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APPENDIX A: QUESTIONNAIRE ON THE CURRENT USE OF SOCIAL MEDIA FOR UNIVERSITY STUDENTS

(A) Current use of social media

1. For how long, if ever, have you used the following social media tools for each specified purpose? Please estimate the length of time in years.

	Everyday life	Informal learning	Formal learning
e.g., Blogs	7	3.5	2.2
Blogs			
Delicious			
Facebook			
Flickr			
Forum			
Google Docs			
Instagram			
Line			
LinkedIn			
Photobucket			
QQ			
Renren Net-			
Skype			
Twitter			
WhatsApp			
WeChat			
Weibo			
Wikipedia			
YouTube			
Other/s:			

2. How many time/s per week on average, if any, do you log in to the following social media tools for each specified purpose? Please estimate the number of times.
 (Please refer to the table below question 1)

3. To what extent do you agree or disagree with the statement below?
 1: Strongly disagree 2: Disagree 3: Neutral 4: Agree 5: Strongly agree 6: Unsure or Not applicable.

			Everyday life	Informal learning	Formal learning
I find	e.g., Blogs	to be useful for my	5	4	6
...	Blogs	...			
...	Delicious	...			
...	Facebook	...			
...	Flickr	...			
...	Forum	...			
...	Google Docs	...			
...	Instagram	...			
...	Line	...			
...	LinkedIn	...			
...	Photobucket	...			
...	QQ	...			
...	Renren Network	...			
...	Skype	...			
	Twitter				
	WhatsApp				
	WeChat				
	Weibo				
	Wikipedia				
	YouTube				
	Other/s: _____				

4. To what extent do you agree or disagree with the following statement?

1: Strongly disagree	2: Disagree	3: Neutral	4: Agree	5: Strongly agree
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			Everyday life	Informal learning	Formal learning
I am familiar with the possible use of	e.g., Blogs	for my	4	4	3
	Blogs				
	...				

(please refer to the table in question 3 for the social media tools)

5. What do you think are the benefits and concerns of using social media for each specified purpose?

	Everyday life	Informal learning	Formal learning
Benefits			
Concerns			

(B) Five uses for social media

6. How many time/s per week on average, if any, do you perform the following activities on social media for each specified purpose? Please estimate the number of times.

	Every-day life	Informal learning	Formal learning
e.g., Generate new content on social media	20	3	7
Generate new content on social media			
Produce and consume information on one social media platform			
Work with others to co-construct content on social media			
Share content (either self-generated or found) with others			
Socialise with people who share the same interests			

7. How long per week on average, if any, do you spend on the following activities on social media for each specified purpose? Please estimate the length of time in hours. (Please refer to the table in question 6)

8. To what extent do you agree or disagree with the following statement?
1: Strongly disagree 2: Disagree 3: Neutral 4: Agree 5: Strongly agree 6: Unsure or Not applicable

			Everyday life	Informal learning	Formal learning
I find	e.g., Generating new content on social media	to be useful for my	3	4	2
...	generating new content on social media	...			
...	producing and consuming information on one social media platform	...			
...	working with others to co-construct content on social media				
	sharing content (either self-generated or found) with others				
	socialising with people who share the same interests				

9. Is there anything else you would like to tell us about the subjects addressed in this questionnaire?

References

- Chu, S. K. W. (2015, May). A quantitative analysis of university students' use of social media for everyday life, informal and formal learning. *CITE Research Symposium 2015*. Hong Kong: The University of Hong Kong.
- Monachesi, P., Markus, T., Posea, V., Trausan-Matu, S., Osenova, P., & Simov, K (2010). Supporting knowledge discovery in an eLearning environment having social components. In *Technological developments in networking, education and automation* (pp. 157-162). Springer. https://doi.org/10.1007/978-90-481-9151-2_27
- Social media questionnaire (<http://www.sojump.com/jq/374261.aspx>).
- Predicting social media usage behaviour (<http://www.my3q.com/research/swsee2/89509.phtml>).

APPENDIX B: FOCUS GROUP INTERVIEWS

1. (Q1) For the social media you have never used before, are there any reasons why you have never used them?
2. (Q1 & 2) For the social media you have been using for your informal learning, how did you make use of them?
3. (Q1 & 2) For the social media you have been using for your formal learning, how did you make use of them?
4. (Q1 & 2) For the social media you have been using for your everyday life but not yet in informal/formal learning, do you see any potential for using some of these social media for learning? Why or why not?
5. (Q3) For the social media you found useful for your informal/formal learning, can you provide me some examples to explain why and how are they useful?
6. (Q3) For the ones you didn't find useful for your informal/formal learning, why did you think so?
7. (Q7)
 - (a) What content do you usually generate, and in which specific social media tool?
 - (b) What content do you usually produce and consume, and in which specific social media tool?
 - (c) What content do you usually co-construct with others, and in which specific social media tool?
 - (d) What content do you usually share with others, and in which specific social media tool?
 - (e) How and in which social media tool do you engage in online communities (interacting with people with common interests)?
8. (Q8)
 - (a) Why do you think generating content is/is not useful for informal/formal learning?
 - (b) Why do you think producing and consuming content on one social media tool is/is not useful for informal/formal learning?
 - (c) Why do you think co-constructing content with others is/is not useful for informal/formal learning?
 - (d) Why do you think sharing content with others is/is not useful for informal/formal learning?
 - (e) Why do you think engaging in online communities (interacting with people with common interests) is/is not useful for informal/formal learning?

APPENDIX C: INDIVIDUAL INTERVIEWS FOR BScIM/MScLIM STUDENTS

- 1) I had sufficient access to relevant information (e.g., articles, introductory workshop) about applying social media in formal learning.

1 – Strongly Disagree	2 – Disagree	3 – Neither Agree nor Disagree	4 – Agree	5 – Strongly Agree
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Can you tell me more about your answer? Can you give me some examples?

- 2) I felt that I had the autonomy/independence in solving problems that were related to the SM platform design.

1 – Strongly Disagree	2 – Disagree	3 – Neither Agree nor Disagree	4 – Agree	5 – Strongly Agree
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Can you tell me more about your answer? Can you give me some examples?

- 3) I contributed to the decision making process regarding which SM tool to employ for the group project.

1 – Strongly Disagree	2 – Disagree	3 – Neither Agree nor Disagree	4 – Agree	5 – Strongly Agree
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Can you tell me more about your answer? Can you give me some examples?

- 4) I had the opportunity to decide to change my group's SM platform when needed.

1 – Strongly Disagree	2 – Disagree	3 – Neither Agree nor Disagree	4 – Agree	5 – Strongly Agree
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Can you tell me more about your answer? Can you give me some examples?

- 5) What did you find useful / not useful about the SM platform your group designed?

Can you tell me more about your answer? Can you give me some examples?

Or: What are some of the ways that you find useful / not useful?

- 6) What aspects or functions of the SM platform did you spend the most time on?

Why did you spend more time on those aspects of the SM platform?

- 7) If you had to do the *project* again, would you select another SM tool and/or a different design of the tool? Can you tell me more about your answer?

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- 8) I have been using more SM now (towards the end of the course) for FORMAL LEARNING than at the start of the course?

1 – Strongly Disagree	2 – Disagree	3 – Neither Agree nor Disagree	4 – Agree	5 – Strongly Agree
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If A or SA, why would you use more SM now for FORMAL LEARNING?

- 9) What do you think an ideal SM tool should have in terms of capability (e.g. collaborative working) and design (e.g. clean, intuitive interface) for your course's group project work?
- 10) If I were the lecturer, I would implement this participatory design method in order to help my students design the SM platform for their group project that involves all stakeholders (students and their lecturer in this case) throughout the entire process.

1 – Strongly Disagree	2 – Disagree	3 – Neither Agree nor Disagree	4 – Agree	5 – Strongly Agree
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Why would you do that? What do you think your students will gain from that?

- 11) Do you have any other comments/suggestions about the survey and/or the use of SM for your group project work?
- 12) Please estimate the number of times per week on average, towards the end of the course do you perform each of the following activities on social media for formal learning?

	Formal learning
Generate new content on social media	
Produce and consume information on one social media	
Work with others to co-construct content on social media	
Share content (either self-generated or found) with others	
Socialize with people shared the same interests	

Why and for what are you using SM for one of the five activities so much?

- 13) Please estimate the length of time in hours per week on average, towards the end of the course do you spend on each of the following activities on social media for formal learning? (Please refer to the table in question 12) Why and for what are you using SM for one of the five activities so much?
- 14) To what extent do you agree or disagree with the statement.

1 – Strongly Disagree	2 – Disagree	3 – Neutral	4 – Agree	5 – Strongly Agree	6 – Unsure or Not applicable
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I find...	to be useful for my formal learning
generating new content on social media	
producing and consuming information on one social media	
working with others to co-construct content on social media	
sharing content (either self-generated or found) with others	
socializing with people shared the same interests	

Why and for what are you using SM for one of the five activities so much?

15) Based on the comparison of the number of time(s) per week of using **social media tools for formal learning** of MScLIM and BScIM students shown in Table 1, what do you see as the reason why quite a number of BScIM students use Facebook/MScLIM use Weibo so many times a week for formal learning and what do you think they are using this tool regarding formal learning?

Table 1: Comparing the number of time(s) per week of using **social media tools for formal learning** between BScIM students and MScLIM students

	BScIM			MScLIM			Sig.MW MW
	n	Mean	(SD)	n	Mean	(SD)	
Blogs	2	4.00	1.41	10	3.20	3.26	0.32
Delicious	3	1.67	1.16	9	1.11	0.33	0.32
Facebook	13	12.23	17.08	11	2.36	1.21	0.02*
Flickr	1	3.00	~	1	5.00	~	0.38
Forum	12	4.25	3.44	24	4.87	3.84	0.02*
Google Doc	17	9.35	10.43	35	4.57	3.40	0.43
Instagram	1	1.00	~	0	~	~	NA
Line	3	1.67	1.16	1	1.00	~	0.56
LinkedIn	3	1.00	0.00	2	1.00	0.00	1.00
Photobucket	1	2.00	~	0	~	~	NA
QQ	0	~	~	6	3.33	3.62	NA
Renren Network	1	3.00	~	2	1.00	0.00	0.16
Skype	7	3.29	2.93	2	5.50	6.36	0.76
Twitter	2	2.50	2.12	0	~	~	NA
WhatsApp	12	8.00	7.06	14	6.14	5.42	0.72
WeChat	1	1.00	~	7	5.29	6.78	0.18
Weibo	0	~	~	6	10.67	19.60	NA
Wiki	19	8.37	13.37	32	9.41	20.87	0.53
YouTube	15	3.93	5.15	29	3.00	2.10	0.53

16) Based on the analysis in Table 2, it is found that BScIM/ MScLIM students socializing with people who share the same interest as themselves for formal learning in the frequency captioned (BScIM: over 6 times a week on average/ MScLIM: over 4 times a week), what do you see as the reason?

In general, students reported higher number of times per week of socializing with people who share the same interest as themselves in social media for formal learning than the other four claims [Generate new content on SM, Produce and consume info on one SM, Work with others to co-construct content on SM, and Share content with others]. Why do you think that is the case?

Table 2: Comparing the number of time(s) per week of performing the activities in the five claims of social media on three domains between BScIM students and MScLIM students

	BScIM			MScLIM			Sig. MW
	n	Mean	(SD)	n	Mean	(SD)	
Formal Learning							
Generate new content on SM	13	4.38	3.23	42	3.55	3.61	0.22
Produce and consume info on one SM	15	4.73	4.11	42	3.67	3.16	0.29
Work with others to co-construct content on SM	14	4.14	2.44	49	3.57	3.82	0.10
Share content with others	15	3.87	3.29	47	3.98	3.84	0.66
Socialize with people shared the same interests	13	6.31	5.42	44	4.05	3.72	0.05*

17) Based on the analysis in Table 3, It is also found that students in general spend the least amount of time with people who share the same interest as themselves in social media for formal learning, though the number of times per week that students socialize with people who share the same interest for formal learning with social media was highest (see Table 2). What do you see as the reason for this?

Table 3: Comparing the length of time (in hours) per week of performing the activities in the five claims of social media on three domains between BScIM students and MScLIM students

	BScIM			MScLIM			Sig. MW
	n	Mean	(SD)	n	Mean	(SD)	
Formal Learning							
Generate new content on SM	16	8.50	9.99	32	4.88	6.10	0.02*
Produce and consume info on one SM	20	7.40	8.98	38	4.53	6.22	0.02*
Work with others to co-construct content on SM	17	13.00	12.79	39	4.08	3.59	0.00*
Share content with others	18	6.11	5.25	37	3.46	3.48	0.02*
Socialize with people shared the same interests	17	4.76	4.79	29	3.28	3.41	0.09

18) Based on the analysis in Table 4, it is also found that students' level of agreement regarding the usefulness of sharing content with others for formal learning is the highest among the five claims of social media. What do you see as the reason?

Table 4: Comparing the BScIM and MScLIM students' agreement on the usefulness of the activities in the five claims of social media on three domains

	BScIM			MScLIM			Sig. MW
	n	Mean	(SD)	n	Mean	(SD)	
Formal Learning (overall mean = 3.76; SD = 0.78)							
Generate new content on SM	25	3.60	0.91	60	3.63	0.94	0.64
Produce and consume info on one SM	27	3.89	1.01	56	3.54	1.01	0.08
Work with others to co-construct content on SM	26	4.00	0.80	60	3.90	1.05	0.91
Share content with others	26	4.04	0.87	60	3.92	1.00	0.72
Socialize with people shared the same interests	25	3.44	1.12	56	3.61	1.00	0.56

19) I. In your opinion, what do you see as factors that facilitate students' use of social media for formal learning?

II. In your opinion, what do you see as factors that hinders students' use of social media for formal learning?

References

Questions 1 to 4 were developed based on information provided in the following articles:

Kensing, F. (1982, September). The trade unions influence on technological change. In U. Briefs, C. Ciborra, & L. Schneider (Eds.), *Proceedings of the IFIP WG 9.1 Working Conference on Systems Design for, with, and by the Users*. Riva del Sole, Italy: North-Holland Publishing Company.

Clement, A., & Van den Besselar, P. (1993). A retrospective look at PD projects. *Communications of the ACM*, 36(6), 29-37. <https://doi.org/10.1145/153571.163264>

APPENDIX D: SELF-REFLECTION

Students' Remark on a Social Media Article

You are expected to graduate with good knowledge of applying various social media in libraries and business enterprises. Besides, they are useful for your group project work. For the 3 articles listed below, select 1 article to read and try to understand the benefits of using social media tools in education. Each student will post a brief reflection (100-200 words) on Moodle discussion forum.

–Lewis (2010). Social Media and Strategic Communication: Attitudes and Perceptions Among College Student.

–Chu, S.K.W. (2009). Inquiry project-based learning with a partnership of three types of teachers and the school librarian. *Journal of the American Society for Information Science and Technology*, 60(8): 1671-1686.

–Forte (2006). From Wikipedia to the Classroom: Exploring Online Publication and Learning.

References

- Forte, A., & Bruckman, A. (2006, June). From Wikipedia to the classroom: Exploring online publication and learning. *Proceedings of the Seventh International Conference on Learning Sciences* (pp. 182-188). Bloomington, Indiana: International Society of the Learning Sciences. <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.71.4210&rep=rep1&type=pdf>
- Lewis, B. K. (2010). Social media and strategic communication: Attitudes and perceptions among college student. *Public Relations Journal*, 4(3), Online. <http://www.prsa.org/Intelligence/PRJournal/Documents/2010Lewis.pdf>

APPENDIX E: CODING SCHEME

RQ1: After gaining knowledge/experience with social media for education, what do students want to do with social media for informal and formal learning?

Domain	Activity	Sample references
Formal Learning	Collaboration and Communication in Doing Group Projects (“Doing Group Projects”)	<p>- I think WhatsApp can be used for formal learning. Sometimes after discussion, we will jot down the relevant information and we can then take a picture and send it to the group</p> <p>- For formal learning, I can communicate with my group-mates on Google doc and do survey</p> <p>- From sharing my things on Facebook, I think it can be used for formal learning. For example, opening a Facebook group for group projects which I can private it or keep it open. I can comment or upload pictures if I am a member of that particular group</p>
	Gaining Knowledge	<p>- YouTube will be a good choice for (audio-visual versions of) articles or journals (as people upload videos explaining theoretical concepts on YouTube)</p> <p>- Wikipedia will be a very good starting point [for understanding some concepts] as it is getting more accurate</p>
	Sharing Content	<p>- Not only can people share academic knowledge among YouTube, but also share from YouTube to Facebook, so knowledge can be spread</p> <p>- I also found it useful for our formal learning within our study at university to have some discussion forums. No matter what time and where we can share our information through the discussion forums, so it’s an easy way for us to share the information around us</p>

Source of data: FGI - BSIM KM 13-3, 14-4; Reflection - BSIM KM 14-2; FGI - MLIM RM 13-3, 13-6, 14-4; Reflection - MLIM RM 14-2

RQ2.1: How did the students experience using the participatory design method for social media platforms?

Elements of Participatory Design	Sample references
1. Sufficient Access to Relevant Information	<p>- I have learned how to use Google docs and Wiki in lesson. I have used Google docs for projects</p> <p>- Because in this MLIM programme, different teachers and courses have taught me about several social media platform websites and tools</p> <p>- The lecturer gave us some information during the course. He found enough information to that particular PBWorks. Therefore, we found it not too difficult to sign up. Information is quite enough</p>
2. Autonomy in Solving Problems	<p>- There are not a lot of technical problems because they are user friendly. There were some problems we can find all the buttons on the screen and solve them quickly</p> <p>- Sometimes we could not find the answer because we did not know the keyword. We tried finding for the most frequently-appeared keywords and finally we could find the answer</p> <p>- Once I was not sure how to receive RSS. I could not receive the replies on PBWorks by my teammates. Then I went onto Google and searched how to deal with the problem, and then I was able to solve it</p>

RQ2.1: How did the students experience using the participatory design method for social media platforms?

Elements of Participatory Design	Sample references
3. Contribute to the Decision Making	<ul style="list-style-type: none"> - We had raised some alternatives on SM tools and our group mates tried to give ratings to them. At last we chose the one we used for the project, which was PBWorks - We decided by voting. Since I and other two members agreed to use Google Docs but the other two wanted PBWorks, by voting we used Google Docs - We had a smooth negotiation within our group and finally we voted for which SM platform to use for our group project
4. Opportunity to Decide to Change	<ul style="list-style-type: none"> - Before we start, we could choose Wiki, Google or other platforms. Even after we picked the platform, the lecturer asked us to choose the one that suited our needs most so we can still change afterwards - If we want to change, it is possible to change to what we want

Source of data: Ind. Interview – BSIM KM 13-1, 14-1; MLIM RM 13-1, MLIM RM 13-6, 14-1

RQ2.2: What were the students' views on adopting the participatory design method to co-create social media environments with their lecturer for formal learning?

Stance	Sample References
Yes – Give Guidance to Students	<ul style="list-style-type: none"> - It is because with the support from the lecturer, students can get a clearer direction when doing the project - Not all groups are that familiar with the SM platforms, if you (lecturer) do not support us, it would be very difficult for us to solve our problem. With your support, it would be the best - It is because for some students, maybe they do not have previous experience in using SM platform and they may only have used Facebook or for mainland students Weibo - I think they would gain more about communication (with the lecturer) and the skill of combining results and how to form a very good group project
Yes – Ensure Progress	<ul style="list-style-type: none"> - I think it can keep track of the whole project and if there are any queries from students, we can have immediate face-to-face discussions without waiting for another lesson. The SM tools can provide us with out-of-boundary learning environment for the learning process
Yes - Respect Students' Needs	<ul style="list-style-type: none"> - They will think about what SM platform design is best suitable for their own project - Sometimes lecturer will not know what we need for the SM platform functions. Of course the lecturer can recommend some SM platforms but at the end of the day it is us the students who will actually do the discussion

Source of data: Ind. Interview – BSIM KM 13-1, 14-1; MLIM RM 13-1, MLIM RM 13-6, 14-1
