr. Florence Mei Kuen Tang

Department / Unit School of Biomedical Sciences

Project duration: From December 2017 to October 2018

Date report submitted: October 31, 2018

1. Project objectives

The project is able to meet all the objectives without major changes. The contents delivered on each micro-module are aligned with the lecture materials.

2. Process, outcomes or deliverables

All four micro-modules are produced and delivered to year 2 medical students in Term I of academic year 2018-2019 (course code: MEDU2600 – Molecular Medicine and Genetics).

Micro-module number	Title
1	Classifications of dietary fats
2	Absorption of dietary fats
3	Mobilizations of dietary fats
4	Storages of dietary fats

The duration of each micro-module is around 4-6 minutes and the total duration for all four videos will be approximately 20-30 minutes. The style of each micro-module is formatted as 2D animations, annotative power-point and narrative animation videos to attract the student's interests. All the texts provided on the micro-module videos are synchronized with audio narrations. The nature of the deliverables is to provide some general concepts and facilitate their understanding in dietary fats and also stimulate the peer discussions and interactions. The timeline of the project development meets smoothly and only some minor changes in the proposed budget plan in order to input more animations into each micro-modules. Overall our team members and students are very enjoyed by this micro-module courseware development project.

3. Evaluation Plan

We collected some e-survey from our students for this project and we will keep collecting the data in 2018-19 year 2 medical students who will enroll in MEDU2600 – Molecular Medicine and Genetics. Overall the e-survey indicated that this project has a very good feedback from students to learn about dietary fats metabolism. The results of anonymous e-survey were attached at appendix 1 for references.

4. Dissemination, diffusion and impact

Since we have very good comments from our medical students on this project and we expect that there is a potential to launch those micro-modules to other non-medical programmes with similar teaching topics covered. This project will be presented at CUHK Orientation Day 2018-19, Teaching and Learning Expo 2018 CUHK and HKU Frontiers in Medical and Health Sciences Education 2018: “Learning in Alliance: Inter-professional Health Education and Practice”.

PART II

Financial data

Funds available:

Funds awarded from MMCDG	\$ 63,900
Funds secured from other sources (please specify _____)	\$ 0
Total:	\$ 63,900

Expenditure:

Item	Budget as per application	Expenditure	Balance
ITSC service charges for micro-modules courseware development	\$60,000	\$57,900	\$2,100
Costs of student helpers (\$60/hour)	\$3,600	\$2,940	\$660
Costs of MPF	\$300	\$147	\$153
Total:	\$63,900	\$60,987	\$2,913

PART III

Lessons learnt from the project

Students appreciated the user-friendly micro-modules coursewares explaining the complicated concepts of dietary fats metabolism which are very important and correlated to

their preclinical studies in the medical curriculum.

Key success factors:

1. A professional working team with preclinical study teacher and CUHK ITSC colleagues.
2. Accessible animated videos to refresh student's learning before and after face-to-face lectures.
3. Additional information which is not covered in the face-to-face lectures to enrich student's knowledge on specific areas of study.

Difficulties encountered:

1. Minor changes of the proposed budget plan as the expenses of animation were more than expected without the change of approved total budget.

Suggestion to CUHK:

1. The project duration is a bit short (< 1year) which may limit any further development to promote or nourish the present project's contents.
2. The budget of each project can be up to 120,000 – 150,000 as we need to balance the expenses of courseware development and other administration fee.

PART IV

Information for public access

Our project produced total four micro-modules for year 2 medical students. These modules are aligned with the lecture contents to be delivered by the course teacher as follows:

Micro-module number	Title
1	Classifications of dietary fats
2	Absorption of dietary fats
3	Mobilizations of dietary fats
4	Storages of dietary fats

1. Keywords

- (Most relevant) Keyword 1: phospholipid
 Keyword 2: chylomicrons
 Keyword 3: carnitine
 Keyword 4: atherosclerosis
- (Least relevant) Keyword 5: metabolism

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: NA.
(b) Webpage(s): NA.
(c) Tools / Services: NA.
(d) Pedagogical Uses: <i>The micro-modules will be uploaded at the start of Term I study 2018-19 and students can preview the contents before attending the lectures. Students are also encouraged to review the contents after face-to-face lectures.</i>
(c) Others (please specify):

Table 2: Resources accessible to a target group of students (if any)			
<i>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.</i>			
<u>Course Code/ Target Students</u>	<u>Term & Year of offering</u>	<u>Approximate No. of students</u>	<u>Platform</u>
MEDU2600 for Year 2 Medical Students	1 st term 2018	250-280	Blackboard
Table 3: Presentation (if any)			Number
<i>Please classify each of the (oral/poster) presentations into one and only one of the following categories</i>			
(a) In workshop/retreat within your unit (e.g. department, faculty)			NA
(b) In workshop/retreat organized for CUHK teachers (e.g. CLEAR workshop, workshop organized by other CUHK units)			NA
(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)			1

(e) In international conference	NA
(f) Others (please specify)	NA

Table 4: Publication (if any)	
<i>Please classify each piece of publication into one and only one of the following categories</i>	Number
(a) Project CD/DVD	NA
(b) Project leaflet	NA
(c) Project booklet	NA
(d) A section/chapter in a booklet/ book distributed to a limited group of audience	NA
(e) Conference proceeding	NA
(f) A chapter in a book accessible internationally	NA
(g) A paper in a referred journal	NA
(h) Others (please specify)	NA

3. A one-page brief write up

Dietary fats, like proteins and carbohydrates, are one of the important nutrients to all of us. It is important to provide clear concepts and basic knowledge of dietary fats to the medical/non-medical students. While studying the dietary fat metabolism, students may feel frustrated as the mechanism is not easy to pick up.

Our project created total four micro-module videos describing the dietary fat metabolisms in human body. In each micro-module, the contents are covering the basic knowledge and necessary information to equip year 2 medical students with preclinical studies.

The orders of each micro-modules are aligned with the lecture contents of corresponding course (MEDU2600 – Molecular Medicine and Genetics) and the students are encouraged to review the videos before and after face-to-face lectures.

The videos are accessible all the time at CUHK blackboard and feedbacks from students via e-survey will be accumulated for completed data analysis at Term I of 2018-19. The main areas of e-survey are reflecting the (i) usefulness, (ii) impact and (iii) effectiveness of all four micro-modules from the year 2 medical students during the study of dietary fat metabolisms at MEDU2600 – Molecular Medicine and Genetics.

We expect that the data collected for analysis will indicate the strengths and weaknesses of this project and we can improve our future elearning projects based on the student's recommendations.

Student 1: E-survey of “Micro-modules for Dietary Fats Metabolism”

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Usefulness of Micro-modules					
1. They were easy to use.				√	
2. Those micro-modules could keep my attention and interest.				√	
3. The contents of those micro-modules were appropriate.				√	
4. I was satisfied with those micro-modules.				√	
5. The information in those micro-modules was very useful.				√	
6. The information in those micro-modules was very easy to understand.			√		
7. I would review those micro-modules again when I did not understand the lecture’s contents.				√	
Impact & Effectiveness of Micro-modules					
1. I would recommend those micro-modules to other classmates.				√	
2. I would discuss the contents of those micro-modules with other classmates and teachers.				√	
3. I would read further via internet or textbooks of certain topics in those micro-modules.				√	
4. I had confidence to reflect my advanced level of knowledge from those micro-modules in midterm or final examination.			√		
5. I would expect other micro-modules with different topics are available in other courses.				√	

***Please tick in the appropriate box.**

Student 2: E-survey of “Micro-modules for Dietary Fats Metabolism”

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Usefulness of Micro-modules					
8. They were easy to use.				✓	
9. Those micro-modules could keep my attention and interest.			✓		
10. The contents of those micro-modules were appropriate.				✓	
11. I was satisfied with those micro-modules.					
12. The information in those micro-modules was very useful.				✓	
13. The information in those micro-modules was very easy to understand.			✓		
14. I would review those micro-modules again when I did not understand the lecture’s contents.					✓
Impact & Effectiveness of Micro-modules					
6. I would recommend those micro-modules to other classmates.				✓	
7. I would discuss the contents of those micro-modules with other classmates and teachers.			✓		
8. I would read further via internet or textbooks of certain topics in those micro-modules.				✓	
9. I had confidence to reflect my advanced level of knowledge from those micro-modules in midterm or final examination.				✓	
10. I would expect other micro-modules with different topics are available in other courses.					✓

***Please tick in the appropriate box.**

Student 3: E-survey of “Micro-modules for Dietary Fats Metabolism”

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Usefulness of Micro-modules					
15. They were easy to use.				✓	
16. Those micro-modules could keep my attention and interest.				✓	
17. The contents of those micro-modules were appropriate.					✓
18. I was satisfied with those micro-modules.					✓
19. The information in those micro-modules was very useful.				✓	
20. The information in those micro-modules was very easy to understand.				✓	
21. I would review those micro-modules again when I did not understand the lecture’s contents.			✓		
Impact & Effectiveness of Micro-modules					
11. I would recommend those micro-modules to other classmates.				✓	
12. I would discuss the contents of those micro-modules with other classmates and teachers.				✓	
13. I would read further via internet or textbooks of certain topics in those micro-modules.					✓
14. I had confidence to reflect my advanced level of knowledge from those micro-modules in midterm or final examination.				✓	
15. I would expect other micro-modules with different topics are available in other courses.					✓

***Please tick in the appropriate box.**

Student 4: E-survey of “Micro-modules for Dietary Fats Metabolism”

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Usefulness of Micro-modules					
1. They were easy to use.					√
2. Those micro-modules could keep my attention and interest.				√	
3. The contents of those micro-modules were appropriate.					√
4. I was satisfied with those micro-modules.				√	
5. The information in those micro-modules was very useful.				√	
6. The information in those micro-modules was very easy to understand.					√
7. I would review those micro-modules again when I did not understand the lecture’s contents.					√
Impact & Effectiveness of Micro-modules					
1. I would recommend those micro-modules to other classmates.				√	
2. I would discuss the contents of those micro-modules with other classmates and teachers.			√		
3. I would read further via internet or textbooks of certain topics in those micro-modules.				√	
4. I had confidence to reflect my advanced level of knowledge from those micro-modules in midterm or final examination.				√	
5. I would expect other micro-modules with different topics are available in other courses.					√

***Please tick in the appropriate box.**

Student 5: E-survey of “Micro-modules for Dietary Fats Metabolism”

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Usefulness of Micro-modules					
8. They were easy to use.					√
9. Those micro-modules could keep my attention and interest.					√
10. The contents of those micro-modules were appropriate.					√
11. I was satisfied with those micro-modules.					√
12. The information in those micro-modules was very useful.					√
13. The information in those micro-modules was very easy to understand.				√	
14. I would review those micro-modules again when I did not understand the lecture’s contents.					√
Impact & Effectiveness of Micro-modules					
6. I would recommend those micro-modules to other classmates.					√
7. I would discuss the contents of those micro-modules with other classmates and teachers.				√	
8. I would read further via internet or textbooks of certain topics in those micro-modules.				√	
9. I had confidence to reflect my advanced level of knowledge from those micro-modules in midterm or final examination.				√	
10. I would expect other micro-modules with different topics are available in other courses.					√

***Please tick in the appropriate box.**

Student 6: E-survey of “Micro-modules for Dietary Fats Metabolism”

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Usefulness of Micro-modules					
15. They were easy to use.					✓
16. Those micro-modules could keep my attention and interest.			✓		
17. The contents of those micro-modules were appropriate.				✓	
18. I was satisfied with those micro-modules.				✓	
19. The information in those micro-modules was very useful.					✓
20. The information in those micro-modules was very easy to understand.				✓	
21. I would review those micro-modules again when I did not understand the lecture’s contents.					✓
Impact & Effectiveness of Micro-modules					
11. I would recommend those micro-modules to other classmates.				✓	
12. I would discuss the contents of those micro-modules with other classmates and teachers.			✓		
13. I would read further via internet or textbooks of certain topics in those micro-modules.				✓	
14. I had confidence to reflect my advanced level of knowledge from those micro-modules in midterm or final examination.			✓		
15. I would expect other micro-modules with different topics are available in other courses.				✓	

***Please tick in the appropriate box.**

Student 7: E-survey of “Micro-modules for Dietary Fats Metabolism”

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Usefulness of Micro-modules					
22. They were easy to use.					✓
23. Those micro-modules could keep my attention and interest.				✓	
24. The contents of those micro-modules were appropriate.				✓	
25. I was satisfied with those micro-modules.				✓	
26. The information in those micro-modules was very useful.				✓	
27. The information in those micro-modules was very easy to understand.				✓	
28. I would review those micro-modules again when I did not understand the lecture’s contents.					✓
Impact & Effectiveness of Micro-modules					
16. I would recommend those micro-modules to other classmates.				✓	
17. I would discuss the contents of those micro-modules with other classmates and teachers.				✓	
18. I would read further via internet or textbooks of certain topics in those micro-modules.				✓	
19. I had confidence to reflect my advanced level of knowledge from those micro-modules in midterm or final examination.				✓	
20. I would expect other micro-modules with different topics are available in other courses.				✓	

***Please tick in the appropriate box.**

Student 8: E-survey of “Micro-modules for Dietary Fats Metabolism”

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Usefulness of Micro-modules					
29. They were easy to use.					✓
30. Those micro-modules could keep my attention and interest.					✓
31. The contents of those micro-modules were appropriate.					✓
32. I was satisfied with those micro-modules.					✓
33. The information in those micro-modules was very useful.				✓	
34. The information in those micro-modules was very easy to understand.				✓	
35. I would review those micro-modules again when I did not understand the lecture’s contents.			✓		
Impact & Effectiveness of Micro-modules					
21. I would recommend those micro-modules to other classmates.				✓	
22. I would discuss the contents of those micro-modules with other classmates and teachers.				✓	
23. I would read further via internet or textbooks of certain topics in those micro-modules.					✓
24. I had confidence to reflect my advanced level of knowledge from those micro-modules in midterm or final examination.				✓	
25. I would expect other micro-modules with different topics are available in other courses.					✓

***Please tick in the appropriate box.**