

# Transforming exams: stories from across Australia

Dr Mathew Hillier,  
Monash University

Dr Andrew Fluck,  
University of Tasmania

Dr Michael Cowling,  
Central Queensland University

Mr Kenneth Howah,  
Central Queensland University

Associate Professor Matthew  
Bower, Macquarie University

Mr Scott Grant, Monash University

Dr Amy Hubbell,  
University of Queensland

Ms Vilma Simbag,  
Monash University / University of  
Queensland

Panel session. ASCILITE 4-7 Dec  
2017, USQ Toowoomba.

## Transforming Exams Across Australia

Australian Government (Department of Education and  
Training) National Grant ID15-4747: AU\$500K (2015-2018)



National Accreditation Authority  
for Translators and Interpreters LTD

## TransformingExams.com



Australian Government

Department of Education and Training



**Acknowledgements** - The views expressed do not necessarily reflect the views of the  
Australian Government Department of Education and Training or participating institutions.



# Acknowledgements

## Project Partners

- Monash University: Dr Mathew Hillier (PI), Prof. Marilyn Baird, Scott Grant
- University of Tasmania: Dr Andrew Fluck.
- Central Queensland University: Dr Michael Cowling, Kenneth Howah, Mary Tom.
- Australian National University: Brandon Colquhoun, Beth Harris
- Edith Cowan University: Assoc. Prof. Paul Newhouse
- Macquarie University: Assoc. Prof. Matthew Bower, Prof Dominic Verity
- RMIT University: Assoc. Prof. Shona Leitch
- University of South Australia: Dr Ruth Geer, Bruce White
- University of Queensland: Dominic McGrath
- University of New South Wales (Canberra)/ ADFA: Dr David Meacheam, Emma Betts

## Academics hosting trials

- Monash college: Nathaniel Lyons (Globalisation + Geography)
- Monash Uni: Dr Shani Tobias (Translation), Dr Charanjit Kaur (Bus Stats).
- UQ: Dr Amy Hubbell (French language).
- CQU: Dr Rahat Hossain (KM in IT).
- UTAS: Dr Wendy Balassa (Education)
- ECU: Dr Jeremy Pagram (Programming/Python)
- UNSW/ADFA: Andrew Gilbert (Air Power).

## Project staff

Martin Coleman (lead software developer)  
Vilma Simbag (project manager/admin)  
Former staff: Lubos Rendek (software dev).  
Students (summer/winter projects and casual RAs):  
Ms Chao Wang, Kim Martinow, Sayumi Umeda,  
Annie (Yunyi Yang), Yi Zheng.

# Our Project

Moving from this >>>>>>>>>> towards to this!



Paper exams at Monash Caulfield (image: Mathew Hillier, Monash)



e-Exams at University of Tasmania (image credit: Andrew Fluck, UTAS)

Towards authentic assessment in exams using e-tools of the trade.

# Panel session - sequence

Introduction: Dr Mathew Hillier, Monash University

Case stories (8 mins each):

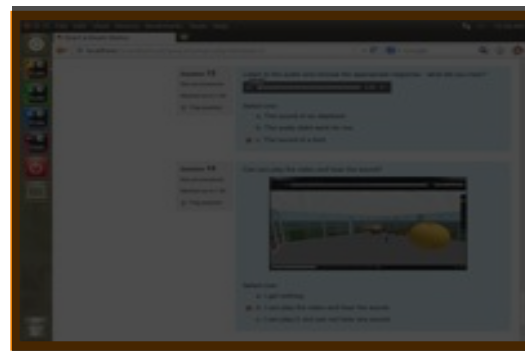
- ① Dr Andrew Fluck, University of Tasmania
- ② Dr Michael Cowling and Mr Kenneth Howah,  
Central Queensland University
- ③ Mr Scott Grant, Monash University
- ④ Dr Amy Hubbell, University of Queensland
- ⑤ Associate Professor Matthew Bower, Macquarie University  
*[via Zoom!]*

Open Q & A to the panel and next steps... Dr Mathew Hillier.

# Progress - Phased implementation strategy

Start >	> > >	> > >	> > >	> > >	> Future >
<b>Get Ready</b>	<b>Phase 1</b>	<b>Phase 2</b>	<b>Phase 3</b>	<b>Phase 4</b>	<b>Phase 5</b>
Institutional approvals, research ethics, hardware and infrastructure.	Paper equivalent small scale.  Basic doc exams to begin.	Post-paper small to medium.  Expanding the landscape with apps and media.	Medium to large scale.  Adding the power of an LMS (Moodle).	Whitelisted and logged Internet  Network BYOD exam.	Open but fully logged Internet  Network mixed mode BYOD exam.
	<b>Crawling</b>	<b>Walking</b>	<b>Running</b>	<b>Jumping</b>	<b>Flying!</b>

<http://ta.vu/e-exam-roadmap>



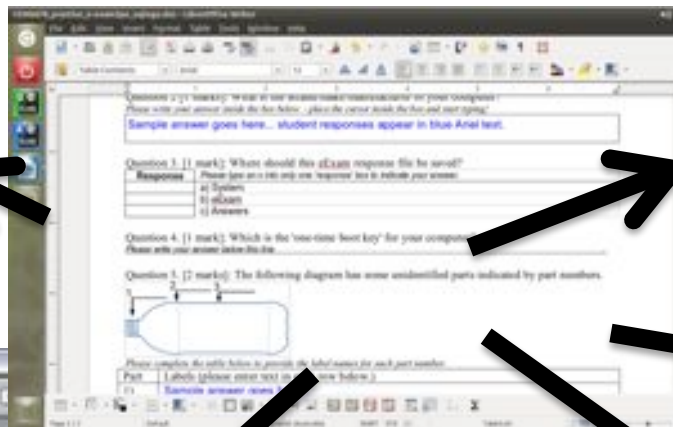


# e-Exam Trials: Towards 'post-paper' (phase 1 to 2)

Start simple and build up!



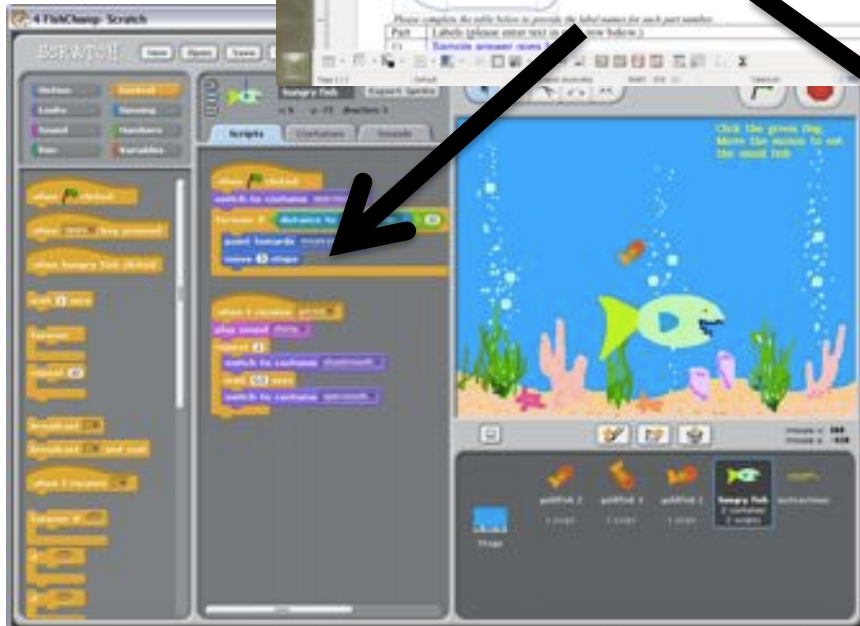
Start! Exam doc



Video



Scratch SDK

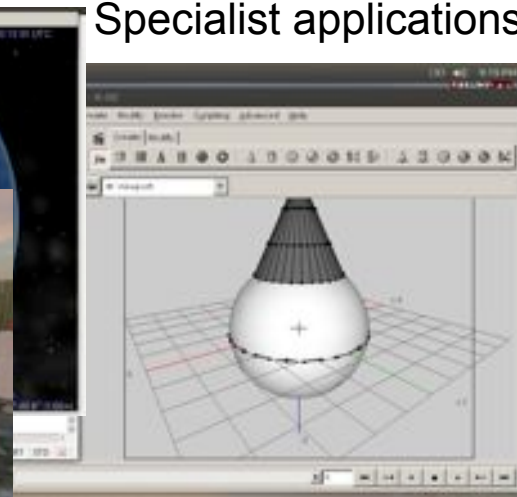


Spreadsheets as 'forms' or as calculation and analysis.

Specialist applications

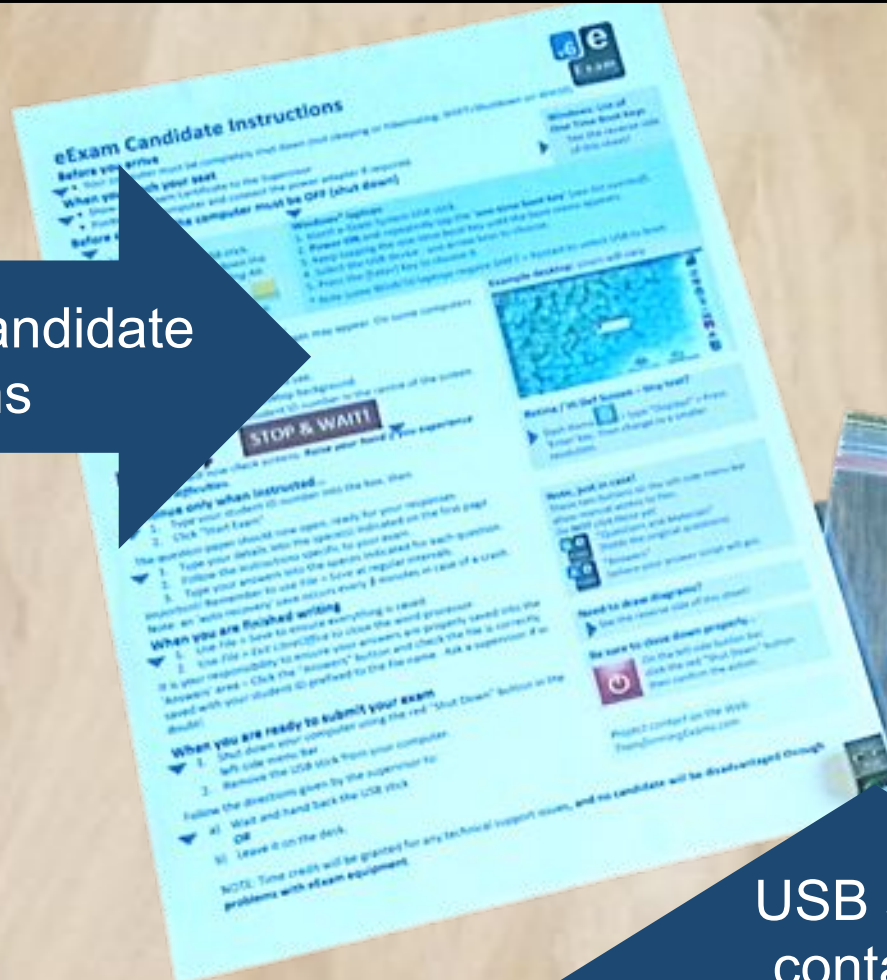
PDF

Sims



# A student's exam desk

eExam Candidate instructions



Plastic ziplock bag

USB stick contains the eExam

# The admin desk

Prototype using commodity components.

Computer and large USB hub (19 port USB3 hub now recommended.)

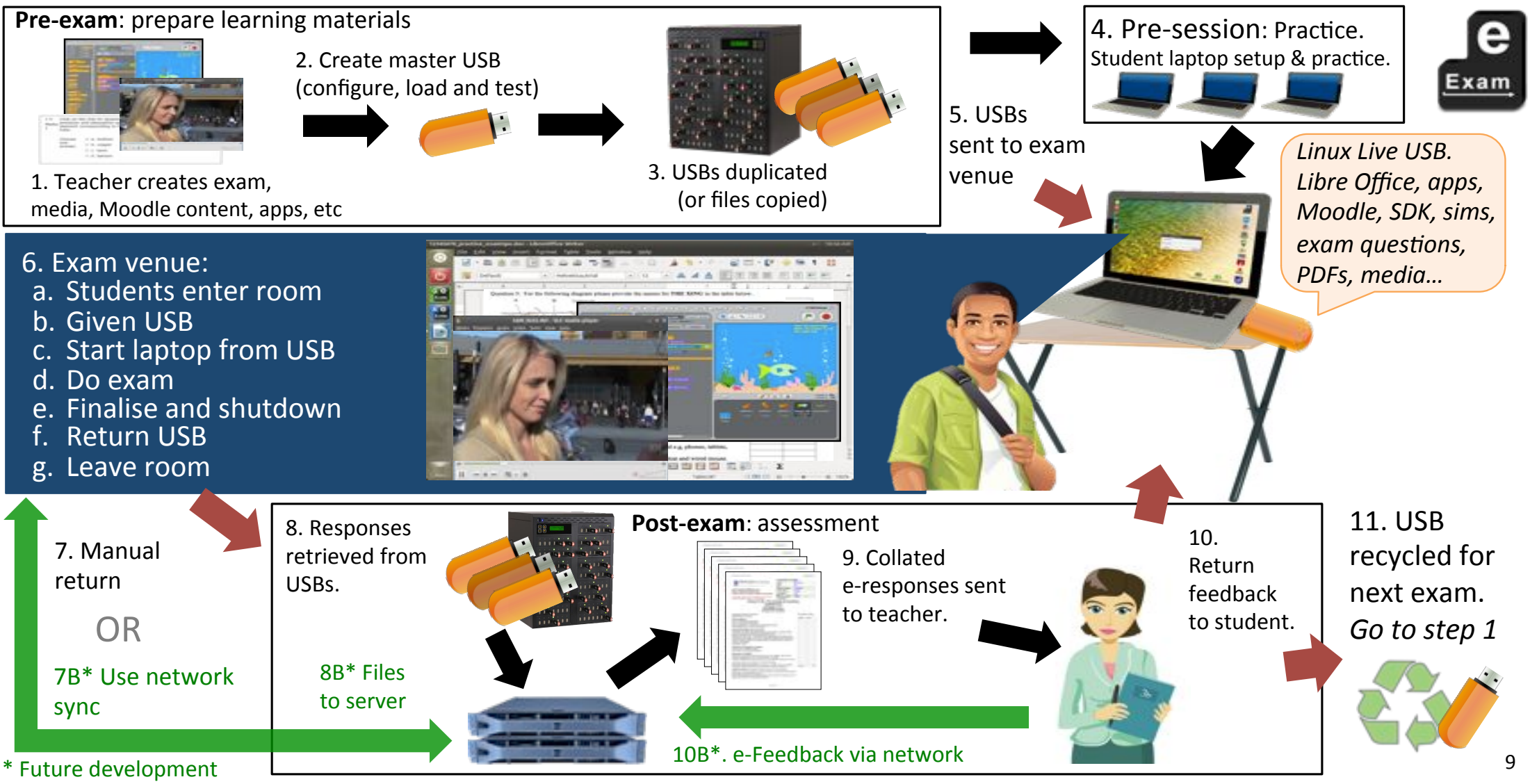
Graphical helper tool to:

1. Initial 'burn' OS to each USB.
2. Place exam materials.
3. Retrieve exam materials.
4. Set-up for the next exam (recycle).





# Doing e-Exams – Typical process overview



*Linux Live USB.  
Libre Office, apps,  
Moodle, SDK, sims,  
exam questions,  
PDFs, media...*

# Quick stats

Our e-Exam trials from 2010 to 2017...

31 courses/units, 24 academics, over 4 grants.

	Typists	Hand-writers	Exam Weighting	Exam Duration
Total	1545	1304	~	69 hours
Mean	40	37	33%	106 min
Low	1	~	5%	15 min
High	166	~	50%	3 hours

Refer to our summary of trials handout for details!

# Cases

Case stories (8 mins each):

- ① Dr Andrew Fluck, University of Tasmania (IT in Ed)
- ② Dr Michael Cowling and Mr Kenneth Howah, Central Queensland University (IT)
- ③ Mr Scott Grant, Monash University (Chinese)
- ④ Dr Amy Hubbell, University of Queensland (French)
- ⑤ Associate Professor Matthew Bower, Macquarie University [*via Zoom!*] (ICT in Ed)

Open Q & A to the panel and next steps... Dr Mathew Hillier

# University of Tasmania

The Australian Curriculum  
Technologies: Digital Technologies

acara AUSTRALIAN CURRICULUM,  
ASSESSMENT AND  
REPORTING AUTHORITY



## Question 4

A piece of software called [Balloon Car Builder.exe](#) has been provided.

- How could you use it in a classroom to extend learning?
- Which year level and which subject(s) would you teach with this software and why?
- Does it provide an opportunity for engagement/interaction?
- Is onscreen help available?

Please write your answer below this line

(5 marks)

Q: Write a program in Scratch using Felix the cat and a blank stage that:

- Allows Felix to be moved by pressing arrow keys on the keyboard.
- Allows the user to draw a simple picture as they move Felix around the stage.

Save your program in the Answers section of the USB [Computer > media > answers], then close the Scratch.

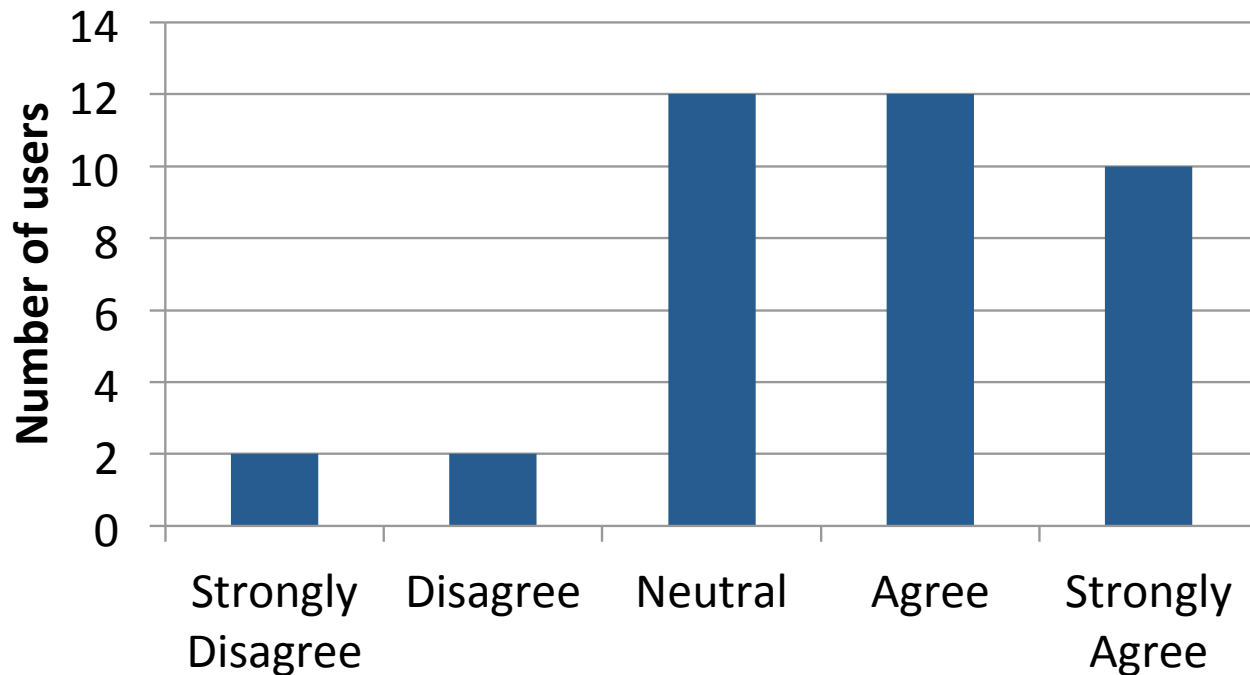




# University of Tasmania

## eExam users:

I would recommend the e-Exam system to others



## eExam neighbours:

85% were very satisfied, satisfied or neutral about sitting in the same venue as students sitting an eExam.

91% experienced no, some or a little interruption as a result of sitting in the same room as students sitting an eExam

# University of Tasmania



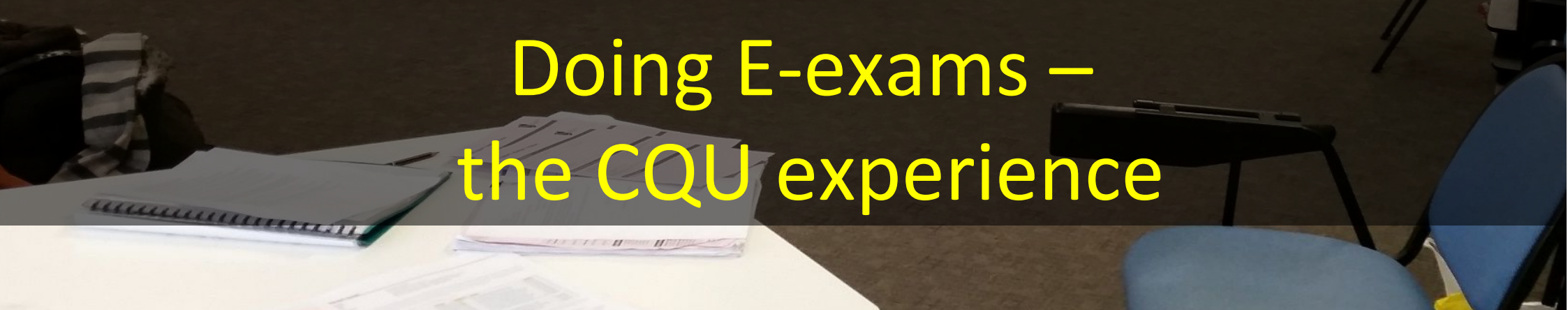
Olari high school students taking Abitti test in Finland.

Alpen-Adria University, Austria.

# CQUniversity



Doing E-exams –  
the CQU experience





# CQU context

- Multiple campuses across all States
- Multiple exam centres – typically there are more exam centres than campuses
- Some exam centres hosted by other institutions
- USBs prepped in Melb; shipped to Rockhampton; allocated to exam centres & shipped there.
- USBs returned to Unit Coordinator, not to tech guy due to internal workflow limitations





# Internal objections - 2015

- Concern with providing equitable exams facilities for all students. E-exams makes this difficult to provide
- Any trial must demonstrate complete scalability – no trial to date has done this
- Managing Opt-in/opt-out options would involve too much administrative work
- BYOD increases exam costs due to the need to mitigate the risks of technology failure
- Uncertainty about how easy it would be to train existing invigilators in overseeing e-exams.

# 2 main trials in 2017



**Term 1: 80 students.**

30 sat e-exam (34%) – typing optional

**Term 2: 166 students.**

140 sat e-exam (85%) – compulsory typing

Supp exam: 19 re-sitting e-exam – compulsory typing

# T1: The stats story...



<u>COIT12205 Perf Analysis</u>	<u>E-Exam</u>	<u>Paper</u>	<u>Excl AF..</u>
HD	7	8	8
D	7	10	10
C	7	12	12
P	6	18	18
F	3	6	6
AF	0	4	
total	30	58	54
Success Rate	90.0%	82.8%	88.9%
	<u>E-Exam</u>	<u>Paper</u>	<u>Diff</u>
Avg exam	32.9	33.6	-0.7
Avg ass1	16.0	13.2	2.8
Avg ass2	21.9	18.2	3.7
Avg unit total	68.8	61.7	7.1



# End

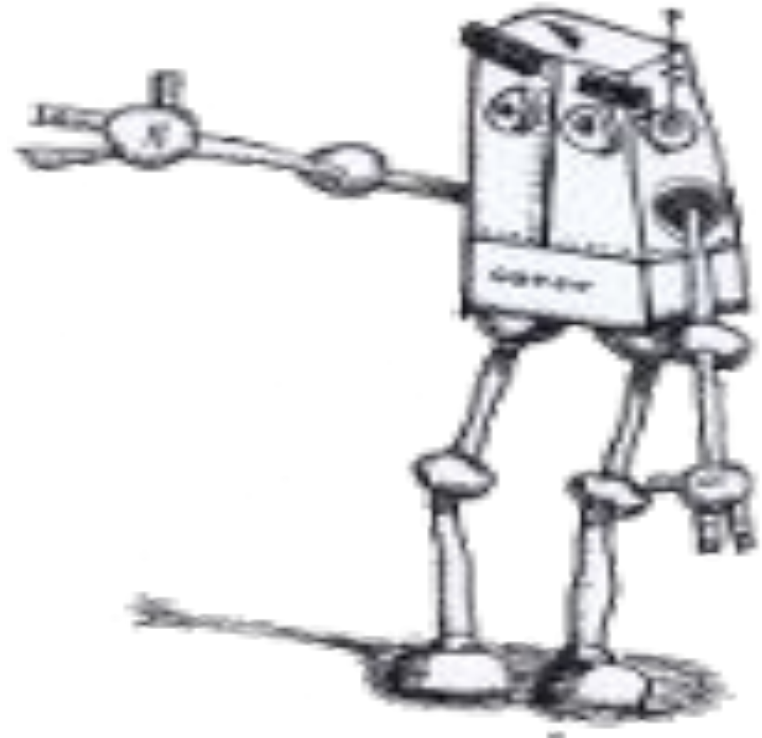
CQU team

Michael Cowling

Mary Tom

Kenneth Howah

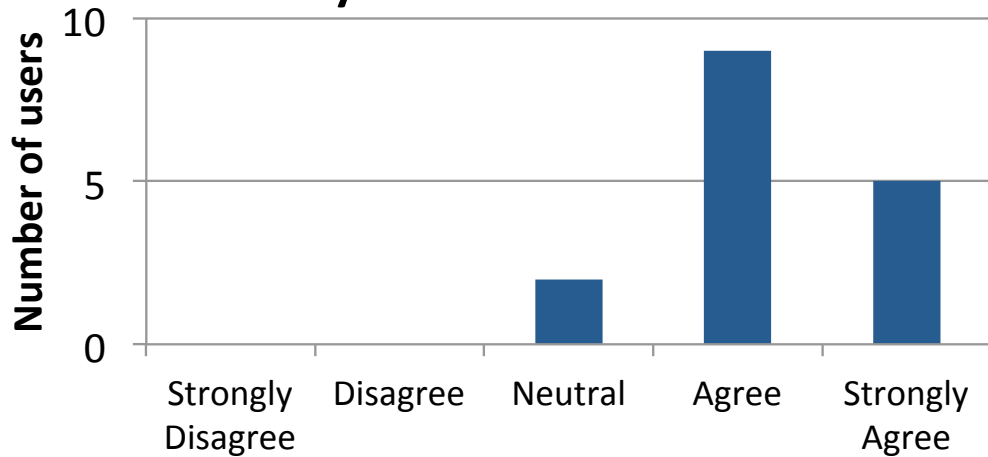
...Any questions?





# Monash University – Chinese language

**I would recommend the e-Exam system to others**



School	Languages, Literatures, Cultures and Linguistics
Level	Undergraduate, First year
Class size	73 students enrolled; 30 typed and 50 handwrote.
Class details	On campus with average four class hours and two hours online activities per week.
e-Exam	In-class, typing optional. Spreadsheet as a 'form'. BYO and university laptops. Partial automatic marking.
Assessment	One hour examination worth 16%. Mix of multiple choice, true/false, fill-in-the blank questions and short text responses.

# UQ French to English Translation



Exam materials (USB/paper) must NOT be removed from the venue.

Doing so will be considered academic misconduct.

Remember 'File > Save' often. Shortcut "CTRL S"

If the page is too big or too small for your screen please use View >

Zoom > Page width.

## All students to complete

Venue	
Seat*	
Student Number	
Given Name	
Family Name	
USB number*	

\* as applicable

FREN3310

Introduction to French > English Translation  
Semester 1, 2017

## Translation 3 – 10%

### French > English

Time allowed: 50 minutes

THIS PAPER CONTAINS:

One translation passage

CANDIDATES MUST ATTEMPT:

Translate as much of the Source Text as possible in the time allotted.

MATERIALS ALLOWED:

Dictionaries, Glossaries, Thesauri and notes

Prior to commencement of the exam [general instructions for candidates](#) will be announced by the examination supervisor.

1) While you will have typed in your student ID at the 'exam starter' screen please do so again in student ID box at the top of this page.

2) While using the e-Exam system:

- o Remember 'File > Save' often. Shortcut "CTRL S".
- o If the page is too big or too small for your screen please use View > Zoom > Page width.
- o To access attached resource materials (PDF, video, sound, other software tools):
  - o Hyperlinks are provided for access to resources from within this document.
  - o To open a linked resource, hold down the CTRL key and click the link to open it.
  - o Alternatively the attached resource can be found in the "Materials" folder within the "exam" drive (the "exam" drive can be accessed via the green "Q" button on the left side bar).

Note: Your actual exam may or may not utilise all the resource types shown in this practice exam.

3) At the end of this Practice e-Exam

- o Use File > Save to finalise the completed answer script onto the Answers partition.
- o Then use File > Exit LibreOffice.
- o Then shut down your computer using the big red button (upper portion of the left side bar).

4) Please complete and return the survey form.

## Text 1

### Brief

This article about Traveling in Mali comes from the website for the popular French travel guide publisher, Guide Routard ([www.routard.com](http://www.routard.com)) which is similar to the Lonely Planet in English. You have been asked to translate this text so that it can be used in a similar style travel website published in Australian English.

Source Text 193 words

Target text – type in the dashed box below.

### Mali

Le Mali, des dunes sableuses du Nord aux savanes arborées du Sud, est un dégradé de paysages superbes, avec des villages traditionnels camouflés dans la brousse, des mosquées en banco, dites de style soudanais, à l'architecture sobre, souvent majestueuse. Sans oublier ce fleuve fascinant, le Niger, qui parcourt généreusement le pays, en donnant vie aux terres arides.

L'étonnement est permanent, le quotidien vibre au rythme des marchés animés et colorés, des rencontres amicales et du sens de la fête de ses habitants.

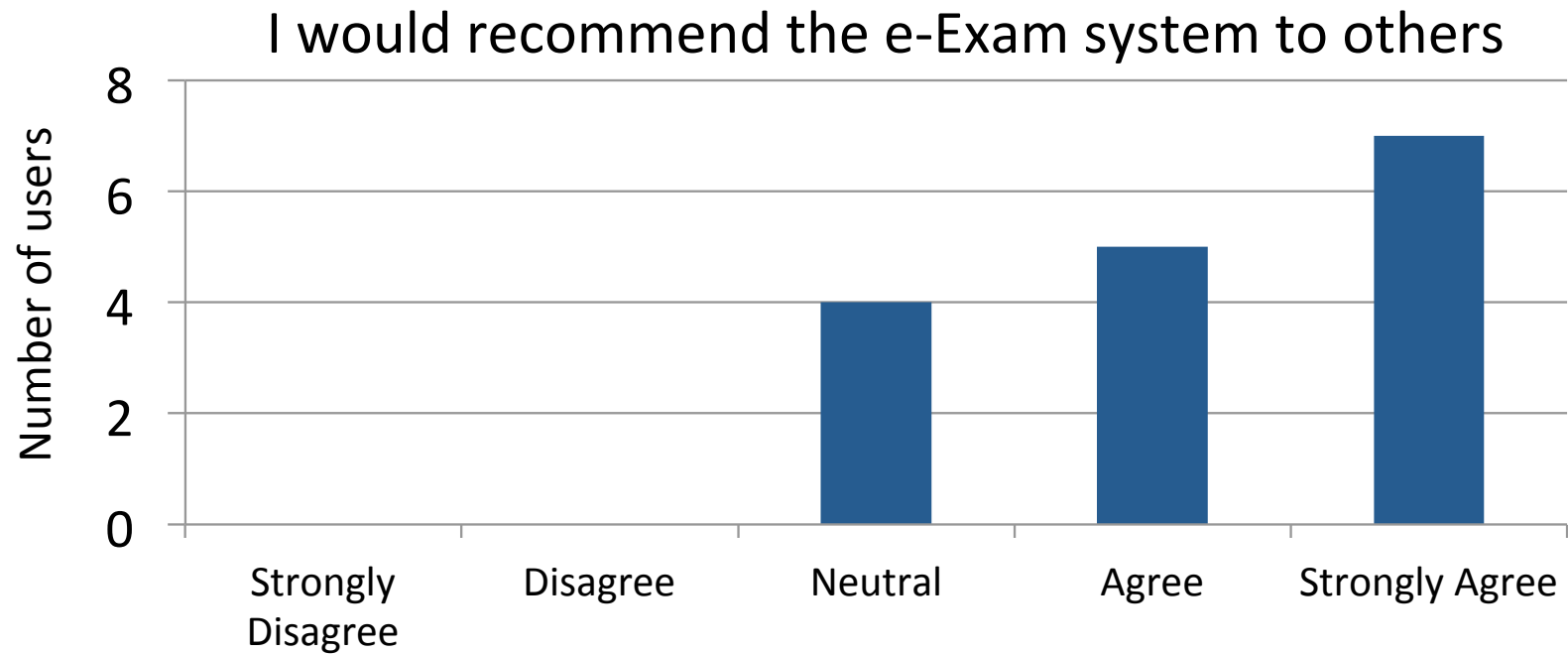
Autre atout du Mali, on peut s'y déplacer facilement grâce aux nombreuses compagnies de bus et à l'état correct des principales routes et pistes. Quant aux structures d'hébergement, si elles restent modestes dans l'ensemble, elles sont de mieux en mieux tenues, disposent d'un confort suffisant et se prêtent parfaitement à la convivialité, aussi bien entre les voyageurs qui se refilent des infos qu'avec les Maliens du voisinage.

Malheureusement, la reprise de la rébellion touarègue<sup>1</sup>, début 2012, et ses conséquences (putsch militaire en mars, partition du pays au même moment) font du Mali un pays plus que difficile à visiter tant que les conditions de sécurité ne sont pas rétablies.

<sup>1</sup> Tuareg: a Berber ethnic group living in the Sahara region.

Students type  
the translation  
next to the  
original text.  
Less scrolling  
up and down!

# UQ French to English Translation



# Macquarie University



EDUC261 Examination 2017 Session 1 – Version 9

**MACQUARIE UNIVERSITY**

*Exam materials (USB/paper) must NOT be removed from the venue. Doing so will be considered academic misconduct.*

**For typists:**  
Remember "File > Save" often. Shortcut "CTRL S"  
If the page is too big or too small for your screen please use View > Zoom > Page width.

**EDUC261 Examination 2017 Session 1**  
This paper is for all students.

Examination Duration: 80 minutes  
Reading Time: none

**Exam Conditions:**  
This is an in-class examination.  
This is a closed book examination (no reference materials permitted).  
This examination paper must be returned at the end of the examination.

**Materials Permitted in The Exam Venue:**  
All students: No (other) electronic aids/devices are permitted e.g. phones, tablets, pagers, image/audio/video/playback/recording devices, calculators, internet connected devices etc.  
Typists only, exception: 1 x authorised, fully charged laptop is permitted. During the exam the laptop must only be running the supplied e-Exam System USB stick and supplied software in its authorised state. No other software or electronic resources are permitted.

**Materials To Be Supplied To Students:**

All students to complete	
Venue	
Student Number	
Given Name	
Family Name	
USB number*	

\*as applicable

Examiner Use Only	
Question	Mark
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
Essay	



# Q & A

Questions... discussion....

Our next steps:

- More trials in 2018!
- Client/server Moodle exams resilient to network outages.
- Full background automatic *Save* for office documents has been implemented!



# e-Exam Project – Want more?

Project information....

<http://transformingexams.com>



Demo videos and user guides.

**e-Exam project contact:**

mathew.hillier[at]monash.edu

**Cite this resource**

Hillier, M. et.al. (2017) Transforming exams: Stories from across Australia, ASCILITE conference, 4-7 Dec, USQ, Toowoomba.

**Workshop 2: (free!)**

“Transforming exams:  
hands on with the technology”

Friday 10am-1.30pm

Room T125.