

Digitally Ready Project Report

Undergraduates and Technology: uses and attitudes

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1. Background

In 2002-03, I conducted a study examining the uses of and attitudes towards technology for study and leisure purposes of a group of Business School home/ international (Chinese) Part One students. Data were collected by questionnaires, interview and diaries, and were examined from whole group and case study perspectives.

2. Aims and objectives

I have now repeated this study ten years on in order to:

- find out how our current Part One undergraduates are experiencing technology for study, and in their leisure time;
- compare the findings with those of ten years ago.

This ties in well with the University's interest in the transition into HE and our need to understand our students' use/expectations of technology.

My research questions, as ten years ago, are:

1. What are the roles of technology in the lives of home and international undergraduate students?
2. How do students view those roles?

I used the Digitally Ready project funds to recruit a suitable Part 3 BA English language student as a research assistant, and she helped by transcribing interviews, collating diary entries, and beginning the analysis of this qualitative data.

3. Scope

After introductions to the project at Autumn Term 2012 lectures and seminars, all Part One students in Economics and HBS were e-mailed with a link to an online survey of their current use of technology after it was launched on 15 January 2013.

This survey was produced drawing on of previous surveys: my own from 2003, one by Neil Morris of Leeds University (relating to his study reported at: <http://advan.physiology.org/content/36/2/97.full>) and questions related to Part One technology use in Reading's own surveys for Periodic Review. It was amended after piloting on Part One British students in another discipline and a post-graduate Chinese student

33 out of 218 possible students completed the form (a 15% return rate).

I also asked for volunteers to take part in the next part of the study. Six students volunteered:

- two British male students;
- two British female students (one of Chinese origin);
- two Chinese male students.

They have each delivered the following data:

1. their online survey
2. two interviews (between 30minutes and one hour in length):
 - in the Spring Term on their use of technology in Term 1, and compared to school
 - in the Summer term – on differences from term 1 to Term 2 use of technology and in preparation for their exams
3. weekly e-mailed diaries in the Spring term.

The six students have agreed that if my time/resources permit, I may continue the study into their Part Two and Part Three years of undergraduate study.

4. Outcomes and deliverables

I am still working on the data produced by the project, and will write the study up for publication. I have already given one report on the project to the Show & TEL event on 'Progress with Digitally Ready' on 1 March 2013. The project will deliver:

- information about current Part One Economics/Business student use of technology, for study, communication and leisure;
- detail information about technology use /attitudes of members of home and international (Chinese) groups;
- case studies of students with different profiles within those groups.
- a picture of changes in student use of/attitudes towards technology over the last decade.

This information will be useful for the Departments/School concerned, but also for the University as a whole.

Some results of analysis of the data to date are given in appendices:

Appendix 1 Data on the 33 students who completed the online survey

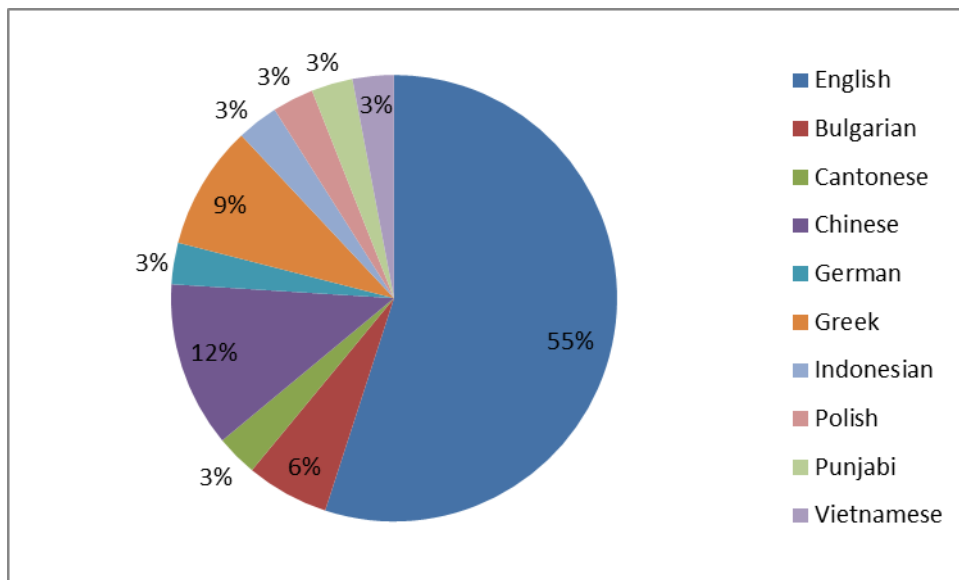
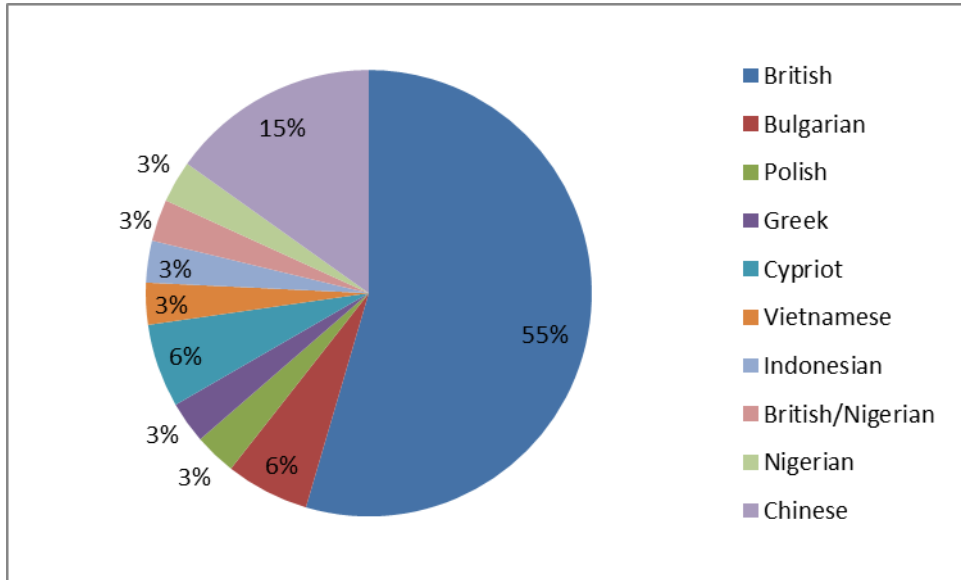
Appendix 2 Summary of the e-mail diary data from the six long-term participants

Appendix 3 Summary of general information about use of technology obtained in Interview 1

Appendix 4 Summary of some information obtained in Interview 2.

Appendix 5 'Quick fire' answers to some key interview questions to the six participants

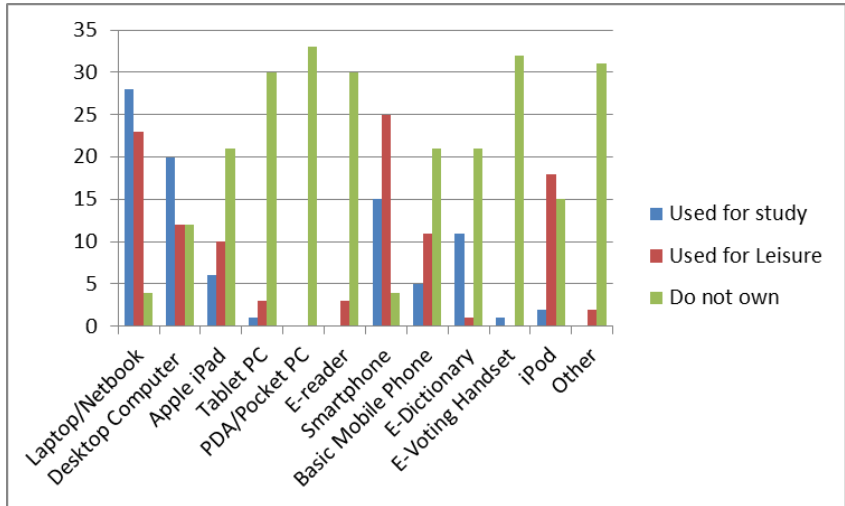
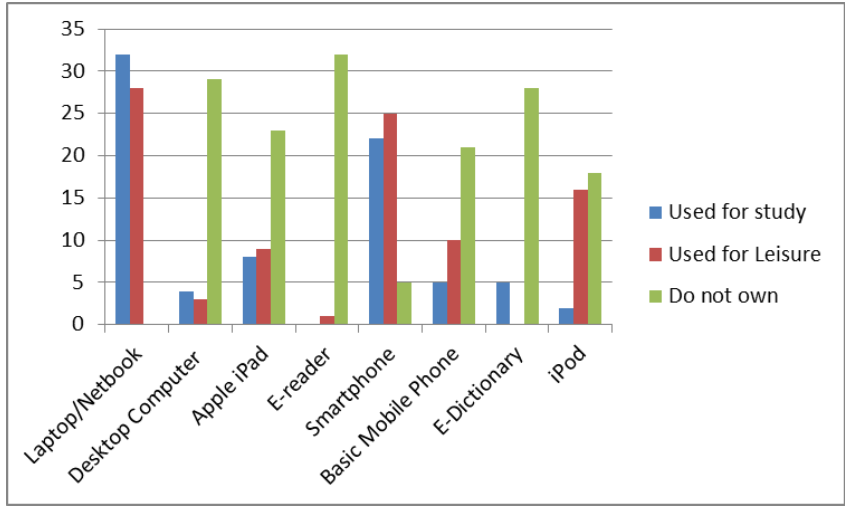
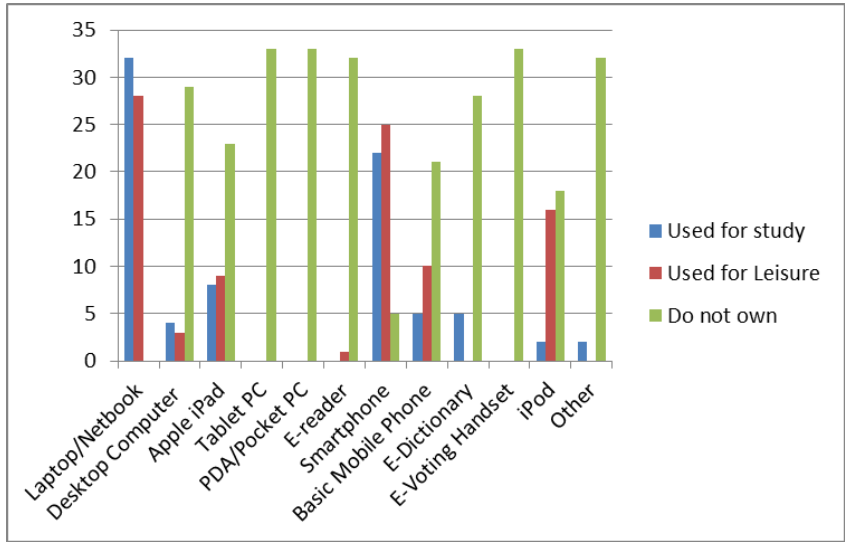
Appendix 1. Data on the 33 students who completed the online survey.



Nationality	Percentage	Number
British	55%	18
Bulgarian	6%	2
Polish	3%	1
Greek	3%	1
Cypriot	6%	2
Vietnamese	3%	1
Indonesian	3%	1
British/Nigerian	3%	1
Nigerian	3%	1
Chinese	15%	5
British	55%	18
EU	18%	6
Rest of the World	27%	9

Language	Percentage	Number
English	55%	18
Bulgarian	6%	2
Cantonese	3%	1
Chinese	12%	4
German	3%	1
Greek	9%	3
Indonesian	3%	1
Polish	3%	1
Punjabi	3%	1
Vietnamese	3%	1

Degree Program	Percentage	Number
Accounting		1
BSc Accounting and Economics		2
Accounting and Management		3
BSc Business Economics		1
BA Business and Management		4
BA Business Management		1
Economics		1
BA Economics		7
BSc Economics		2
BSc Economics and Econometrics		1
BSc Finance and Investment Banking		5
BA History and Economics		1
BSc Mathematics and Economics		1
Politics and Economics		1
Undergraduate		2



Device	Used for study	Used for Leisure	Do not own
Laptop/Netbook	32	28	0
Desktop Computer	4	3	29
Apple iPad	8	9	23
Tablet PC	0	0	33
PDA/Pocket PC	0	0	33
E-reader	0	1	32
Smartphone	22	25	5
Basic Mobile Phone	5	10	21
E-Dictionary	5	0	28
E-Voting Handset	0	0	33
iPod	2	16	18
Other	2	0	32

Device	Used for study	Used for Leisure	Do not own
Laptop/Netbook	32	28	0
Desktop Computer	4	3	29
Apple iPad	8	9	23
E-reader	0	1	32
Smartphone	22	25	5
Basic Mobile Phone	5	10	21
E-Dictionary	5	0	28
iPod	2	16	18

Device	Used for study	Used for Leisure	Do not own
Laptop/Netbook	28	23	4
Desktop Computer	20	12	12
Apple iPad	6	10	21
Tablet PC	1	3	30
PDA/Pocket PC	0	0	33
E-reader	0	3	30
Smartphone	15	25	4
Basic Mobile Phone	5	11	21
E-Dictionary	11	1	21
E-Voting Handset	1	0	32
iPod	2	18	15
Other	0	2	31

Appendix 2. e-mail diary data from the six long-term participants

Email Diary Questions

Q1 In what ways have you studied this week outside class/lectures?

- Have you studied on your own/with other students?
- Have you studied from books/paper-articles/online?

Q2 If you've studied using technology – what have you done using technology this week? Please tell me about what you have used technology for, for which courses you have used it and how much time (approximately) using technology has taken.

Q3 What have you done for leisure this week? Please tell me about:

- social events/cinema etc.
- non-study activities using technology (e.g. watching TV; watching films online, Facebook, online shopping). Approximately how much time has this taken up?

Q4 Have you communicated with family, friends, lecturers, tutors and if so how (face-to-face, phone, e-mail etc)?

Q5 How do you feel your study has been this week in general? Have any issues/problems come up?

List of abbreviations used in responses:

bb - Blackboard

Fb - Facebook

F2F - Face-to-face

Quants - Quantitative Techniques

Macro - Macroeconomics

ppt - PowerPoint

Student Responses

Student 1: Lucy (BA Economics)

	Week 4 (08/02/13)	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10
Q1	Own study Read article and chapters from 3 books Revised from written notes and textbook	Own study Read chapters from 2 books	Own study Made notes from 4 books	Mostly own study but did maths problem set with flatmates Borrowed 2 library books and read 2 additional books Read 1 online article for Social Policy	Mostly own study Discussed cw with other students Read 1 book and about 20 online articles for cw (12hrs)	Own study Studying from notes in preparation for tests Read 4 online articles (3hrs)	Own study Studying from notes in preparation for tests Read 2 articles online (1hr)
Q2	Downloaded: Macro ppt Quants questions Social Policy article	Downloaded and printed: 3 ppts 2 articles 2 worksheets	Downloaded and printed: 3 ppts 1 article (for Macro and Social Policy)	Downloaded 2 ppts for Macro and Social Policy Used Google for Tutorial questions (2hrs)	Downloaded 3 ppts for Macro and Social Policy	Downloaded 2 ppts	Downloaded 1 ppt
Q3	Meal out Cinema TV(1hr) Fb Email Total: 6hrs	Meal out x2 Pancake party TV (4 episodes) Fb The gym Amazon Total: 3hrs a day	TV (4 episodes) Film Monopoly Fb Skype The gym Total: 12hrs Weekend swimming competition Meal out x 2	TV (3 episodes) Fb Online shopping The gym Total: 8hrs	Swimming AGM Went to a Birthday Fb (4hrs)	TV (1.5hrs) Sports Ball Fb (6hrs)	TV (1hr) Fb (3hrs)
Q4	Family: F2F Texts Calls Friends: F2F Texts Email Fb	Family: Texts Calls Skype Friends: Texts Calls Email Fb	Family: F2F Texts Skype Friends: Texts Fb Lecturers:	Family: Texts Calls Skype Friends: Texts Fb	Family: Texts Skype Friends: Texts Fb Lecturers: F2F	Family: Texts Skype Letter to Grandma Friends: Texts Fb	Family: Texts Skype Letter to Grandma Friends: Texts Fb

		Lecturers/ Student Support: Email	Email	Lectures: Email	Email	Lecturers: F2F Email	Lecturers: Email
Q5	Phone nearly ran out of battery on the train	Normal week	Less study than normal	Slow internet - trouble downloading articles	Connection problems with Skype	Internet problems in halls - very slow	

Student 2: Jane (BSc Mathematics and Economics)

	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10
Q1			Some own study Worked with friend on maths assignment using notes, books and internet	Own study using books and notes	Some own study and some study with course friends using books, notes and the internet	Own study Revising and re-writing class notes (by hand) in preparation for tests	Own study Read books, slides and own notes in preparation for tests
Q2			Wolfram Alpha for maths calculations YouTube videos on how to solve maths problem Wrote up Quants formulas Wrote draft for Macro cw Total: 4/5 hrs	Used UniApp to look up notes that were not posted before lecture Drafted Macro cw on laptop, printed and then handwrote additional notes Total: 8hrs	Wrote Macro cw (drew graphs by hand) Used YouTube and websites to help with Calculus (6hrs)	Used bb to revise lecture notes	Used bb to access ppts Looked up definitions Total:3hrs
Q3			Clubbing Park Bar Harlem Shake Video TV DVDs Tumblr Fb Twitter Bought festival tickets Total: 6hrs	TV Films Total: 5hrs	Afternoon Tea Downloaded music Clubbing Fb Twitter Total: 7hrs	Shopping Online shopping Gig TV Film Total: 8hrs	Fb Twitter Instagram Total:5-6hrs TV (both online and at home on actual TV) Films
Q4			Family: Text Phone Skype Friends: F2F Text iMessage	Family: (Parents) Phone (1hr) (Brother) Skype Friends: iMessage Facetime	Family: (Parents) Phone (Brother) Twitter Friends: iMessage	Family: Phone Skype Friends: iMessage Facetime Twitter Fb	Family: F2F Phone Skype Friends: iMessage Fb Twitter

			Facetime Email Twitter Tutors: F2F		Tutor (for Macro): F2F		Snapchat
Q5			Had to waited 30 minutes for a computer to load up and then and then 10 minutes trying to find a different computer Macro lecturer doesn't upload ppt in time for lectures	Trouble with Quants	Feels behind on work	Needs more motivation	Studying for exams has been tiring but has gone well

About Snapchat:

'Another "social" app me and my friends have gotten into recently is Snapchat - it's sort of a thing quite popular at the moment where anyone with a smartphone can set the app up and take pictures (comical selfies or of things) to other Snapchat users. These images only appear for a certain number of seconds (you can set how long) on the other persons phone and it's never seen again. It sort-of keeps me in contact with my Uni friends and, instead of sending long texts to them, they send me a Snapchat (usually selfies) which sums up their day in one picture.' - Diary Entry Week 10

Student 3: Adam (BSc Economics and Econometrics)

	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10
Q1	Reading a book for book report BB to access external links	Writing book report Read textbooks Online journal articles	Own study Read textbooks (8hrs)	Own study (Meeting for group project unsuccessful as no one turned up) Reading a book linked to course	Studied with others for group project and presentation	Own study	
Q2	Reading online Accessing worksheets for tutorials Ppt slides (10hrs)	Used Microsoft Word to write an essay	Downloaded class work (2hrs) (handwrote answers)	Downloaded material from bb for cw questions in EC102 Research for EC107	Internet research and ppt for group presentation (8hrs)	Using bb for essay guidelines and lecture notes Writing essays (12hrs)	
Q3	Cinema TV (4hrs) Squash (7hrs) Swimming (1hr)	Squash (3hrs) Films (3 hrs)	Shopping Squash Films	Playstation 3 Computer games Meal out	Meal Computer games	Fb 1 Film	
Q4	Friends: Phone (text?) Lecturers: Received emails	Family: Email Friends: Texts	Family: (Dad) Phone call (Mum) Email Friends: F2F Texts	Family: Email Friends: Texts Employer: Texts	Family: Phone Friends (inc group work): Texts Fb	Friends: Texts Employer: Texts	
Q5	Relaxing week	Study has gone well	Resolved previous problem of connecting to the internet in the library	About bb: 'Thumbs up to the site for this week and this module (MM1F12)!'	Study has gone well	Hard work but a productive week	

Student 4: Charles (BSc Finance and Investment Banking)

	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10
Q1		Own Study Books Online	Own Study Books Online		Mostly own study but had help on some questions via fb Studied textbooks		
Q2		Print slides for economics Revising slides and answering questions (2hrs)	Cw for Introduction to Simulation and Finance (6hrs)		Studied ppt slides online Researched and typed two pieces of cw (20hrs)		
Q3		Shopping (4hrs) Pub (6hrs) Bar crawl (4hrs) Clubbing (8hr) Fb/Twitter (9hrs) Film (2hrs) TV (1hr) Lacrosse (5hrs) Gym (4hrs)	Lacrosse social Clubbing Film Tv Total: 10hrs		Shopping (4hrs) Clubbing TV Lacrosse Twitter (10hrs) Instagram (2hrs) Fb (15hours - normally used at same time as Twitter)		
Q4		Family: Phone Email Friends: F2F Phone Fb Lecturers: Email Tutors: F2F Email	Family: Texts Email Friends: F2F Texts Calls Fb Twitter		Family: Phone Emails (Fb brother) Friends: 'everything' Phone Texts Fb Twitter Instagram Employer: Texts		
Q5		Struggled to find enough time	Problems understanding cw requirements		Good week but worried going out may have affected cw		
			Changed				

			phone tariff to get more internet time				
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Student 5: Wei (BSc Finance and Investment Banking)

	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10
Q1	<p>Mostly own study</p> <p>Had help revising for Quants exam</p> <p>Read textbooks or English/ Chinese novels</p>	<p>Own study</p> <p>Read textbook/ some pages of novel</p>	<p>Mostly own study</p> <p>Studied with 2 friends on Saturday</p> <p>Read the FT (every day)</p>	<p>Discussed Finance cw with friends f2f and online</p>		<p>Mostly own study</p> <p>Asked friends for help when stuck</p>	
Q2	<p>Used bb to revise lecture slides and do tutorials (4hrs a day)</p>	<p>Used bb to access slides (2hrs a day)</p>	<p>Used bb</p> <p>Used laptop (20hrs)</p>	<p>Revised slides on bb</p> <p>Used laptop (8hrs a day)</p>		<p>Used bb to revise and finish tutorial questions</p>	
Q3	<p>Basketball (1hr)</p> <p>Dinner with friends (3hrs)</p> <p>Party</p>	<p>Music</p> <p>TV (1Japanese cartoon a day)</p> <p>Check the news and NBA results</p> <p>Fb</p> <p>Twitter</p>	<p>TV (2 episodes)</p> <p>Music (1hr a day)</p> <p>Shopping for birthday gifts</p> <p>Tennis</p>	<p>London Trip</p> <p>Lunch with friends</p> <p>Fb</p>		<p>Clubbing</p> <p>Crazy Cracker - event for Red Nose Day</p> <p>TV (40mins)</p> <p>Amazon (10mins)</p> <p>Fb (1hr a day)</p>	
Q4	<p>Family: Skype (1hr a day)</p> <p>Chinese friends: WeChat Skype</p> <p>English friends: Phone</p>	<p>Family: WeChat Skype</p> <p>Chinese friends: WeChat Skype</p> <p>English friends: Phone</p>	<p>Calls</p> <p>WeChat</p> <p>Skype</p> <p>Fb (rarely)</p>	<p>Family: (Mum) Skype (Aunts/ Uncles) Calls</p> <p>Friends: Calls (UK friends) WeChat</p>		<p>Chinese friends: F2F Phone</p> <p>English friends: Fb</p> <p>Tutor: F2F</p>	
Q5	<p>Tired - not sleeping well</p>	<p>Not much time studying, busy social life</p>	<p>Focusing on Introductory Finance - feels it is 'beyond him'</p>	<p>Cw helped get to grips with Finance</p>			

Student 6: Shen (BSc Finance and Investment Banking)

	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10
Q1				Some own study and some study with friends Read textbook and researched info online	Some own study and some study with friends Read textbook	Own study (2hrs a day) Discussing with friends on QQ (30minutes (a day?))	Own study Revision (by hand) (1hr a day) Library session (3hrs)
Q2				Wrote project (found data on Yahoo Finance) (1hr a day in the week)	Wrote cw Printed ppt slides	Printed study materials	Printed revision materials
Q3				'Videos' (1hr a day in the week, 3hrs at weekend)	4 Films (6hrs) Chatting to friends (2hrs)	Wrote a new song (1hr a day) Films (4hrs)	Film (2hrs)
Q4				Chinese friends: Phone call	Family: Phone call (30mins)		Friends: QQ
Q5				'Everything is ok with my study'			

Appendix 3: Interview 1: Summary of General Information

	Lucy (S1)	Jane (S2)	Adam (S3)	Charles (S4)	Wei (S5)	Shen (S6)
Devices	Mobile Phone Laptop iPod Voice Recorder External Hard Drive USB Stick Radio*	Mobile Phone Laptop (Macbook) iPod External Hard Drive TV (uses as extra screen for laptop) Camera (DSLR)	Mobile Phone Laptop (Macbook) USB Stick Sound System	Mobile Phone Laptop iPod	Mobile Phone Laptop iPad	Mobile Phone Laptop iPod iPad Voice Recorder Printer Camera
Number of windows open	4 Word Blackboard (with PowerPoint slides) Email Facebook	6 (7?) Word PowerPoint Google Chrome Finder Equations software Email Facebook	4/5 Word Blackboard PowerPoint slides Personal Email University Email Music	'Loads' Work Research Personal Email University Email Facebook Twitter Skype	2 Google Badoit	6-8 Lots of websites QQ
Number of email accounts	2 University Email Yahoo	4 University Email Yahoo Google Mail Hotmail	2 University Email Google Mail	2? University Email Personal Email?	2? University Email QQ	4 University Email QQ Msn Chinese Email
Accessing email		Laptop Mobile Phone iPod			Laptop	
Instructed work vs. private study	70-80:30-20	40:60		80-90:20-10		50:50
Style of working	Multi-tasking		Multi-tasking	Multi-tasking	One thing at a time usually	
Documents kept	Laptop External Hard Drive USB stick	Laptop External Hard Drive	Macbook USB Stick	Drop Box		

*Mentioned in Interview 2 in reference to the autumn term: "I have a radio in my room which I listened to a lot more in the autumn term than I did the spring term" line 500-502

Appendix 4: Interview 2: Summary Tables

1. Contacting Others

	Lucy (S1)	Jane (S2)	Adam (S3)	Charles (S4)	Wei (S5)	Shen (S6)
Number of Texts (sending)			166 a day			
Number of Texts (receiving)		1-2 a day	166 a day	60		1 a day
Number of Calls			1 a week (with family)		1 a day	1-2 a day to friends 1 a week to family
Number of iMessages (sending)						
Number of iMessages (receiving)		15 a day				
Number of emails (sending)		1 a week (to lecturers)	1 a week (to parents)			
Number of emails (receiving)	1 a day (university account)			30-40		
Skype	Every other night (30 minutes-1 hour)	Once a week	Doesn't use			Didn't use in term 2
Other	3 letters a term to Grandma			Sending 20 Snapchats a day; receiving 50	WeChat every day	

2. Social Media

	Lucy (S1)	Jane (S2)	Adam (S3)	Charles (S4)	Wei (S5)	Shen (S6)
Facebook	Yes	Yes	Yes	Yes	Yes	Yes
Number of fb messages (sending)		1-2 a week				
Number of fb messages (receiving)						
Twitter	No	Yes	No	Yes	Yes	No
Follows		190 people			(Chinese) 200 (English) 'over 100'	
Number of Followers						
Number of Tweets (sending)		1 a day		10-12 a day (average)	(Chinese) 1-2 a week (English) hasn't tweeted for 2 months	
Number of Tweets (receiving)		100-200 a day		2 a day (average)		

3. Other Leisure Activities

	Lucy (S1)	Jane (S2)	Adam (S3)	Charles (S4)	Wei (S5)	Shen (S6)
Tv/Films	3 TV episodes a week	1 TV episode a day 3 films a week	3 films a week		1-2 films a week	3 films a week
Online Shopping		Once every two weeks			2-3 times a term	

Appendix 5: Quick Fire Answers to some key questions to the six participants

Key

- 1: Lucy
- 2: Jane
- 3: Adam
- 4: Chris
- 5: Wei
- 6: Shen

Interview 1

Do you like using technology?

- 1. when it works yes
- 2. yes so much so
- 3. yes
- 4. yes really enjoy using it
- 5. yes of course (because it's convenient and easy to get something I need)
- 6. yes (I was born in that generation)

What do you think of bb?

- 1. amazing
- 2. I don't think it's the best tool in the world but it's all we have currently we've got to optimise it
- 4. I think it's really good
- 5. I think it's good at least I don't have bb in China

Interview 2

How well could you have done your study without your laptop?

1. I couldn't
2. Probably not well
3. I would have said very difficult I think
4. I think it would be absolutely awful I don't think it could happen really
5. I can't imagine if I can't study without my laptop
6. much worse I think

How well could you have done your study without bb?

1. It'd be very hard
2. I could probably but it'd be really frustrating
3. I wouldn't say it's been essential... but it makes it so much easier
4. It would have been very hard
5. I think bb is good it's necessary for students and especially during exam weeks we get a lot of past papers so that's really important
6. I don't see it very useful it's just you cannot without it cos teachers put all of their informations almost all their information on there

How well could you have done your study without the internet?

1. It'd be quite hard... I use the internet a lot
2. I couldn't
3. When I was doing one of my pieces of cw it was invaluable...so yes it's been very useful but only in specific circumstances like cw
4. I can't imagine doing it without the internet
6. it's helpful but I prefer the paper work

How well could you have done your study without the University library?

1. Well I've used the library a couple of times last term for cw although most of the books I got out the library I then found online versions on my computer
2. Probably ok I just work in my room
3. General study I would have done fine but again it's the research and cw where it's really useful