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A Scalable Examination Platform for BYOD Invigilated Assessment

Qualitative analysis: Student concerns The good the bad and the ugly!

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Comments ~2000 from typists and hand writers

"I feel more confident using my own computer because I know it worked in the past"

"I type faster and with less stress"

"Some things can't be done (easily) on a PC. It is difficult to draw pictures with computer."

Themes

Academic integrity,
Exam environment,
Technology issues,
Equity, Typing, BYOD,
Time, Engagement,
Exam administration,
Typing vs handwriting



Australian Government
Department of Education and Training





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Qualitative analysis: **Student concerns**

The good the bad and the ugly!

e-Exam Symposium: 24 Nov 2018 11am.



Method

Student survey - open comments (~2000) from typists and hand writers. Collected 2016 s1-2018 (s1): **Pre** (at practice session) and **Post** the conduct of e-exams:

- **Why did you to choose to type (or hand write)?**
- **What concerns do you have at this time?**

Responses analysed using Nvivo pro software.

Comments coded to themes and (whenever possible) coded as either positive or negative.

Academic integrity	Exam environment	General: Technology issues
Equity	In-room technology issues	General: Typing
BYOD	Time	Engagement
Exam administration	Typing vs paper	

Context and Scope

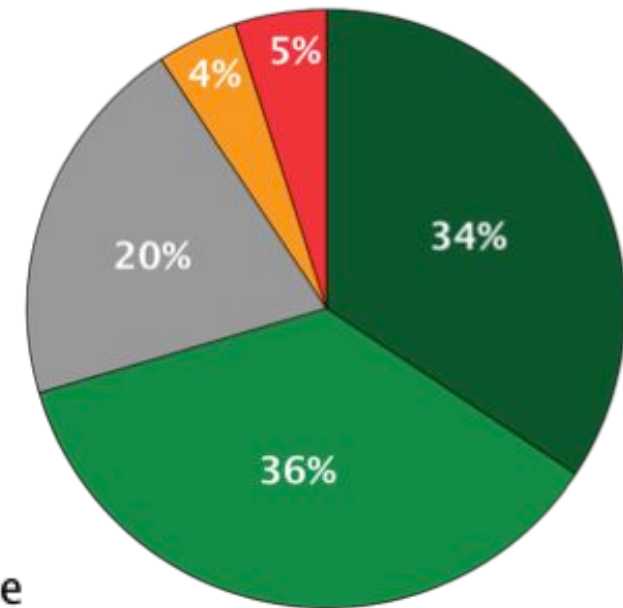
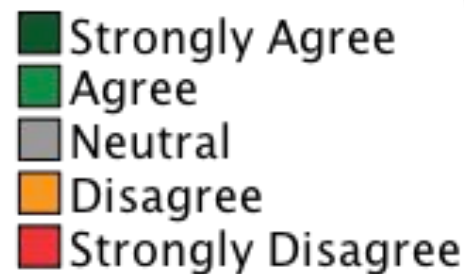
Exams	Typists	Pen	Weight	Minutes
Sum	1750	1309	~	4145
Mean	40	37	32%	106
Smallest	1	~	5%	15
Largest	166	~	50%	180

The comments over the following slides focus on ‘*concerns*’. Are drawn from **3000+** participants.

The big picture (typists):

“I would recommend the e-Exam system to others”

70% positively recommend.
90% would use it without concern.



Academic integrity (Neg, 20, Pos, 2)

Small number of comments. Concerns that those choosing to take the e-exam option would have opportunities to cheat.

People who write should sit at the front as it is easier for people to see your screen who are sitting at the back.

Also probably easier to cheat, it's easier to see an illuminated upright screen compared to a piece of paper.

Lack of cover to prevent people peeking at screen.

Commentary:

As the trials progressed ~ instruct those running e-exams to allay these concerns, including the separation of typists from hand-writers. Convey to the writers that e-exam technology minimises the chances to cheat via lockdown security measures (e.g. no network, no drive access, no communication access etc).

Moving to phase 3 (Moodle) allows question/option randomisation.

Seating to minimise peeking – staggered and front to back <><><> or 90deg at tables.

Exam environment (Neg, 21, Pos, 1)

A small number of students expressed annoyance at the sound of typing:

The typing sound was extremely distracting.

The noise of other people hitting the space bar as loud as they can, every 5 seconds.

Comments weren't always related to typing noise:

There was an issue with desk/chair height. There were no ways of altering the desk to chair ratio to suit a good typing posture, meaning I made a lot of typing mistakes and had sore arms due to having to hold them a lot higher than normal.

Commentary:

Noise: In large or 'echo' prone venues. Consideration of: acoustics (carpeting, noise baffles), be aware if allowing external keyboards i.e. no 'clacky' keys. Consider headsets or ear buds (but these also present issues with integrity). Overall this was a minor issue only reported in a minority of trials.

Ergonomics: We don't cater for ergonomics for handwritten exams - Individual equity/access plan provisions could be used if needed.

General technology issues (Neg, 186, Pos, 6)

Some comments related students who relied upon university laptops when doing the exam, others to the behaviour of the software.

1) Sticky key. 2) Lost ability to select text. 3) Unknowingly touching mouse with hand while typing so ended up typing somewhere else then having to fix it.

The scrolling is a bit hard, because it's very sensitive.

Wrong time on the laptop is misleading.

Mouse was a bit fiddly when using scratch program. Took quite a bit of time as it was lagging.

The only concern I had was I found it frustrating when I began typing and the cursor had moved, causing me to lose my train of thought as I went back and deleted the text which had gone into the wrong place. I then had to start again, and this caused me to blank on content knowledge that I knew.

Commentary:

Many comments from the early part of the trial. Address by - attention be paid to computer performance/characteristics during practice session. Use of wired USB mice permitted. Wider scroll bar setting. A 'disable touchpad while typing' setting. Use of official venue clocks (screens). Practice ~ copy/paste.

Equity (Neg, 6)

A small number of comments made on perceived equity issues.

Unequal for people doing exam on different computers.

My personal laptop's performance when using the exam technology.

Students who type faster have advantage.

Access (equitable) to computers, whether university supplied or not.

Regarding offering a choice:

That it isn't fair to offer both options, especially then people may go with a worse option just because they feel nervous typing.

The unfair advantage of people typing faster than writing students.

Commentary:

These issues are likely to diminish as the use of e-exams becomes more 'mainstream'. They also can be addressed through better exam administration processes.

We don't consider the ability to handwrite neatly for 2 to 3 hours!

In session technology issues (Neg, 100, Pos, 4)

I would prefer a familiar device but my own wouldn't be suitable - technology failures (if I accidentally hit backspace and lose a large portion of text), maybe program software to ask permission before deleting a large amount of text?

Accents when writing in French take longer than when handwriting – the setup also not suitable for language exams.

The software is buggy.

Faulty devices, mainly running out of battery before should happen. (this happened to me, battery jumped from 53% to 5%)

Commentary:

Practice and practice under exam conditions! Extra keyboard layout added for accents, familiarisation during practice. Multi layered backups and auto save averts a lot of the criticism (balance of responsibility and complacency re auto save).

Power: The solution is both with students coming to e-exams with well charged batteries, and setting up venues with adequate power.

General comments: typing (Neg, 33, Pos, 25)

Negative (mostly by those that chose to handwrite):

That my spelling mistakes would be far more obvious, I'm not sure about the speed and accuracy I could type.

Students who type faster have advantage.

Typing is slow and uncomfortable for me.

I'm not a great typist and actually found I was probably a little slower than had I written, though reading my responses would [be easier].

Having grown up without a computer, I am a slow typer.

Positive:

Less hand cramp.

I type faster, less stress.

Commentary:

Overall balanced pro and con - with more use of e-exams a lot of the negative issues can be expected to decline as typing becomes mainstream. i.e. no more 'practicing handwriting' just for exams.

BYOD (Pos, 104, Neg, 83)

Relatively even split

Positive:

I love my computer!

I feel more confident using my own computer because I know it worked in the past.

I'm used to how the keyboard feels and works, I can also use my mouse which is easier to use than a trackpad.

Negative:

I do not own a laptop, so I had to borrow one. I am uncomfortable using someone else laptop.

My laptop is literally falling apart!

I eventually rented a laptop and paid a professional to set it up properly, which was an additional financial cost.

Commentary:

It's notable that most students felt very comfortable with BYOD arrangements. As e-exams become more commonplace we can expect satisfaction with BYOD to rise even further.

Need for a set of reserve laptops – but better than buying 100%!

Time (Neg, 41, Pos, 1)

Comments connected to usage of time and anxieties about running out of time, especially in relation to the e-exam.

Concerns for neatness of [hand] writing Chinese characters in a time conscious environment. [in choosing to type]

Extra time with [typing French] accents and saving the work.

Time lost when asking for help with technical issues. I had two issues, which made me lose valuable time.

I wasn't prepared for how quickly the time would pass! I kept re-editing my structure and ran out of time.

Commentary:

While many comments were coded here as negatives, in practice they represent opportunities. For example, over time the capacity of students to copy and paste parts of their work into a more sensible order will be seen as a positive.

Reiterate the need for practice under exam conditions so the new mode becomes more familiar.

Interruptions were minor. Establish rules to deal with delays ~ i.e. extra time.

Engagement (Neg, 16, Pos, 23)

Students differentiated purpose and strategies. Some students reporting that they organise their thoughts better with typing (including easier to edit), others that hand writing better enables them to structure their thoughts.

My tendency to overthink and write too slowly when I use a keyboard.

Too much editing and not enough flow of ideas - Not confident in structuring my thoughts using a computer UNDER exam conditions.

I feel that my thought process flows better when I am writing. I believe if I had more exposure I would become better at it. In previous hand written exams we were given reading time, however I spent more time deliberating over my responses when typing. This is both a good, and bad thing. It is easier to doubt myself, but also easier to edit and make changes.

When writing responses, I prefer to handwrite as I am able to map out my thoughts first and easily follow my ideas later when re-reading.

I was able to type quicker and feels like I had more time to think about responses. I prefer handwriting for freethinking - typing for planned composition.

Commentary:

Need for Practice! Consider providing paper for typing students to rough out responses in point form before they commit to typing in their exam responses or for notes, reading time.

Exam administration (Neg, 97, Pos, 26).

When given a choice, but it was not at the normal time:

I wanted to type the exam but only one pre-exam meeting was offered and the time did not suit me, so I had to write.

Didn't want to come uni on a Friday - I didn't want to travel to uni for the 'test' day.

Handwritten exam was during tutorial so fitted my weekly schedule.

Comments related to the setup of the e-exams:

Multiple tabs or links is confusing and takes up time. - concerns about what happens with the usb stick after the exam, e.g. mixing up usb sticks. - Could be prettier!

USBs and e-exam requirements should be sorted out at the start of semester and not when you are already stressed and under the pump for final assignments and exams.

Commentary:

Many of these problems have been or will be resolved when reliance upon e-exams reaches a tipping point, that is to say so common as to 'reset' the conduct of both staff and students in e-exam setups.

Student identity info captured by the system and marked onto files.

Organisation of practice sessions, notifying students at the start of semester.

Typing versus paper use (Neg, 57, Pos, 99)

Negative:

Something(s) can't be done (easily) on a PC- e.g. diagrams. - It is difficult to draw pictures with computer.

Cannot make notes on it. - Being unable (or it being more difficult) to add notes to words. Something like comments in Adobe reader would be great.

Positive:

What I really liked with this exam is the fact that we can break down the paragraph and be able to analyse the accuracy for each paragraph before reading the whole text.

They should be used in all examinations, and we should be allowed to choose whether we want to handwrite or type any examinations.

I think great, future of exams.

Commentary:

The majority of students see the availability of e-exams as a positive development. It is reasonable to expect that as e-exams become part of regular procedure that student acceptance will grow even stronger.

Panel and Discussion

Cristina Savin (Student):

Monash University

Language translation semester 1 2018.

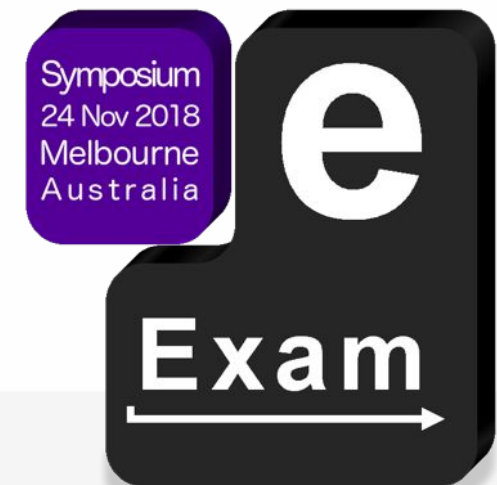
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Amy Hubbell (Academic):

University of Queensland

French language 2017, 2018.

Word document offline exam.



e-Exam Symposium

24 Nov 2018

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Melbourne, Australia

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