Digitising exams: growth, benefits and opportunities

BALEAP PIM Conference *Adapt or Die*
Saturday 9th November, 2019

Jonathan White, Oxford Brookes University

Overview

- Landscape

- Trial on foundation and pre-sessional courses

- Handwritten VS typed exams

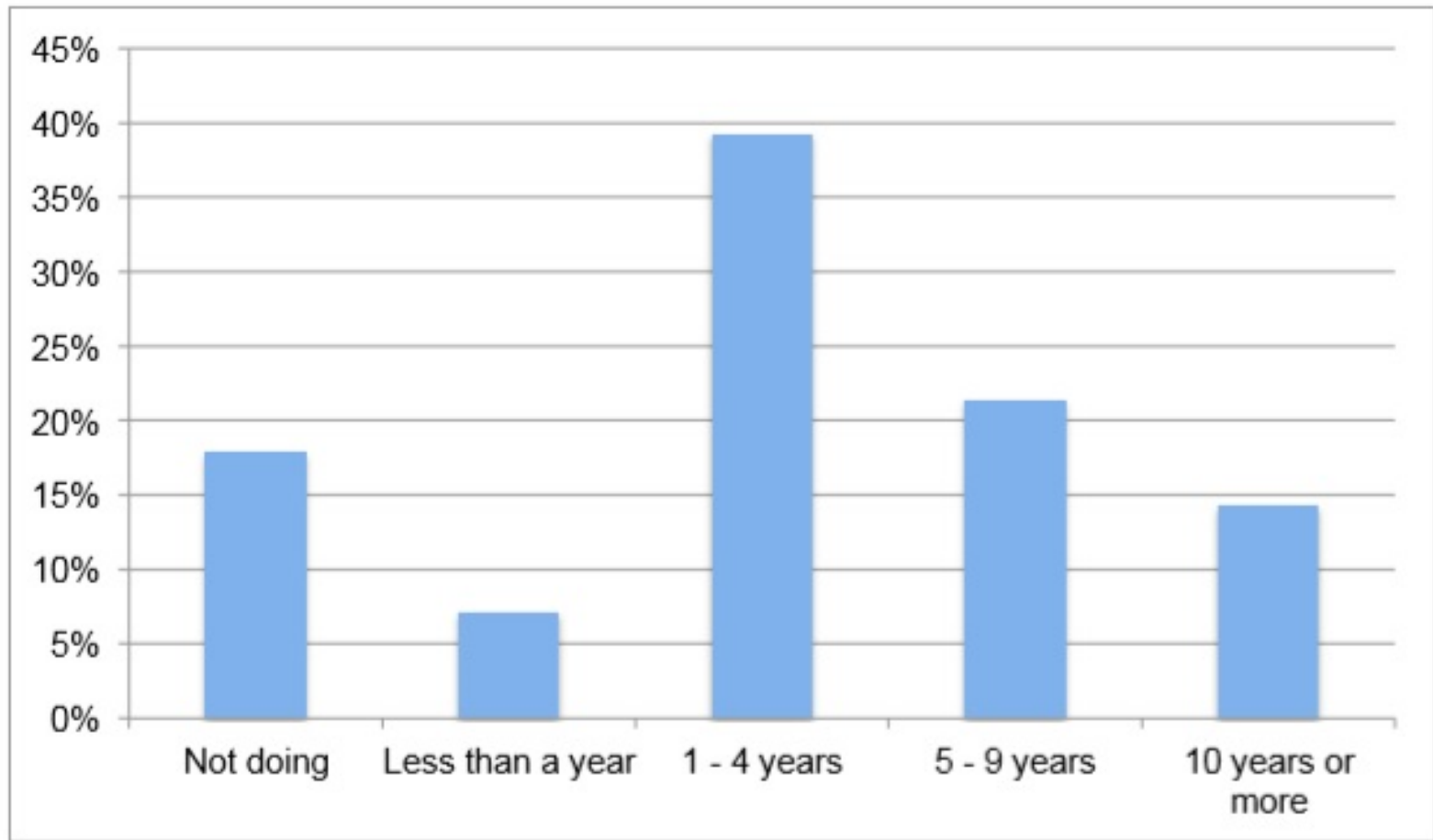- Opportunities

Landscape

Newland (2018) report - Implementation

Report from Heads of eLearning Forum (HeLF) survey on Electronic Management of Assessment
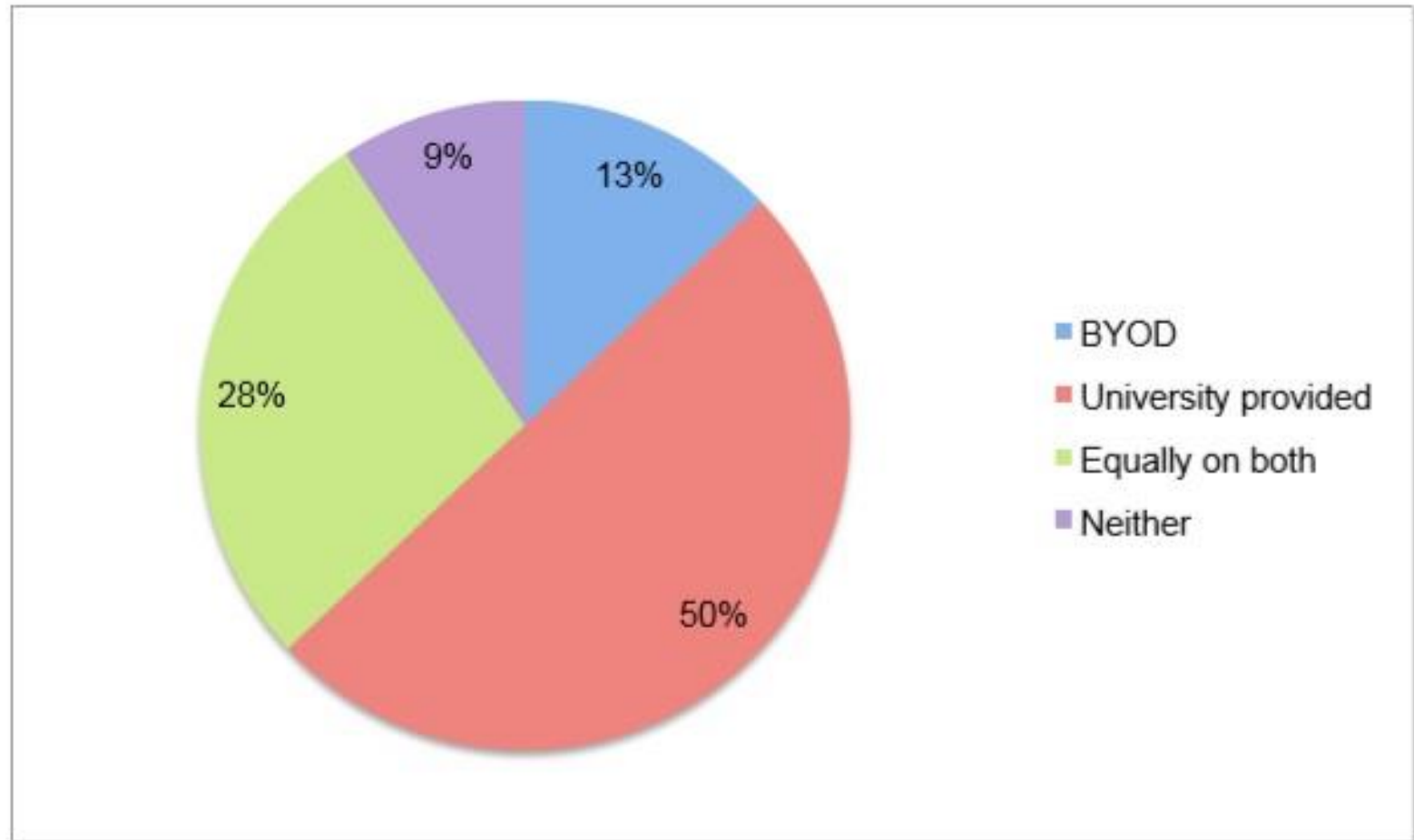
56 responses from separate institutions

- 61% e-exams only replacing traditional in one or two courses

- 5% e-exams are replacing all exams

- 14% no e-exams taking place

Universities' involvement over time

(Newland, 2018, p.10)

BYOD or university provided computer

9% Neither
13% BYOD
28% Equally on both
50% University provided

Legend:
- BYOD
- University provided
- Equally on both
- Neither

(Newland, 2018, p. 11)

BYOD = Bring Your Own Device

Brunel University BYOD exam
(Kent, 2018)

Digital exams in Denmark

WISEflow (Digital Exam Support) was purchased for 6 University Colleges in 2014 and implemented at these institutions in 2014-15 (Anderson, 2018)

Aarhus University Denmark (40,000 students)

More than 90% of all written exams digital

Trial

Background

I wanted to:

- Allow students to type to improve authenticity and legibility

- Mark and feedback using Turnitin

Initially allowed students to use computers but one student *may* have accessed translation software or online tools (Grammarly), as their language was much more accurate than in other tests

- How could I limit students' ability to access the internet?

- Respondus Lockdown Browser introduced in 2018 as a VLE (Moodle) plug-in

Exams - 2018-2019

Foundation - Media Studies, 36 students

Media text analysis, 700 words

Pre-master's - Reading and Research, 13 students

Summary of article (eg. TES), 400 words

Pre-master's - Advanced Reading and Research, 17 students

Critical comparison of two journal article extracts - 500 words
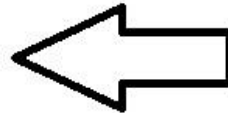
Format for Media Studies exam

Assignment 2 Test Materials

- ☑ Test: Lockdown Browser Submissions
- 📕 Test Instructions and Notes
- 📘 Test Instructions and Notes
- 📕 University Test Regulations

Assignment 2 Support Materials

- 📁 Week 10 Slides
- 📕 Assessment Criteria: Assignment 2

Semiotics Resources

- 🌐 Example Semiotic Analysis: Heinz Ketchup

Narrative Resources

- 📕 Narrative Reading
- 🌐 Barthes Narrative Theory
- 🌐 Barthes Five Codes

Students open the Respondus Browser App on the university computer desktop

Then access VLE (Moodle) in the usual way

Once they click on the link - set up as an Moodle quiz essay question - they are unable to access any other window on the PC

Format for Foundation Media exam

Students were provided with instructions on paper

Once this browser was open they could not access any other window

They could choose to analyse a video advert applying concepts from theories of narrative or a still image advert using semiotic analysis

They could watch the (Youtube) video as many times as they wanted

Findings from trials - Benefits

- Able to mark using Turnitin

- Securer environment than before; less intensive invigilation

- Positive response from students

- No students opted to handwrite instead

- Efficient and more sustainable (paperless) method of testing

Findings from trials - Drawbacks

- Anonymity - have to copy and paste into Word, then save and identify student to upload to Turnitin on their behalf (Psychology dept. also found this issue)
- Text box functionality very limited compared to Word; could cause tech anxiety
- Spelling and word formation mistakes quite frequent
- Grumbling about having to count the words

Implications from trials

- Anonymity: different person uploading to marking, so anonymity is maintained, to a certain extent

- Familiarisation: ensure students familiar with text box format and functionality

- Provide test practice to reduce tech anxiety

- Consider if word count is necessary - set requirements to size of box instead (do we have a tendency to want to fill a box?)

Handwritten VS Typed

Masterman and Fresen (2019)

Literature survey of 40 papers in 2017

Trial in April 2018 with 4 e-exams in Theology, Computer Science (UG) and MSc Law and Finance (2 modules, mock exams)

Findings - STUDENTS

Typing proficiency: can constrain higher order processes

Length: generally longer for typed; how much written depends on

knowledge, analytical skills and typing speed

Anxiety: fear of technical failure or unfamiliar devices

Lexical variation: wider range in typed

Lexical density: meaning bearing vs functional words lower in typed

Informal style: more common in typing than handwriting in exams

Findings - MARKER

Empathy: give students benefit of the doubt if handwriting illegible

Typed seems shorter: positive correlation between length of answer and mark awarded

Expectation of higher quality: tempting to see typed answers as final draft - rather than first draft writing; might lead markers to expect exam answers to be more akin to the quality provided in coursework

Inter-rater reliability: better for typed

Recommendations

- Rule out the choice between handwriting and typed (just move)

- Make e-exams compulsory and provide support to improve typing

  skills (exception for reasonable adjustments)

- Rule out choice between marking on paper and marking on screen

- Adopt e-exams across the board and use analytics to better

  understand writing behaviours and academics' marking strategies

- Support students to develop IT literacy

Opportunities

Access to and use of digital media and tools

- Digital and online source materials can be incorporated into exams

- Digital tools can be used to produce exam text types

- Whitelisting (allowing only certain links or programmes) is used to make this possible

Case Study - Digital Media and Games

Report for a game based on client brief

Students had access to Excel, Powerpoint, Word, and code editors
Ability to include drawings and diagrams

How?

- used individual whitelisting feature to provide access to a variety of resources
- testing prior to the exam
- students already had prior experience of a similar question format conducted in class tests
- used the file upload question type which allowed students to download offline versions of their work and then reupload these back in the locked down exam environment for the marker to view.

(Brunel, 2019)

References

Images: all images from Pexels under Creative Commons licence with no attribution required.

Brunel (2019) *Authentic assessment? In my exam? It's more likely than you think.* Available at: https://www.brunel.ac.uk/about/education-innovation/Digital-Assessment-Blog/Authentic-assessment-In-MY-exam-Its-more-likely-than-you-think. (Accessed: 29 October 2019).

Kent, S. (2018) 'Digital assessment: evolution or revolution', *Conference on Learning from Digital Examinations, Brunel University,* London, 26 April. Available at: https://www.brunel.ac.uk/about/education-innovation/Digital-Assessment-Brunel/Learning-from-Digital-Examinations-Presentation-Gallery.

Masterman, L. and Fresen, J. (2019) 'Are typed and handwritten exams equivalent?' Transforming Assessment webinar, 2 October. Available at: https://au-lti.bbcollab.com/collab/ui/session/playback.

Newland, B. (2018) *Electronic management of assessment – digital exams in UK HE 2018: Heads of eLearning Forum Survey Report.* Available at: https://cris.brighton.ac.uk/ws/portalfiles/portal/433300/HeLFEMA2016.pdf (Accessed: 20 August 2019).