Use of tablets in teaching – lessons learnt and future potential

Alison Graham, Sara Marsham, Julian Knight, Helen Adamson, Fernando Russo Abegao and Henny Mills

School of Natural and Environmental Sciences/School of Engineering

Newcastle University Learning and Teaching Conference 2019

Background

- **Schools of Natural & Environmental Sciences (SNES) and Engineering (SENG) issued tables to all Stage 1 students in September 2018.**

- **Samsung Tab A with S Pen.**

- **Induction package.**

- **SNES: Tablet Innovation Group.**
    - **Purpose: oversee initial implementation and, subsequently, innovation in use of tablets.**

- **Nov/Dec 2018: surveyed all Stage 1 students in both Schools on their use of tablets.**

How often do you use your tablet for academic purposes?

	BIO1010	MST1104	CHY1101	ACE1040	ENG1001	CME1025	Total number of responses
Several times a day, both on campus and at home	32 (53%)	17 (31%)	71 (75%)	26 (50%)	118 (58%)	31 (48%)	295 (56%)
Several times a day, only on campus	10 (17%)	8 (15%)	16 (17%)	4 (8%)	21 (12%)	9 (14%)	68 (13%)
Several times a day, only at home	1 (2%)	1 (2%)	0 (0%)	2 (4%)	14 (7%)	2 (3%)	20 (4%)
2-3 times a week	8 (13%)	11 (20%)	3 (3%)	17 (33%)	21 (10%)	16 (25%)	76 (14%)
Once a week	1 (2%)	3 (5%)	1 (1%)	2 (4%)	7 (3%)	1 (2%)	15 (3%)
Never	3 (5%)	4 (7%)	2 (25%)	0 (0%)	13 (5%)	2 (3%)	24 (5%)
I use my own device	5 (8%)	11 (20%)	2 (2%)	1 (2%)	10 (4%)	3 (5%)	32 (6%)
Total number of responses	60 (100%)	55 (100%)	95 (100%)	52 (100%)	204 (100%)	64 (100%)	530 (100%)

BIO1010 = Biology/Zoology (**153** students registered)

MST1104 = Marine Science (**78**)

CHY1101 = Chemistry (**147**)

ACE1040 = Animal Science, Agriculture, Rural Studies, Countryside Management, Earth Science, Applied Plant Science, food Business Management, etc. (**170**)

ENG1001 = All Stage 1 Engineering (**639**)

CME1025 = Chemical Engineering (**143**)

How often do you use your tablet for academic purposes?

	BIO1010	MST1104	CHY1101	ACE1040	ENG1001	CME1025	Total number of responses
Several times a day, both on campus and at home	32 (53%)	17 (31%)	71 (75%)	26 (50%)	118 (58%)	31 (48%)	295 (56%)
Several times a day, only on campus	10 (17%)	8 (15%)	16 (17%)	4 (8%)	21 (12%)	9 (14%)	68 (13%)
Several times a day, only at home	1 (2%)	1 (2%)	0 (0%)	2 (4%)	14 (7%)	2 (3%)	20 (4%)
2-3 times a week	8 (13%)	11 (20%)	3 (3%)	17 (33%)	21 (10%)	16 (25%)	76 (14%)
Once a week	1 (2%)	3 (5%)	1 (1%)	2 (4%)	7 (3%)	1 (2%)	15 (3%)
Never	3 (5%)	4 (7%)	2 (25%)	0 (0%)	13 (5%)	2 (3%)	24 (5%)
I use my own device	5 (8%)	11 (20%)	2 (2%)	1 (2%)	10 (4%)	3 (5%)	32 (6%)
Total number of responses	60 (100%)	55 (100%)	95 (100%)	52 (100%)	204 (100%)	64 (100%)	530 (100%)

The majority of respondents use their tablets several times a day, both on campus and at home.

How easy or difficult is it to do the things you want to do on your tablet?

	BIO1010	MST1104	CHY1101	ACE1040	ENG1001	CME1025	Total number of responses
Very easy	15 (25%)	12 (22%)	23 (24%)	12 (23%)	105 (38%)	12 (18%)	179 (29%)
Quite easy	15 (25%)	16 (29%)	45 (47%)	17 (32%)	92 (33%)	24 (36%)	209 (34%)
Sometimes easy, sometimes difficult	25 (40%)	23 (42%)	20 (21%)	22 (42%)	57 (21%)	22 (33%)	169 (27%)
Quite difficult	5 (8%)	3 (5%)	6 (6%)	2 (4%)	7 (3%)	4 (6%)	27 (4%)
Very difficult	1 (2%)	1 (2%)	1 (1%)	0 (0%)	14 (5%)	4 (6%)	21 (3%)
Total number of responses	60 (100%)	55 (100%)	95 (100%)	66 (100%)	275 (100%)	66 (100%)	617 (100%)

The majority of respondents think that it is "very easy", "quite easy" or "sometimes easy, sometimes difficult" to do the things they want to do.

What have you used your tablet for?

	BIO1010	MST1104	CHY1101	ACE1040	ENG1001	CME1025	Total number of responses
Accessing University email	52 (14%)	35 (12%)	71 (13%)	38 (15%)	243 (13%)	55 (14%)	494 (14%)
Accessing personal email	25 (7%)	15 (5%)	28 (5%)	12 (5%)	145 (8%)	27 (7%)	252 (7%)
Accessing lecture slides	61 (17%)	51 (18%)	93 (17%)	52 (21%)	273 (15%)	65 (17%)	595 (16%)
Taking notes in lectures	42 (12%)	27 (10%)	89 (17%)	30 (12%)	201 (11%)	49 (13%)	438 (12%)
Accessing the NU website or app	32 (9%)	20 (7%)	43 (8%)	26 (10%)	166 (9%)	36 (9%)	323 (9%)
Accessing Library catalogue/my Library account	14 (4%)	9 (3%)	12 (2%)	12 (5%)	92 (5%)	19 (5%)	158 (4%)
Accessing Blackboard	57 (16%)	46 (16%)	94 (18%)	45 (18%)	278 (15%)	67 (17%)	587 (16%)
Accessing ReCap	35 (10%)	32 (11%)	73 (14%)	23 (9%)	211 (11%)	41 (11%)	415 (11%)
Used in practicals or field work	23 (6%)	27 (10%)	10 (2%)	5 (2%)	108 (6%)	9 (2%)	182 (5%)
Accessing social media	18 (5%)	21 (7%)	23 (4%)	8 (3%)	124 (7%)*	15 (4%)	209 (6%)
Total number of responses	359 (100%)	283 (100%)	536 (100%)	251 (100%)	1841 (100%)	383 (100%)	3653 (100%)

Common responses:
- accessing Blackboard
- accessing lecture slides
- accessing University email
- taking notes in lectures
- accessing ReCap

Which of the following applies most to your use of the tablet in lectures?

	BIO1010	MST1104	CHY1101	ACE1040	ENG1001	CME1025	Total number of responses
View material in lectures, write notes on paper	17 (28%)	19 (34%)	6 (6%)	30 (52%)	108 (38%)	29 (43%)	209 (34%)
View material in lectures, make notes with the on-screen keyboard	5 (8%)	2 (4%)	3 (3%)	6 (10%)	4 (1%)	2 (3%)	22 (4%)
View material in lectures, make notes using an external keyboard	4 (7%)	2 (4%)	1 (1%)	3 (5%)	2 (1%)	1 (1%)	13 (2%)
View material in lectures, make notes with the stylus	23 (38%)	15 (27%)	81 (85%)	13 (22%)	133 (47%)	27 (40%)	292 (47%)
I haven't been using my tablet in lectures	12 (20%)	18 (32%)	4 (4%)	6 (10%)	39 (14%)	8 (12%)	87 (14%)
Total number of responses	61 (100%)	56 (100%)	95 (100%)	58 (100%)	286 (100%)	67 (100%)	623 (100%)

The majority of respondents view material on their tablets and then either take notes on paper or take notes using the stylus.

If you haven't been using your tablet in lectures, what is the main reason for that?

- Prefer to use laptop/easier to use laptop (often due to keyboard, easier to have multiple tabs or windows open).

- Prefer to make notes on paper/handwrite.

- Problems accessing Blackboard (to get slides)/problems saving notes reliably/WiFi problems.

- Limited space available on desk.

- Use own tablet/phone.

If you have been using your tablet in lectures, what app/software have you been using to take notes?

- OneNote
- Samsung Note (used with/ without stylus)
- PowerPoint (including using stylus with Screen Write function)
- Adobe Acrobat
- Write on PDF
- Screenwrite
- Word (including using stylus with drawing tab)

- Word (including using stylus with drawing tab)
- Autodesk Sketchbook (for diagrams)
- Squid
- Adobe Illustrator
- Pen and Paper
- PaperNote
- Notebook
- Drawboard

Have you found the stylus useful?

	BIO1010	MST1104	CHY1101	ACE1040	ENG1001	CME1025	Total number of responses
Yes	46 (75%)	30 (60%)	85 (91%)	37 (66%)	248 (86%)	43 (93%)	489 (82%)
No	9 (15%)	14 (28%)	6 (6%)	15 (27%)	21 (7%)	2 (4%)	67 (11%)
Don't know	6 (10%)	6 (12%)	2 (2%)	4 (7%)	19 (7%)	1 (2%)	38 (6%)
Total number of responses	61 (100%)	50 (100%)	93 (100%)	56 (100%)	288 (100%)	46 (100%)	594 (100%)

The majority of respondents have found the stylus useful.

Have you encountered difficulties with any of the following?

	BIO 1010	MST 1104	CHY 1101	ACE 1040	ENG 1001	CME 1025	Total number of responses
Wi-Fi stability in teaching rooms	44 (22%)	32 (20%)	76 (29%)	34 (23%)	182 (31%)	31 (18%)	399 (26%)
Wi-Fi stability in University accommodation	14 (7%)	18 (11%)	28 (11%)	23 (16%)	117 (20%)	24 (14%)	224 (15%)
Taking notes	14 (7%)	17 (11%)	16 (6%)	9 (6%)	37 (6%)	20 (12%)	113 (7%)
Accessing Blackboard	20 (10%)	9 (6%)	18 (7%)	3 (2%)	17 (3%)	10 (6%)	77 (5%)
Accessing timetable	8 (4%)	4 (2%)	10 (4%)	4 (3%)	16 (3%)	12 (7%)	54 (4%)
Downloading handouts	25 (13%)	14 (9%)	35 (13%)	14 (10%)	30 (5%)	8 (5%)	126 (8%)
Saving files	18 (9%)	21 (13%)	41 (15%)	18 (12%)	65 (11%)	23 (13%)	186 (12%)
Lack of an external keyboard	37 (19%)	27 (17%)	15 (6%)	27 (18%)	39 (7%)	21 (12%)	166 (11%)
Understanding how it works	10 (5%)	9 (6%)	11 (4%)	10 (7%)	43 (7%)	10 (6%)	93 (6%)
Battery life	7 (4%)	10 (6%)	16 (6%)	4 (3%)	49 (8%)	12 (7%)	98 (6%)
Total number of responses	197 (100%)	161 (100%)	266 (100%)	146 (100%)	595 (100%)	171 (100%)	1536 (100%)

Common responses:
- Wi-Fi stability in teaching rooms
- Wi-Fi stability in University accommodation
- saving files
- lack of an external keyboard

What is the best thing you've learnt to do on your tablet (the "game changer")?

- Downloading/saving locally to avoid Wi-Fi problems.
- Writing on PowerPoint.
- Splitting the screen.
- Taking notes (drawing and writing) using stylus; convert stylus handwriting to text; use of handwriting keyboard.
- Useful to keep all notes together.
- Listen to ReCap one device and take notes on another.
- Learning how to erase annotations.
- Ability to sync notes taken on different devices.
- Using an external keyboard.

I think the tablet is benefitting my student experience.

	BIO1010	MST1104	CHY1101	ACE1040	ENG1001	CME1025	Total number of responses
Yes	46 (77%)	37 (74%)	68 (81%)	44 (88%)	228 (83%)	41 (75%)	464 (81%)
No	10 (17%)	11 (22%)	8 (10%)	4 (8%)	23 (8%)	6 (11%)	62 (11%)
Not sure	4 (7%)	2 (4%)	8 (10%)	2 (4%)	24 (9%)	8 (15%)	48 (8%)
Total number of responses	60 (100%)	50 (100%)	84 (100%)	50 (100%)	275 (100%)	55 (100%)	574 (100%)

The majority of respondents think their tablet is benefitting their student experience.

Regarding tablets, what else would you like extra help on?

- Note-taking; best way to view slides and make notes simultaneously.
- How to download slides and save notes/best way to organise files.
- Printing from a tablet.
- Useful apps.
- Accessing ReCap.

- General advice on best use.
- Making sure everything we are asked do works on the tablets.
- Accessing on-line textbooks.
- Best suppliers for accessories e.g. stylus nibs, screen protectors, external keyboards, cases.

Key messages

- **The tablets are benefitting students.**

- **However, whilst some students have integrated the tablets into their learning, a large number are still struggling with more fundamental tasks.**

- **Want to introduce digitally-authentic learning experiences.**

- **WiFi stability continues to be an area of concern.**

Next steps

- **Working on extra help for current students and feeding key points into induction for 2019-20.**

- **Need to make sure staff know how to provide resources that are tablet-friendly. Training will be provided over summer.**

- Two students interns working to review apps useful in teaching e.g. note-taking. Produced guides on tablet use. Please visit their poster.

- Visit planned to Teesside University to find out more about their Future Facing Learning Project.

- Faculty Education Development Fund: Tablet Advisors.

Any questions?

For more information, please get in touch:

alison.graham@ncl.ac.uk

Our thanks to all of the students who took part and shared their opinions.

Thanks to SNES for funding the student internships.