THE CHINESE UNIVERSITY OF HONG KONG

Micro-Module Courseware Development Grant

Scheme 3: eLearning Pedagogy Research

Final Report (2017-18)

Report due 31 October 2018 Please return by email to The Ad hoc Committee on Planning of eLearning Infrastructure <u>mmcd@cuhk.edu.hk</u>

PART I

Project title: A Comprehensive Analysis of Different Types of UGFN1000 Micro-modules:
From Users' and Developers' Perspectives
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Department / Unit: General Education Foundation Programme, Office of University
General Education
Project duration: Nov 2017 – Oct 2018
Date report submitted: 25 Oct 2018

1. Project objectives

Is the project on track to meet its objectives? Yes, the project is on track to meet its objectives.

Have the objectives been changed as a result of the experience of working on your MMCDG project?

The objectives were not changed throughout the project.

Has the project created any impact as expected?

The project has concluded the learning effectiveness and production cost of various types of micro-modules, including (1) Voiceover PowerPoint, (2) recorded lecture with the presenter's video image and PowerPoint, (3) Powtoon video and (4) Student discussion. Teachers could understand the specific benefits of producing different types of educational videos and its corresponding cost. The results have been presented at two international conferences.

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 in here. Must specify duration of each micro-modules (in terms of students online contact hours), total duration time of all deliverables and style. (With reference to the "Summary of video presentation styles" developed by CLEAR)

Around 160 videos were produced with the support of three MMCD grants. They were used in supplementing students' learning in UGFN1000 "In Dialogue with Nature", aiming at providing basic science knowledge and historical and technical science background for the enrolled students.

Have the research design, methodology and timeline been changed/adjusted?

The research design generally remains unchanged. The project aims at examining the cost-effectiveness of micro-modules from both the users' (students) and developers' (teachers) perspectives by using both quantitative and qualitative approaches. Students' general e-learning readiness has also been studied.

For methodology, when examining students' e-learning readiness, the measure of view counts of the four types of videos was excluded from the study after reconsideration. View counts of the videos were greatly influenced by how teachers promote the videos and how teachers plan to use the videos in their classes. View counts could not truly reveal students' willingness and preferences towards the videos.

The timeline has been met successfully as planned. Both the analyses of surveys, focus group and individual interview have been finished on time.

Overall, was the project completed satisfactorily?

We regard the project satisfactorily completed. The cost-effectiveness of the micro-modules, as the main research questions, was addressed. The slight change in the methodology was justified based on a careful reconsideration of other factors that might affect the research study. Three data reports are attached as appendix.

3. Evaluation Plan

Have you altered your evaluation plans? The evaluation plan has not been altered.

Does your evaluation indicate that you have achieved your objectives?

Primary research data has been presented in The 9th International Conference on Language, Education, Humanities and Innovation, Osaka and World Congress on Education, Dublin. The presentations were well-received, indicating that the project was successful in achieving the objectives.

4. Dissemination, diffusion and impact

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

The results of this research were presented in The 9th International Conference on Language, Education, Humanities and Innovation, Osaka and World Congress on Education, Dublin in 2018. Manuscript related to this project is in preparation.

Please provide examples of impact: how the research results/outcomes/findings can be extended to other disciplines.

This research is a comprehensive evaluation of the cost-effectiveness of 4 types of micro-modules, which are also typically used in other courses. The summary provides references to those course instructors who are interested in developing online videos for their courses.

Please describe how the research results/outcomes/findings may support the University's strategic aims in promoting eLearning.

CUHK is rapidly adapting the e-learning strategy. In this study, we have collected students' preferences towards four types of micro-modules, and the benefits of them according to focus group interviewees' opinions. Students in UGFN1000, as a compulsory academic requirement for all undergraduates, have a diverse academic background. This evaluation gives a comprehensive evaluation of students' learning with online videos of different genres. Meanwhile, other instructors, who are interested in developing e-learning tools, could take the result as a reference to do the planning and foresee students' learning outcome. This project supports the implementation of online videos in CUHK.

PART II

Financial data

Funds available:

Funds awarded from MMCDG		\$ 150,000
Funds secured from other sources		\$ 0
(please specify	_)	

Total:

\$ 150,000

Expenditure:

Item	Budget as per	Expenditure	Balance
	application		
Research Assistant (data collection, entry	\$ 120,000.00	\$ 121,999.79	- \$ 1,999.79
and analysis)			
Hours of work by student helpers (focus	\$ 9,240.00	\$ 12,684.00	- \$ 3,444.00
group transcription, participants of focus			
group interviews)			
Publication costs	\$ 2,500.00	\$ 0.00	+ \$ 2,500.00
Miscellaneous items (e.g. printing of	\$ 6,260.00	\$ 621.00	+\$5,639.00
posters, software purchase)			
Conference expenses	\$ 12,000.00	\$ 12,000.00	0.00
Total:	\$ 150,000.00	\$ 147,304.79	+ 2,695.21

PART III

Lessons learned from the project

Please describe your way forward.

The satisfactory feedbacks from students suggest that micro-modules are effective for students' learning. Efforts will be put to produce high quality videos in the future.

Please describe any of the following item(s) accordingly:

- *Key success factors, if any*
 - seeing the different impacts of various types of presentation used in online learning;
 - (2) concerning both the theoretical and implemental aspects of online learning;
 - (3) cooperation with other micro-modules production team

Materials produced by teachers are more preferred by students and more effective in facilitating students' attainment of learning outcomes.

• Difficulties encountered and remedial actions taken, if any

In order to make comparison between four types of micro-modules, we wanted to make sure that focus group interviewees could give a fair judgement. Therefore, we decided to, though spending more time, go through the four types of videos revolving around similar topics in each focus group interview before asking for their comments.

• The role of other units in providing support, if any

We did not collaborate with other units in this evaluation project.

• Suggestions to CUHK, if any

As we noticed in the focus group interview, students may need to jump to different online platforms in different courses. We suggest that the university could, if possible, provide a handy online platform which is convenient to both course teachers and students, uniting all the course materials.

<u>PART IV</u> 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: Micro-modules
	Keyword 2: Cost-effectiveness
	Keyword 3: E-learning readiness
	Keyword 4: General education
(Least relevant)	Keyword 5: Video learning

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. (b) Webpage(s): The micro-modules project was featured in UGE News: http://cu-genews.com/category/learning-resources/%E7%B6%B2%E4%B8%8A%E8% AC%9B%E5%A3%87-micro-module/ (c) Tools / Services: Services: ITSC, ELITE, KEEP; Tools: SPSS, NVivo (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.

Table 2: Resource 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/</u> Target Students	<u>Term & Year of</u> <u>offering</u>	<u>Platform</u>	
UGFN1000	1 st and 2 nd term 2017-18	500	KEEP
Table 3: Presentation	(if any)		
Please classify each of only one of the followi	ations into one and	Number	
(a) In workshop/retrea	t within your unit (e.g. de	partment, faculty)	Please insert no
(b) In workshop/retrea workshop, workshop c	achers (e.g. CLEAR units)	Please insert no	
(c) In CUHK ExPo joi	R and ITSC	1 (in Dec 2018)	
(d) In any other event delivered to units of ot	Please insert no		
(e) In international cor	2		
(f) Others (please spec	Please insert no		

Table 4: Publication (if any)	
Please classify each piece of publications into one and only one of the following categories	Number
(a) Project CD/DVD	Please insert no
(b) Project leaflet	Please insert no
(c) Project booklet	Please insert no
(d) A section/chapter in a booklet/ book distributed to a limited group of audience	Please insert no
(e) Conference proceeding	Please insert no
(f) A chapter in a book accessible internationally	Please insert no
(g) A paper in an referred journal	Please insert no
(h) Others (please specify)	Please insert no

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.

In this research, the cost-effectiveness of various types of micro-modules, including recorded lecture, Powtoon video and discussion, was investigated. Studio recorded lecture is sub-divided into PowerPoint and lecture with the presenter's video image and PowerPoint. From both the users' and developers' perspectives, (i) the respective impacts made to students' learning by each type of micro-modules, (ii) the corresponding production cost and procedure of each type of micro-modules and (iii) students' e-Learning readiness in general, were studied.

i. The impacts made to students learning by each type of micro-modules (Appendix 1)

Students' engagement and learning outcomes attainment could be influenced by the design of online materials. To investigate students' feedbacks towards the different types of UGFN1000 micro-modules, 16 students, who finished the course UGFN1000, were invited to participate in focus group interviews. They were asked to watch the four types of videos, fill in a survey and engage in a subsequent discussion.

Studio recorded lectures, Powtoon video and Student discussion

Survey result suggests that focus group interviewees preferred Powtoon video the most and the Student discussion the least. In the further discussion, interviewees proposed the advantages of using different presentation formats. Powtoon video, according to their comments, gave a clear and structured outline to the course issues and the presentation was vivid and attractive. Meanwhile, Studio recorded lectures are able to deliver richer information, which is more possibly used in their written assignments, than the other two video types. Student discussion, though not well structured as it greatly depended on students' simultaneous responses during videotaping, gave students the opportunity to know other perspectives regarding certain course issues.

The presence and absence of presenters' video images in the studio recoded lectures

Within the sub-category of Studio recorded lecture, interviewees shared different ideas. 7 interviewees preferred the presence of presenters' video image, claiming that it gave them a sense of interaction or a feeling of "being in a real-time lecture". 6 interviewees however preferred Voiceover PowerPoint, which they found themselves being less distracted from reading the PowerPoint. 3 interviewees had no preferences.

ii. Developers' brief summary of the costs and procedures to produce different types of micro-modules (Appendix 2)

Developers briefly introduced their working procedures in producing the videos with the approximate expense and working time. The numbers were, for the sake of comparison, converted into monetary cost and averaged to give an estimate of the cost for producing one set of videos. In short, one set of Studio recorded lecture costs around HK\$4260; that of Powtoon video costs around HK\$21750; that of Student discussion costs around HK\$2490.

iii. The e-Learning readiness of students (Appendix 3)

From the survey, students generally were adapted to use computer for their learning, but

they did not see it as a complete substitute of teachers' instruction. They inclined to be positive of using computer, in terms of exchanging ideas, receiving course materials and watching video clips for study. The focus group interviewees were experienced in using communication technologies, such as Skype and WhatsApp, and online working platforms, such as Google Documents and Blackboard. Some may even prefer communicating with other classmates by online media instead of a face-to-face meeting or a phone call. However, they seldom use such technologies to communicate with the course teachers. Although students raised the advantages of video learning, for example pace control and flexible schedules, they felt that the real-time interaction could not be fully replaced.

Appendix 1

Users' evaluation of the effectiveness of different types of micro-modules in facilitating students' attainment of ILOs

1. Survey

In order to ensure that students could give a fair comparison to the different types of videos, we gathered 4 groups of students, in total of 16 participants, to watch the 4 types of videos. Those videos were edited from the existing online micro-modules for text 8 (In Search of Memory: The Emergence of a New Science of Mind, Eric R. Kandel) in UGFN1000. With consideration to the completeness of the presentation, they were cut into short videos within 10 minutes. The participants were asked to fill in a survey after watching each video, regarding to its effectiveness in assisting their study from their perception.

	enhances your understanding of the	enhances your understanding of the	facilitates your reflection on the related	stimulates your interests to the related issues	
	text	related issues	issues		
Voiceover	4 31	4 81	4 00	4 63	
PowerPoint	т.J1	4.01	4.00	4.05	
Recorded	/ 13	4 63	3 56	4 75	
lecture	4.15	4.05	5.50	4.75	
Powtoon	4 69	5 10	4 75	5 28	
video	4.09	5.19	4.75	5.56	
Student	2.44	2 12	2.00	2.44	
discussion	Ζ.44	3.15	3.00	2.44	

Table 1. Interviewees' mean rating of the 4 types of micro-modules (Max. = 6; N=16)

After watching 4 videos, they were also asked to give their preferences to the 4 videos according to its effectiveness in facilitating their learning. The preferences were converted accordingly (1^{st} preference = 4, 2^{nd} preference = 3, 3^{rd} preference = 2, 4^{th} preference = 1).

Table 2.	Converted	means	of	interviewees'	preferences	to	the	4	types	of	micro-modules
(Max. =	4; N=16)										

	,,					
		Allow me to			Enrich the	
		have a more			materials in	
	Enhance my	in-depth	Enhance my		writing	Overall
	understanding	reflection on	performance	Reduce my	reflective	facilitate my
	of the text	the related	in tutorial	motivation to	journal/term	learning in
	content	topics	discussion	read the texts	paper	UGFN
Voiceover	2.01	2.01	2.62	1.04	2.00	2.01
PowerPoint	2.81	2.81	2.03	1.94	3.00	2.81
Recorded	2.44	1.88	2.31	3.13	2.44	2.19

lecture						
Powtoon	3 25	3 56	3 38	1 63	3 13	3 69
video	5.25	5.50	5.50	1.05	5.15	5.05
Student	1 50	1 75	1.60	2 21	1 4 4	1 21
discussion	1.50	1.75	1.69	5.31	1.44	1.31

2. Focus group interview

The 16 participants aforementioned were asked to give comments and elaborate their preferences to the 4 videos in a focus group setting. Their comments were summarized in the following two comparisons: (a) Studio recorded lectures (including Voiceover PowerPoint / Recorded lecture with the presenter's video image and PowerPoint), Powtoon video and Student discussion and (b) the presence and absence of lecturers' image in the studio recoded lecture.

(a) Studio recorded lectures, Powtoon video and Student discussion

The following table concluded both the advantages and disadvantages that focus group interviewees mentioned about different types of videos.

Table 3. Summary of advantages and disadvantages of the various micro-modules from the focus group interview [(*) indicates the numbers of interviewees giving similar comments].

		Advantages		Disadvantage
Studio recorded lectures	-	Richer in information compared to	-	Overwhelmed with information and could
(Voiceover PowerPoint /		Powtoon video and Student discussion (6)		limit extended thinking (3)
Recorded lecture with the	-	Information presented could be used in	-	Some prefer reading the PowerPoint
presenter's video image		written assignment (3)		instead of listening to the lecturer, given
and PowerPoint)				that the content was similar (2)
Powtoon video	-	Easy to follow and concentrate (3)	-	Information is less detail and concrete
	-	A clear, well-organized and structured		compared to Voiceover PowerPoint and
		outline to course issues (4)		Recorded lecture (4)
	-	Facts and examples were presented in a	-	Less likely to be used in written assignment
		vivid way (5)		(2)
	-	Overall, students preferred Powtoon video		
		the most. (13)		
Student discussion	-	Opportunity to listen to other	-	Not well structured, like a normal tutorial
		perspectives (5)		discussion setting (12)
	-	Less factual compared to the other videos,	-	Less authoritative (3)
		prompting new thoughts (3)	-	Less likely to be used in written assignment
				(1)

(b) The presence and absence of presenters' video images in the studio recoded lectures Students' preference for the presence of presenters' video images varies. 7 students out of 16 in the focus group preferred the recorded lectures with presenters' video images while 6 students preferred one without the images. The remaining 3 students explicitly stated that they had no preference.

Table 4. Summary of interviewees' preferences over the presence of presenters' video image. [() indicates numbers of interviewees had given similar comments].*

	R	ecorded lecture with the presenter's video image	Veice ever DewerDeint				
		and PowerPoint	voiceover powerpoint				
Advantages	-	Lecturer's image could provide a sense of					
		concentrated (4)	 For some students, they could focus more on the PowerPoint content without lecturer's image, not 				
	-	Instruction and presentation are more complete with lecturer's image and cues, and thus more	to be distracted by the lecturers' motion (3)				
		interactive (4)					

Appendix 2

Developers' brief summary of the costs and procedures to produce different types of micro-modules

1. Costs

Interviews were conducted with individual producers involved in the production of different types of micro-modules. Three stages of production were considered: (1) preparation, (2) filming or video making and (3) editing. In each stage, we asked about the procedures involved and time and expenses needed. To do the comparison, all costs (expenses, time and manpower) were converted into monetary cost. The average monetary costs to produce one set of videos of each kind (one complete presentation for a topic planned) were then compared.

	J
	Description of one set of videos
Studio	A 1-hour mono-language video about one pre-set topic
Recorded	
Lectures	
Powtoon video	One Powtoon video (around 5 minutes) with Chinese and English Subtitles
Student	An 1-hour Student discussion video
discussion	

Table 5. Description of one set of videos for different types of micro-modules

	Studio recorded lectures	Hour(s)	HKD\$	Powtoon video	Hour(s)	HKD\$	Student discussion	Hour(s)	HKD\$
One-off payment				VideoScribe:		4000.00			
Annual subscription				Copyright of background music:		1000.00			
	Lecturer preparation								
Preparation stage	(average):	13.33	2666.67	Discussing the video topics (3 lecturers):	4.00	2400.00	Teacher preparation	5.00	1000.00
	- Research on the								
	presentation topic			Designing storyboard			- Moderator preparation		
	- Integrating the								
	information			- Draft:	16.00	3200.00			
				- Explaining the storyboard to the					
	- Designing PPT			designer by recording:	0.50	100.00			
	- Preparing the oral								
	presentation								
Production stage	Studio's rent:	2.00	100.00	Designer:	1.00	10000.00	Participation fee for 4 participants	1.00	690.00
	Aids of teaching assistant:	2.00	260.00	Audio narration:	1.00	1200.00	Lecturers	1.00	200.00
	Lecturers:	2.00	400.00						
				Editing and audio-video coordination					
Editing	Video Editing (TA):	4.00	520.00	(CHI & ENG):	20.00	1150.00	Filming and editing (student helper)		287.50
	Editing and upload:	2.40	312.00	Translation:		500.00	Editing and upload:	2.40	312.00
	- Editing description			Follow up by the developers after			- Editing description written by		
	written by student helper			editing by the students (CHI & ENG):	16.00	3200.00	student helper		
	- HTML programming						- HTML programming		
	- Graphic and webpage			14			- Graphic and webpage editing		

Table 6. Summary table of expense, time and manpower in producing the micro-modules and the corresponding monetary cost after conversion.

	editing		ł			
	Description (Student helper):	3.00 1	72.50			
Average expenditure for						
one set of videos:		42	58.67		21750.00	2489.50
	Description (Student helper)					
Other expenditure:	(only at the beginning stage)	1.	72.50	Programme and copyright subscription:	5000.00	

2. The barriers spotted during production

Producers were asked to share barriers they have encountered during the production and their corresponding solutions.

Table 7. The difficulties and solutions in the production of various micro-modules.

Recorded lecture

Pictures copyright – Teachers chose to use copyright-free pictures on the internet. Yet, they suggested that it would be better if the University could provide an academic picture database to promote online lecture.

Demonstration – in real-time lectures, lecturers could perform some real experiments. It was harder to attract audience attention in an online video. They instead tried to use description, videos or simple animation to illustrate the experiments.

Abridging the presentation – To allow students to understand the scientific concepts through videos, lecturers often need to abandon some less important details. This could turn the content less accurate from an academic perspective.

Interactive questions – producers wanted to implement instant short questions within the videos, but have not yet figured out how to do it.

Server – at the early stage, the videos were uploaded to ITSC server but it requires an annual charge. It was also hard to coordinate the uploading process. At a later stage, the videos were uploaded to YouTube, which is free of charge. It also provides view count reports.

Powtoon video

Communication with the designer – Designer is not necessarily familiar with the video content. The video content is however needed to be precise and concise. Therefore, producers need to communicate with the designer, presenting all the details and requirement to ensure that all the pictures designed align with the academic content. Designer may need to re-design the graph accordingly. Yet, there should leave room for creativity.

Technical problem – Producers were unfamiliar with the animation software at the beginning. After assigning the animation pane of the illustrations, they often need to debug. Sometimes, accidental shut down of the software may cause loss of information.

Abridging the presentation – Producers need to explain complex concepts and make it into a 5-min short video. The script has to be concise and yet interesting. The wordings have to be strict. Thus, there is a tradeoff between precision and depth of the presentation.

Student discussion

Discussion quality – the discussion led by students was less active and intense. Teachers picking up the moderator role could boost the discussion quality but teachers also had to avoid dominating and interfering with the discussion.

Appendix 3

The e-Learning readiness of students

1. Online survey

Students who have watched the micro-modules for UGFN1000 were invited to participate in an online survey. In this section, they were asked to reflect on their own e-learning readiness. Questions were chosen from the Online learner readiness self-assessment instrument (OLRSAI) (Watkins et al., 2004) and the Tertiary students' readiness for online learning survey (TSROL) (Pillay et al., 2006). 87 valid responses were collected and means of each statement were put in the table below.

Table 8. Online survey of students' self-reported e-Learning readiness (negative statements are shaded in grey; Max. = 5; N=87).

	Mean
I think that I would be comfortable using a computer several times a week to	
participate in a course.	3.34
I think that I would be able to communicate effectively with others using	
online technologies (e.g., email, chat).	3.60
I think that I would be able to express myself clearly through my writing (e.g.	
mood, emotions, and humor).	3.56
I think that I would be able to relate the content of short video clips to the	
information I have read online or in books.	3.83
I think that I would be able to take notes while watching a video on the	
computer.	3.74
I think that I would be able to understand course-related information when	
it's presented in video formats.	3.86
I think that I would be able to carry on a conversation with others using the	
Internet (e.g., Internet chat, instant messenger).	3.62
I think that I would be comfortable having several discussions taking place in	
the same online chat even though I may not be participating in all of them.	3.62
I sometimes prefer to have more time to prepare responses to a question.	3.71
I feel at ease when working with computers.	3.52
I can troubleshoot most problems associated with using a computer.	3.46
I have extensive experience using computers.	3.52
When I become confused about something I'm reading on a computer, I scroll	
back to previous screens.	3.91
I would rather listen to a lecture than read the material from a computer	
screen.	3.68
I would rather find out information using a computer than from a teacher or	
lecturer.	2.87
I can't learn using only computers. I need the teacher-student contact.	3.66

2. Focus group

In the last section of the focus group mentioned, we asked students to comment on the different e-Learning components in their learning. It is common that students are exposed to different online platform where they could deal with different course issues. Other than Blackboard, they may also use Google Doc, SharePoint, Skype, WhatsApp for different purposes in their learning.

Usually, course teachers would upload the course materials to an online platform, where students are allowed to download them before the lecture. Though some students did not have the experience of using learning platform during secondary school, they found it easy to use online platform for accessing course materials. They found it less convenient if the course materials are in hardcopy.

"I am able to download all the learning materials I need [from the online platform]. In terms of quantity [of information], they are enough for what I want to know" (Science, Year 2, C291)

Students complained that some courses, which require submitting course materials in hardcopy, are more troublesome.

"I have a course now that requires us to hand in assignments in hard copy. I think it is troublesome that I need to go back to campus specifically for submitting the assignments." (Integrated BBA, Year 2, D536)

Students may need to discuss course content with peers after class, either for the group project, or their own questions over their study. Online platforms, including Skype, WhatsApp, Google Doc, were usually the alternatives when they could not meet each other. Some students reported that they prefer face-to-face discussion, online platform is their last resort.

"Using Skype is a waste of time. [My experience in other courses was that] my group could not even get into the topics after hours." (Science, Year 2, C325)

"Skype is only used when we could not schedule a time to meet with each other, like practicing for a presentation at the night before." (Translation, Year 3, C326)

However, falling to another extreme, some prefer chatting online instead of face-to-face discussion. They see it as a time-saving solution. Unlike the others, they prefer online chat more because it could avoid unnecessary social interaction, especially if they were not familiar with the group members. Combining the use of different existed platforms, they think working as a group could be as convenient as a meeting, where they could work and discuss synchronously.

"We discuss in WhatsApp. Then, we create a Google Document or a PowerPoint, finishing our own parts of responsibility. We would give feedback to each other's work before presentation in WhatsApp afterward." (Integrated BBA, Year 2, D578)

Students nowadays may sometimes create WhatsApp group for specific courses. WhatsApp becomes the main channel where they communicate with the others, even for course issues.

"I will form a [WhatsApp] group with classmates. We usually share teachers' notes or course information in the group." (International Business and Chinese Enterprise, Year 2, B436)

This text instant messenger offers textual record and flexible responding time. More commonly, using WhatsApp would be of higher priority than face-to-face discussion and phone call because:

"Nowadays, we seldom call the others by phone. [By sending messages], he or she could answer you when they are available while one may not be able to answer your phone immediately." (Chinese Langauge and Literature, Year 2, A443)

Nevertheless, students had a rather diverse opinion when doing the comparison between online lecture and traditional lecture. Some prefer traditional lecture because (1) they prefer strict guidance from the teachers and the learning atmosphere in a real-time lecture, (2) they could ask for clarification or details about the course materials right after the lecture, (3) they prefer spontaneous responses, demonstration or personal sharing from the lecturers. The others prefer online lecture because (1) they could listen to the lecture repeatedly, (2) they could design their own learning timetable flexibly, (3) they could watch the lecture recordings according to their learning pace.