

for Universiti Utara Malaysia



Transforming Assessment for online learning

Mathew Hillier
e-Assessment Academic,
Macquarie University, Sydney, Australia



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Get these slides **TransformingAssessment.com/UUM**

Say Hi!

What discipline area are you from?

Type into the text chat!

A key motivation - The gap

Real world of work



World Economic Forum - How will digital change your working world.
<https://agenda.weforum.org/wp-content/uploads/rtr2m8vm1-628x330.jpg>

Many assessments



Exams at Monash Caulfield in 2015 (mathew.hilier[at]monash.edu)
70,000 student university.

We are faced with a growing disconnect between the way *assessment* is conducted using pen on paper tests and students' everyday experiences of study, work and life ~ let alone their future!

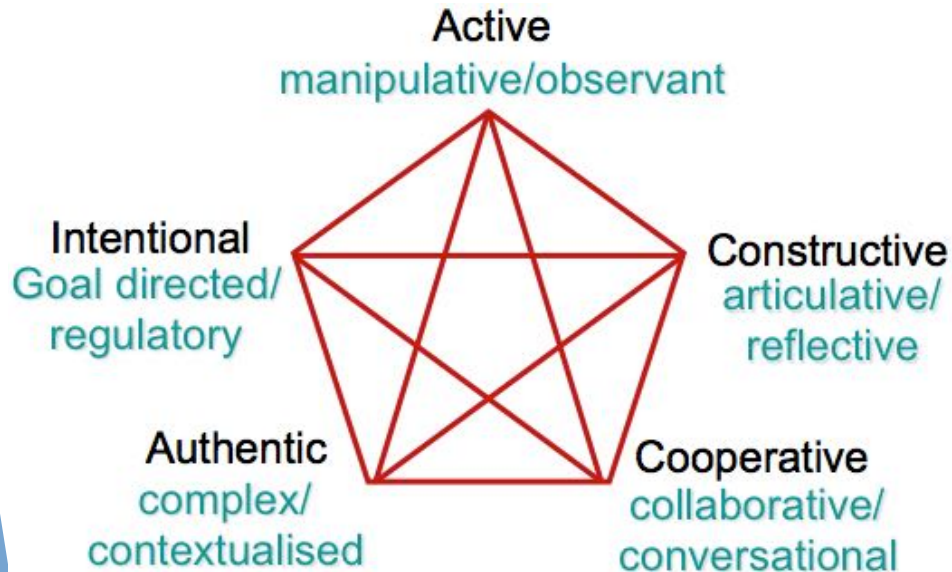
4IR

21C

Pedagogical aspirations

Meaningful

Meaningful learning is:



(Jonassen et al, 2008)

Authentic

Authentic learning involves:

1. Authentic context
2. Authentic activities
3. Expert performance
4. Multiple roles and perspectives
5. Reflection
6. Collaboration
7. Articulation
8. Coaching and scaffolding
9. Integrated authentic assessment
10. Professional learning

(Herrington & Kervin, 2007)

A key idea: technology as an enabler

Redefinition

Technology allows for the creation of new tasks previously inconceivable

Modification

Technology allows for significant task redesign

Augmentation

Technology acts as a direct tool substitute with some functional improvement

Substitution

Technology acts as a direct tool substitute with no functional improvement

Transformation

The affordances (features and capabilities) of technologies is important. Technology must enable the transformation of assessment towards desired pedagogical aspirations - choose carefully!

SAMR Model

Substitution
Augmentation
Modification
Redefinition
(Puentedura, 2006)

Enhancement

Cart and Horse or Horse and Cart

Consider your discipline content (CK)

Ask how you want to achieve learning (PK)

Look for the tools to help (TK)

Teachers need TPACK
(technological, pedagogical and content knowledge).

Koehler & Mishra (2005)



Sankey (2020). <https://michaelsankey.com/2020/05/22/putting-the-pedagogic-horse-in-front-of-the-technology-cart/>

Which tool for what?

Be informed – tools and their affordances*.

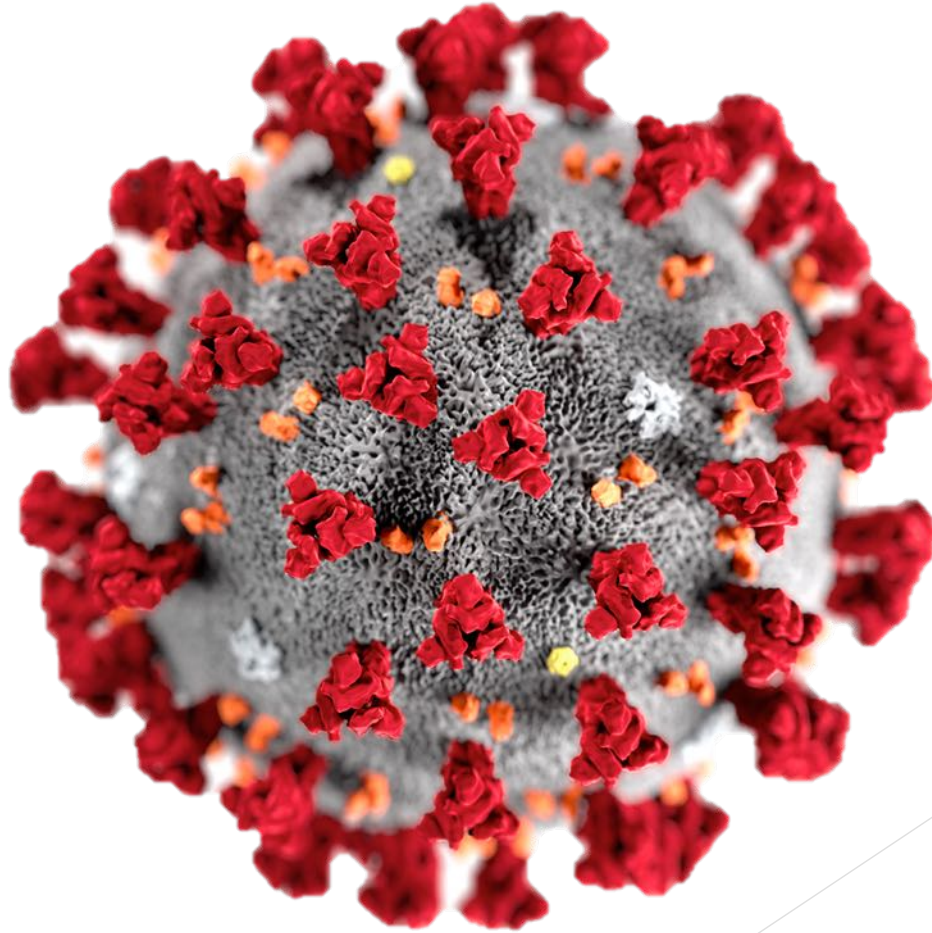
Blog	Wiki	Forum	Portfolio
Individual work. Publishing of work. Reflective writing. Seeking external opinions and comments. Analytical writing and reflection. Discussion with experts and networking.	Collaborative work. Peer editing of a document e.g. report, essay, paper, textbook. Creating glossary of terms or collection of resources e.g. bibliography, reading list. Brainstorming for a project. Shared knowledge base on a topic.	Communicative work. Online asynchronous tutorials. Analytical writing and reflection. Exploration of views and opinions on a topic or idea. Student feedback. Help facility.	Individual work. Collation of learning evidence. Skills log. Showcase. Capstone.

<https://teaching.unsw.edu.au/assessment-blog-wiki-or-forum-which-should-you-use>

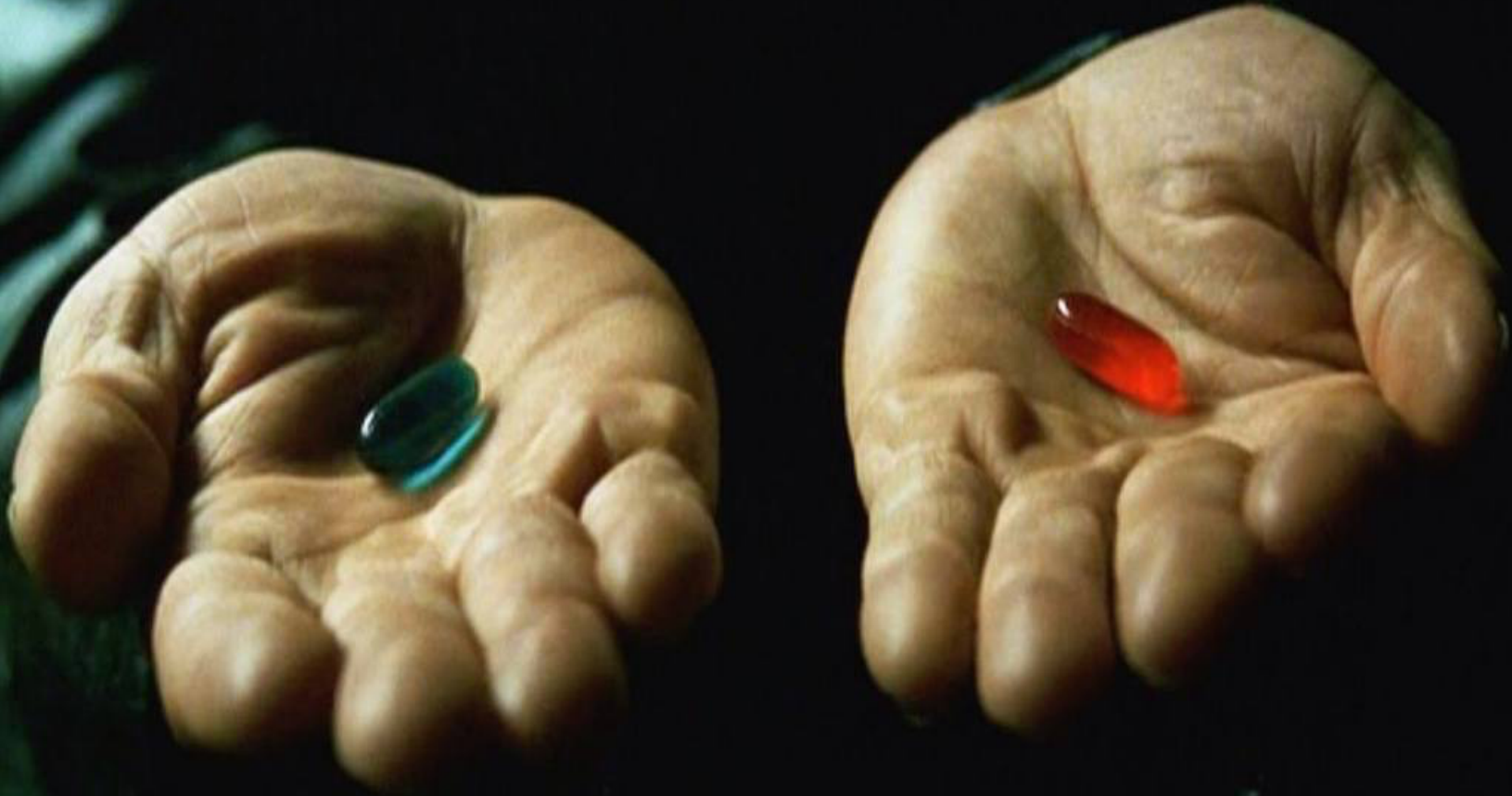
- See Bower (2008).

See also “Moodle Tool Guide for teachers and educators” <https://moodletoolguide.net/en/>

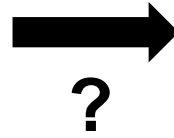
A crisis ... an opportunity.



After COVID: Blue or Red?



The choice – migrate or transform?



Blue - safe	Red - brave
Migration*	Transformation*
Efficiency-first assessment.	Authentic-first assessment.
MCQs and text in closed environments	Complex constructed responses in open environments
Consumptive and passive	Productive and interactive
Digital paper - 1.1	Post-paper – 2.0, 3.0
Assessment of learning(?)	Assessment for/as learning

(perspective meets technology choice)

*Allan (2020). Migration and transformation...

+ TA Webinar http://transformingassessment.com/events_6_may_2020.php

Good assessment: Three dimensions

Authenticity:

Enabling a *broad pedagogical landscape* for the **assessment of 21st Century capabilities**. Go beyond a 'paper' paradigm. Use 'tools of the trade' (word processor, spread sheet, database, math, stats, graphics, multimedia, software dev, simulations, CAD, discipline tools). Flexible for blended and online contexts. Data open for analytics -> integration.

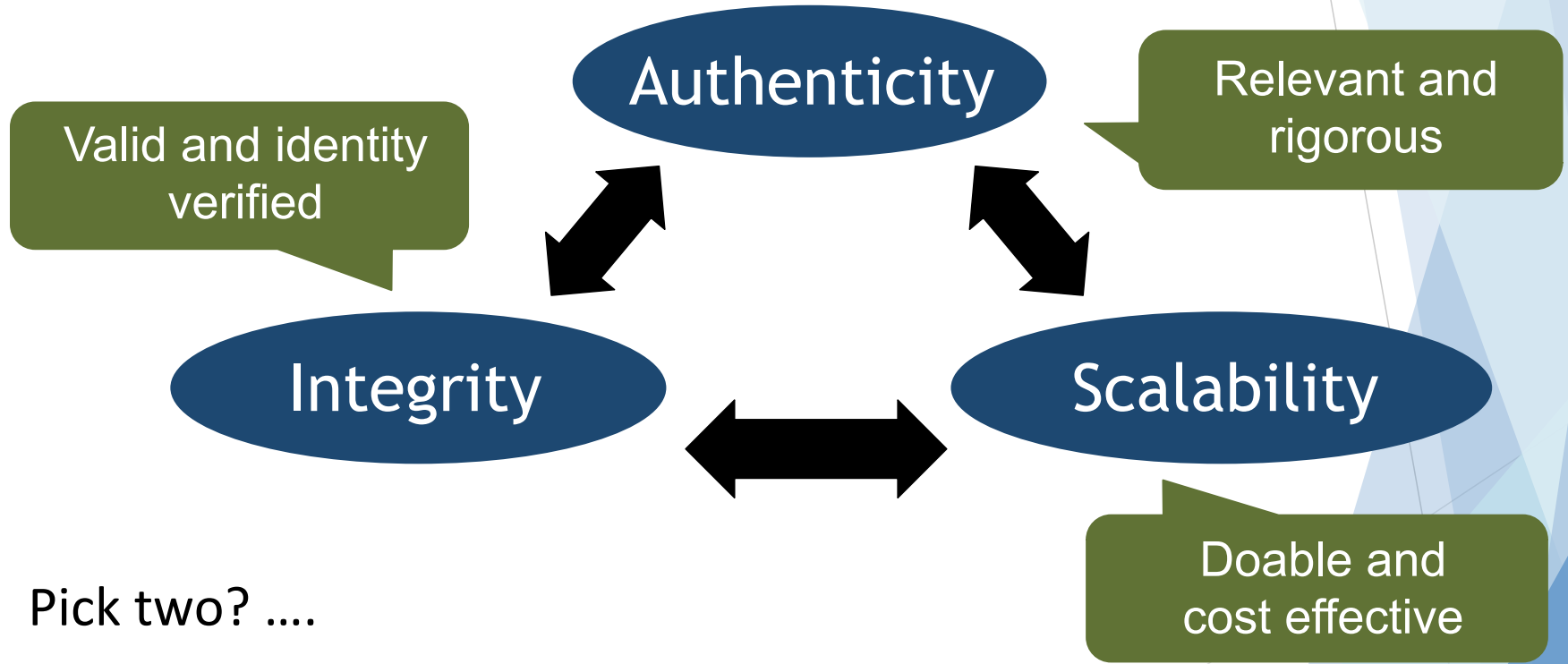
Scalability:

Practical, doable, cost effective. Mix constructed and process problems as well as some computer marked response types. Large scale equipment provision and access \approx BYOD. Reliable \neq networks!? = must be robust. Complexity = work! \sim Must use technologies appropriately and efficiently \sim design the logistics.

Integrity:

Valid assessments. Secured. Academic integrity: education, awareness, opportunity are factors. Identify verified, resource access known/expected. Design to the conditions. Activity and identity logging can help. Anti-cheating \geq paper. Continuous improvement.

Good assessment: Three dimensions -Trade off?



Pick two?

We need to strive for all three.

What do you think?

If we can *only have two*:

Which TWO do you think we should target?

1. Authenticity + Integrity
2. Authenticity + Scalability
3. Integrity + Scalability

To respond:



Go to **Menti.com** – use the code **82 06 07**

Digital assessment in different contexts

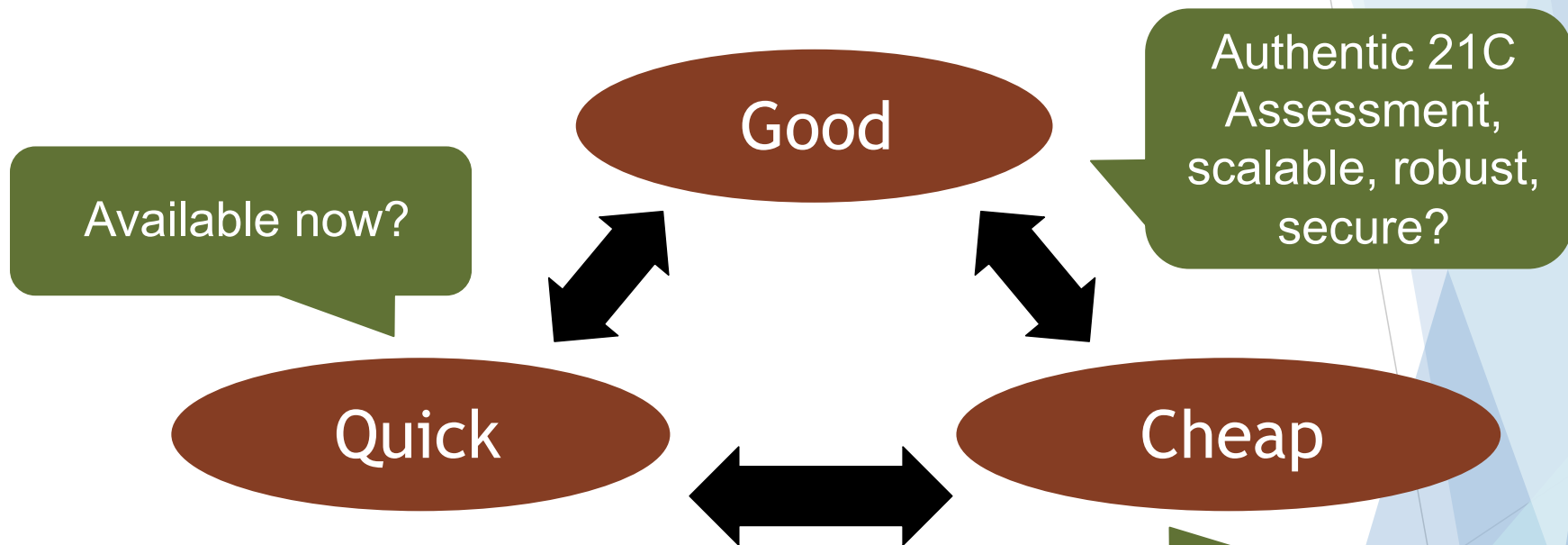
Online or offline, on campus or at home...

Online (net)	<ul style="list-style-type: none">• Space issues for institutions.• Improved control (systems and spaces).• Equipment: need computer labs to cater for 2000 at once or BYO laptops.• Most secure: live IT monitoring/control, spaces are supervised.• Needs reliable network (single point of failure).	<ul style="list-style-type: none">• No space issue for institutions.• Less scope for control.• Equipment: Students supply equipment.• Less secure: IT monitoring, but wider spaces are unsupervised.• Needs reliable network (equity implication).
Offline	<ul style="list-style-type: none">• Space issues for institutions.• Moderate improvements in control.• Equipment: need computer labs to cater for 2000 at once or BYO laptops.• More secure: IT control possible, spaces are supervised.• Network reliability not an issue.	<ul style="list-style-type: none">• No space issue for institutions.• Least control.• Equipment: Students supply equipment.• Not secure: no useful monitoring/essentially unsupervised (on trust basis).• Network reliability not an issue.
On campus (controlled spaces)		Distance (at home)

Assessment Integrity v Authenticity: Exams

Integrity			
High (Supervised)	<p>Pen-on-paper exams / MCQs <i>tend</i> to be relatively artificial, based on recall of facts. Limited opportunity for richer, more complex forms of problem solving. No access to modern tools of the trade. Ghost writing/out sourcing is limited due to invigilation.</p>		<p>Digital Exams can allow for complex problems, that require students to use 'e-tools of the trade' to construct solutions. It can include many characteristics of an assignment. Ghost writing/out sourcing can be limited if invigilation and system monitoring is used.</p>
	<p>Take home exam unsupervised, when written in the style of traditional exams can suffer from poor levels of authenticity. Ghost writing/out sourcing is a threat.</p>		<p>Unsupervised assignments and projects, highly complex, problems can be set where students construct a response using tools of the trade. Ghost writing/out sourcing is a threat.</p>
Low (Unsupervised)			
Authenticity ->		Low	
		High	

Implementing digital assessment



Pick two?

Authentic assessment is not readily available off-the-shelf. Investment, time and thought required.

In your discipline...

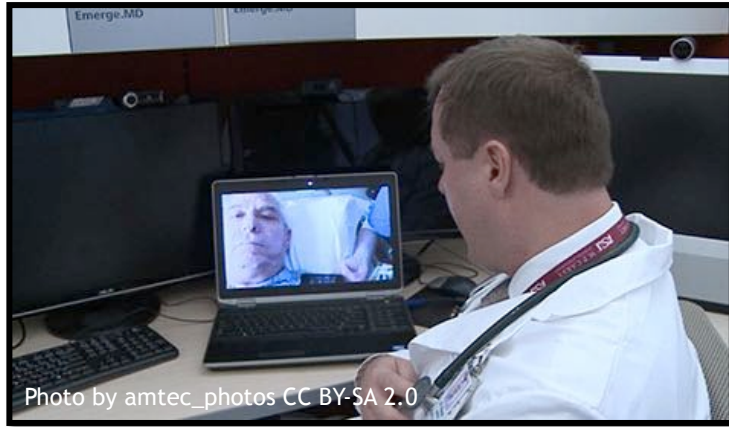
What does “authentic assessment”
mean to you?

Type 1 or 2 words

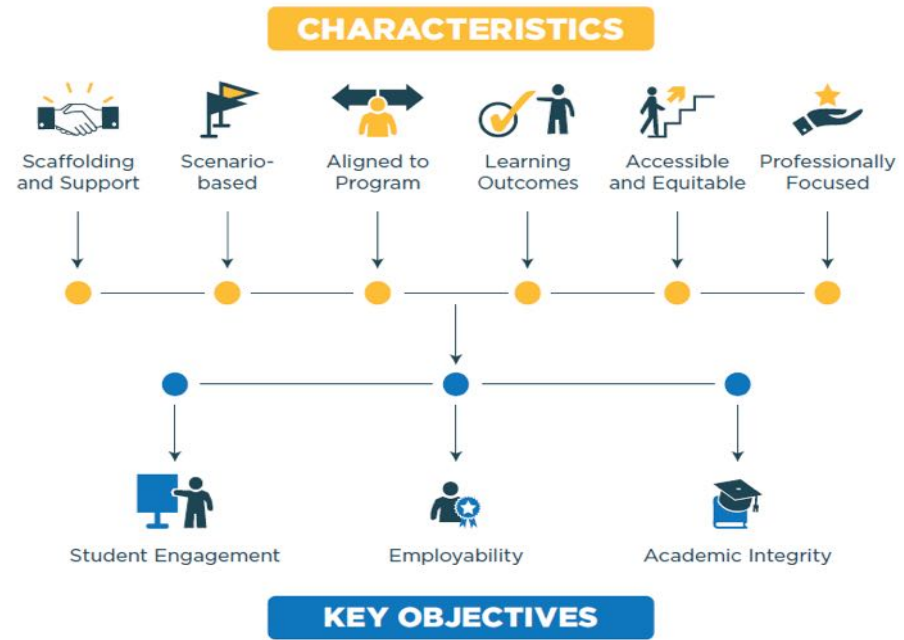
To respond:

Go to **Menti.com** – use the code **82 06 07**

Interactive online oral assessment (Griffith uni)



- Scenarios: defence of work done, job interview, media interview, presentation to board, report to management, shareholders meeting, pitch to client, response to crisis, presentation of artefact, questions on content.
- Booking tool + online conferencing software (recorded for moderation/audit).
- Tutor teams used as interviewers/examiners.



Sotiriadou, Logan, Daly & Guest (2019).

TA Webinar 30 April 2020: http://transformingassessment.com/events_30_april_2020.php

Virtual work integrated learning (U Western Australia)

Example: Engineering education – Simulated scenario on self-management in the workplace

Students complete authentic engineering projects:

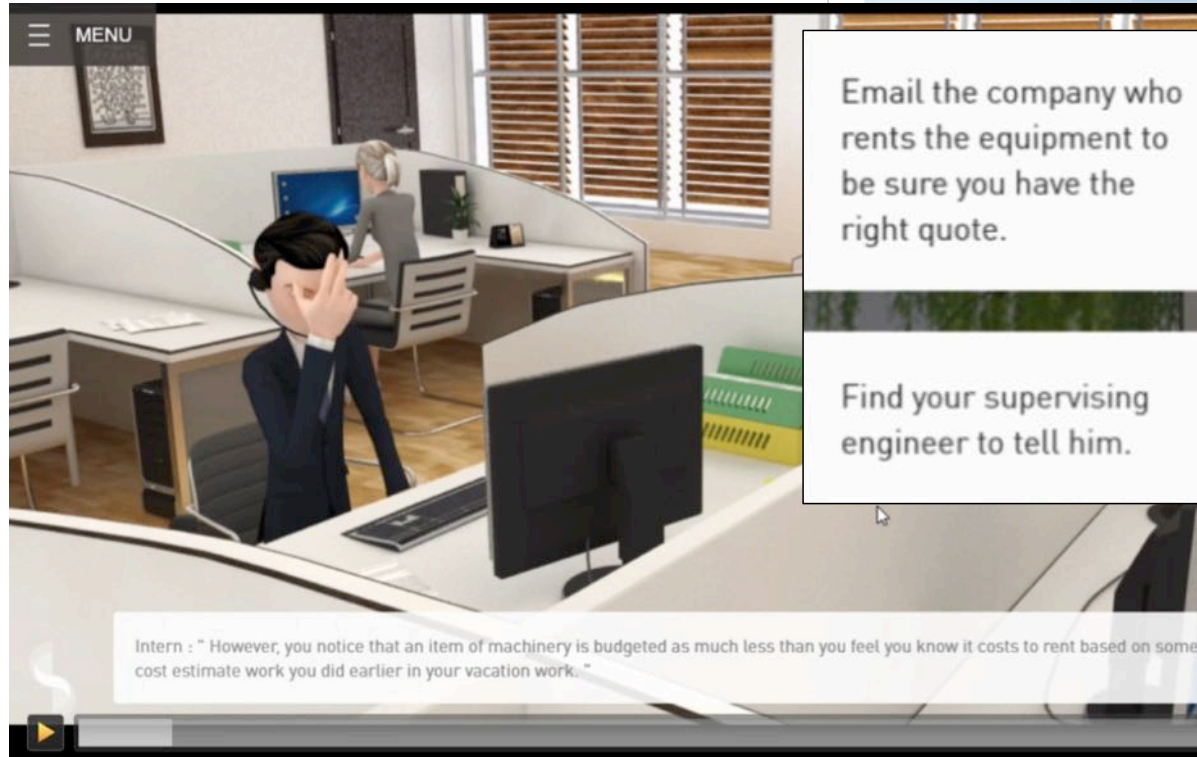
- Using a virtual environment that simulates a work site,

- Receive feedback from industry-based engineers and

- Self and peer reflection.

Online access real or simulated sites or equipment, and/or practitioners.

TA webinar http://transformingassessment.com/events_5_september_2018.php



Assessing Discussion Forums (UNSW)

Teacher presence is key – re Salmon (2000) Five stages + Community of enquiry model (Garrison et al. 1999)

Example assessment activities:

- Small group reports to the whole class
- Reflect on discussion
- Role play discussion
- Student lead** or moderate (see side bar)
- Case studies and scenarios
- Current events
- Retrospective commentary on learning

Aim to build interaction.

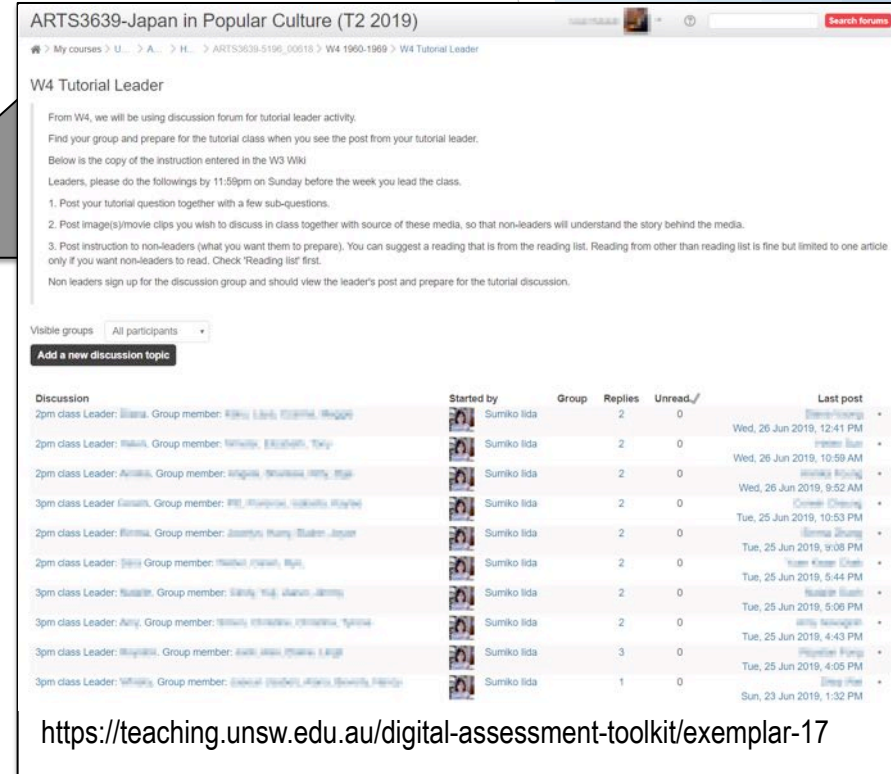
Focus on quality rather than quantity of posts.

Rubrics available - examples

<https://teaching.unsw.edu.au/assessing-discussion-board>

UNSW Digital Assessment Toolkit (more examples)

<https://teaching.unsw.edu.au/digital-assessment-toolkit>



ARTS3639-Japan in Popular Culture (T2 2019)

W4 Tutorial Leader

From W4, we will be using discussion forum for tutorial leader activity.
Find your group and prepare for the tutorial class when you see the post from your tutorial leader.

Below is the copy of the instruction entered in the W3 Wiki
Leaders, please do the followings by 11:59pm on Sunday before the week you lead the class.

1. Post your tutorial question together with a few sub-questions.
2. Post image(s)/movie clips you wish to discuss in class together with source of these media, so that non-leaders will understand the story behind the media.
3. Post instruction to non-leaders (what you want them to prepare). You can suggest a reading that is from the reading list. Reading from other than reading list is fine but limited to one article only if you want non-leaders to read. Check 'Reading list' first.

Non leaders sign up for the discussion group and should view the leader's post and prepare for the tutorial discussion.

Visible groups: All participants

Add a new discussion topic

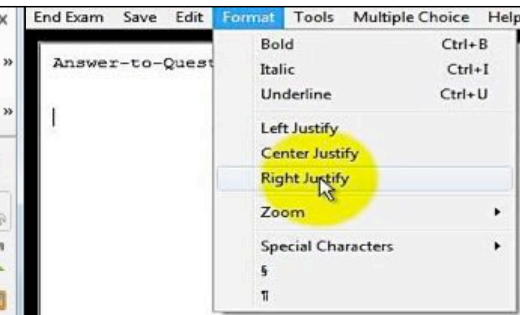
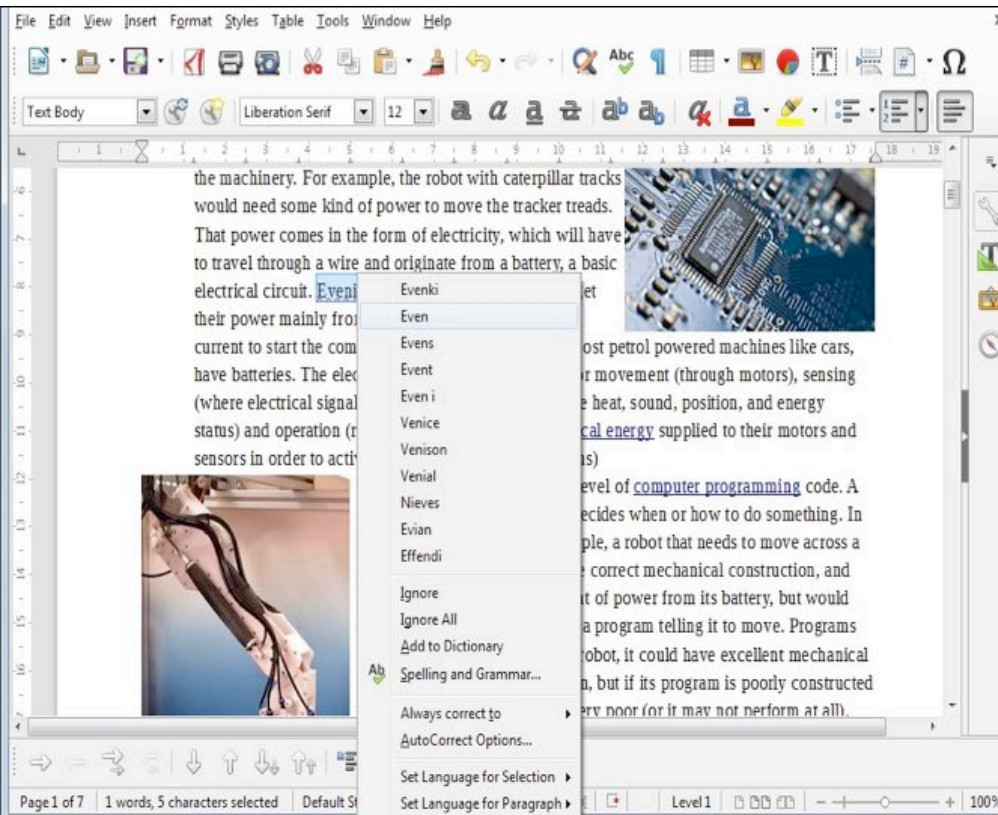
Discussion	Started by	Group	Replies	Unread	Last post
2pm class Leader: [User], Group member: [User], [User], [User]	Sumiko Iida		2	0	Wed, 26 Jun 2019, 12:41 PM
2pm class Leader: [User], Group member: [User], [User], [User]	Sumiko Iida		2	0	Wed, 26 Jun 2019, 10:59 AM
2pm class Leader: [User], Group member: [User], [User], [User]	Sumiko Iida		2	0	Wed, 26 Jun 2019, 9:52 AM
3pm class Leader: [User], Group member: [User], [User], [User]	Sumiko Iida		2	0	Tue, 25 Jun 2019, 10:53 PM
2pm class Leader: [User], Group member: [User], [User], [User]	Sumiko Iida		2	0	Tue, 25 Jun 2019, 9:08 PM
2pm class Leader: [User], Group member: [User], [User], [User]	Sumiko Iida		2	0	Tue, 25 Jun 2019, 5:44 PM
3pm class Leader: [User], Group member: [User], [User], [User]	Sumiko Iida		2	0	Tue, 25 Jun 2019, 5:06 PM
3pm class Leader: [User], Group member: [User], [User], [User]	Sumiko Iida		2	0	Tue, 25 Jun 2019, 4:43 PM
3pm class Leader: [User], Group member: [User], [User], [User]	Sumiko Iida		3	0	Tue, 25 Jun 2019, 4:05 PM
3pm class Leader: [User], Group member: [User], [User], [User]	Sumiko Iida		1	0	Sun, 23 Jun 2019, 1:32 PM

<https://teaching.unsw.edu.au/digital-assessment-toolkit/exemplar-17>

Tools of the trade - Writing Tools

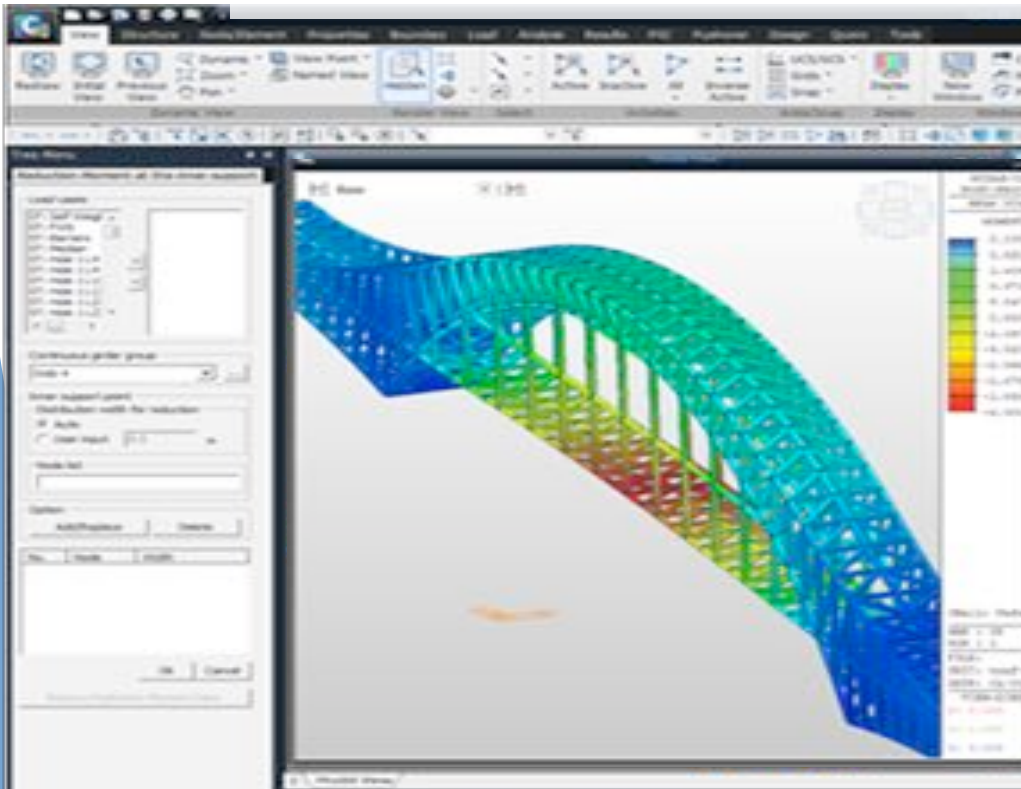
Authentic

Not



Tools of the trade – Engineering Problem Solving

Authentic



Not

F.E (PART-II) MCQ Test, 2012

BASIC CIVIL ENGINEERING

Day and Date: Tuesday, 26/03/2012

Time: 08.50 a.m. to 09.50 a.m.

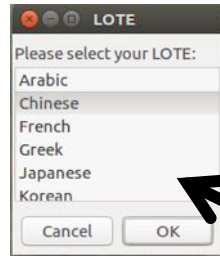
Total marks: 50

SECTION I

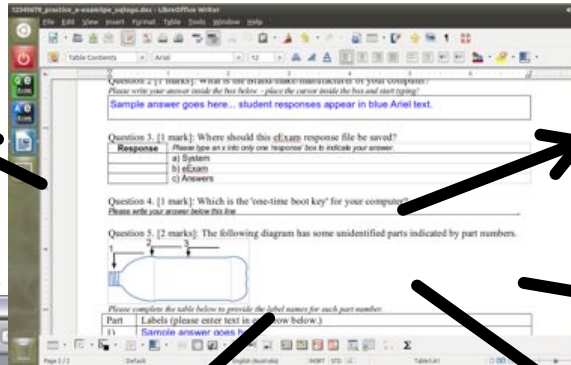
- The curvature of earth is ignored in
 - Geodetic surveying
 - Hydrographic surveying
 - Plane surveying
 - Astronomical surveying
- In an optical square; the mirror are fixed at an angle of
 - 30°
 - 60°
 - 45°
 - 90°
- The true meridian passes through
 - Geographical poles
 - Arbitrary poles
 - Magnetic poles
 - only N-pole
- In WCB system; a line is said to be free from local attraction, if the difference between FB and BB is
 - 0°
 - 90°
 - 180°
 - 360°
- When higher values are inside the loop; it indicates a
 - Hill
 - sloping ground
 - pond
 - Overhanging cliff
- The line of collimation and axis of the telescope should
 - coincide
 - be perpendicular
 - by parallel
 - intersecting
- The canal taken directly from reservoir is called as
 - Main canal
 - Distributary
 - branch canal
 - Field canal
- For national highway the road way width is
 - 9 m
 - 12 m
 - 7.5 m
 - 25 m
- Cumulative error is proportional to
 - L
 - 2L
 - \sqrt{L}
 - L
- The compass box is made of
 - Iron
 - Aluminum
 - Brass
 - Wood

From paper-equivalent to post-paper

Start simple and build up!



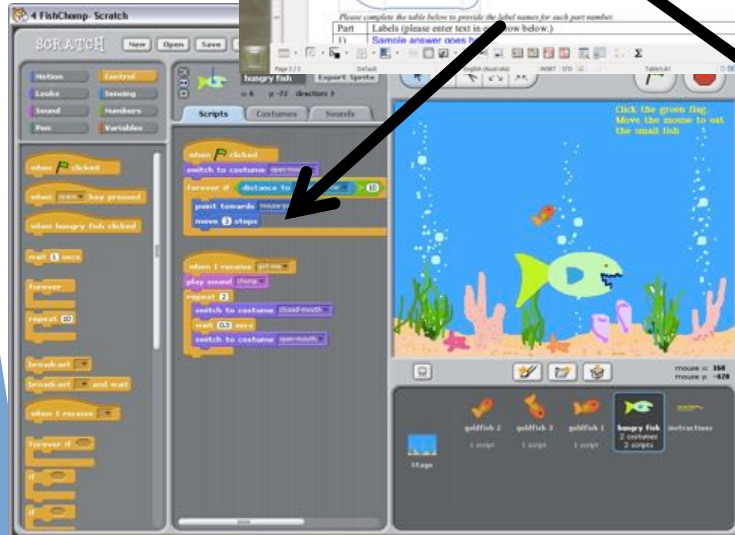
Start! A document



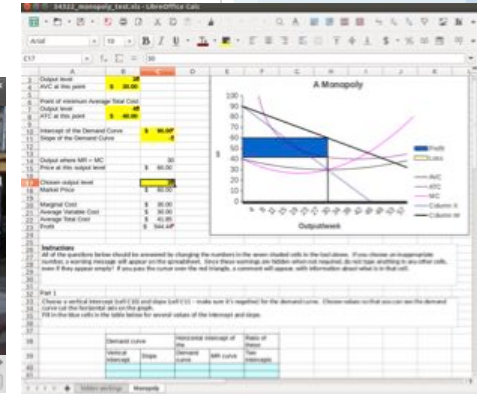
Video



Scratch SDK



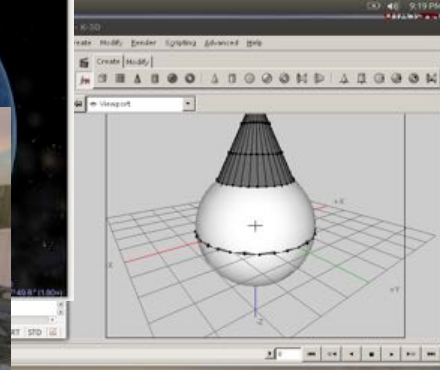
Spreadsheets for calculation and analysis.



Specialist applications

PDF

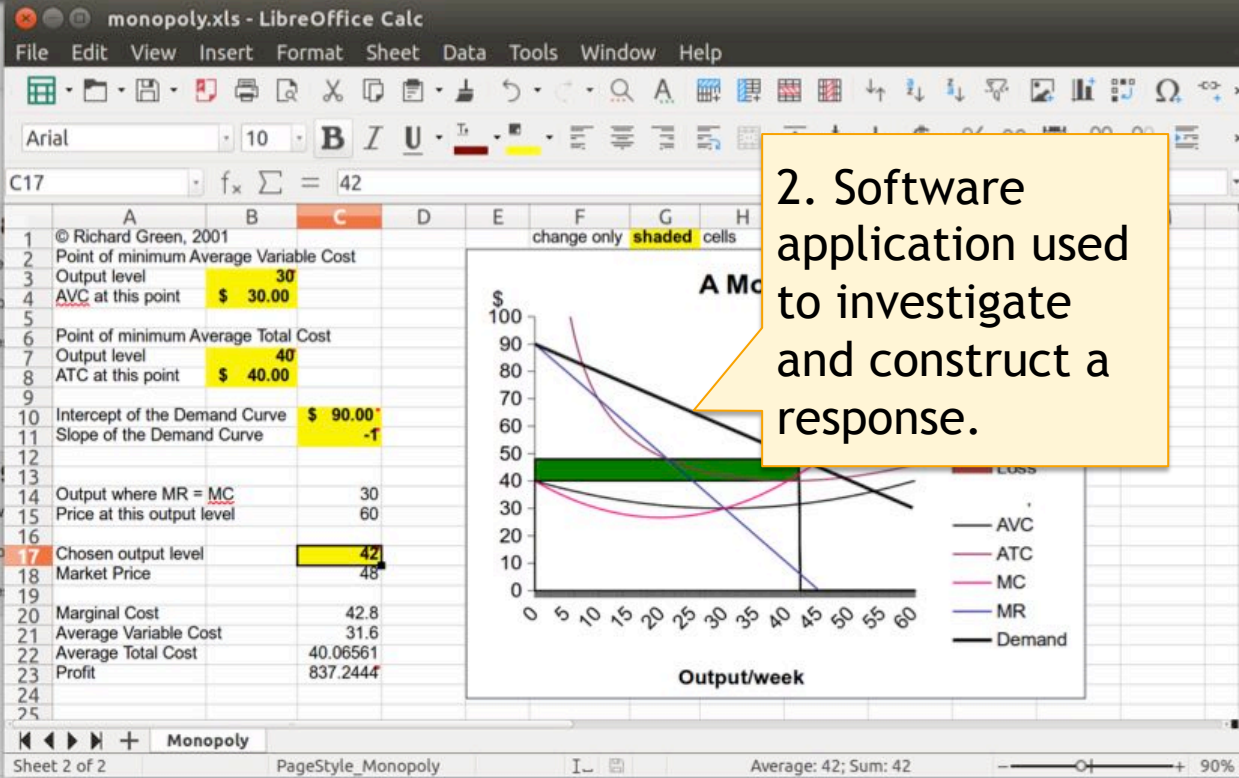
Sims



Leverage
e-tools of the
trade in
assessment

Constructed
enquiry

1. Download file



2. Software application used to investigate and construct a response.

Question 20 Use the [attached spreadsheet] to determine the output level where profit is maximised.

Enter a whole number as your answer for the output level.

Answer:

3. Respond via form

Question 21

Use the Australasian Legal Information Institute (AustLII) online database portal to find the title of last Australian appeal case heard by the Privy Council.

Leverage e-tools of the trade in assessment

Constructed response (file upload)

1. Question prompt and direction to use software

Question 26

Answer saved

Marked out of 1.00

Flag question

Scratch will be required for this question.

To open this application, click on the circular icon on the top left of the screen, and then type 'scratch' into the search box that appears.

Using the default Scratch program, make the Cat sprite run in circles and 'meow' when it touches the sides.

When done, save the file to the answers drive using your name as the file name.

1. Provide a one or two sentence summary of the commands you used in your response in the text box below.
2. Then attach your scratch program file to this question.



Scratch program is a cat game where we make cute and fluffy characters run in circles, bump into each other and make meow noises. We can keep typing a very long text based response into here. The system may spxll check your work.

Maximum size for new files: Unlimited



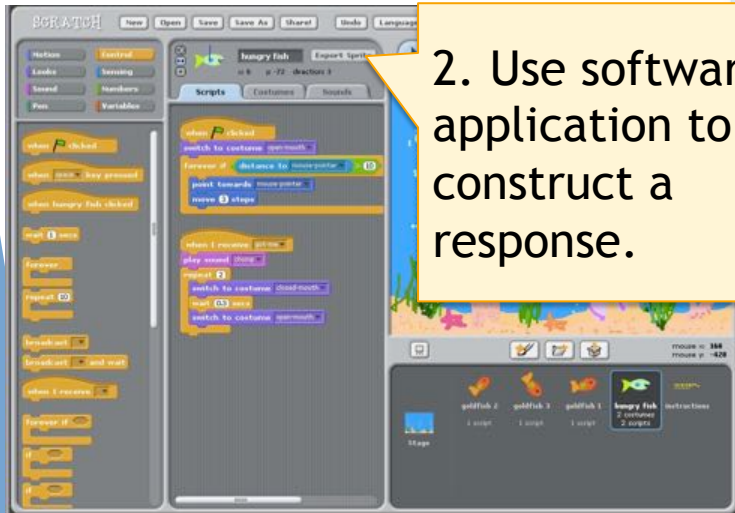
Files



example.sb2

3. Respond by file upload

2. Use software application to construct a response.

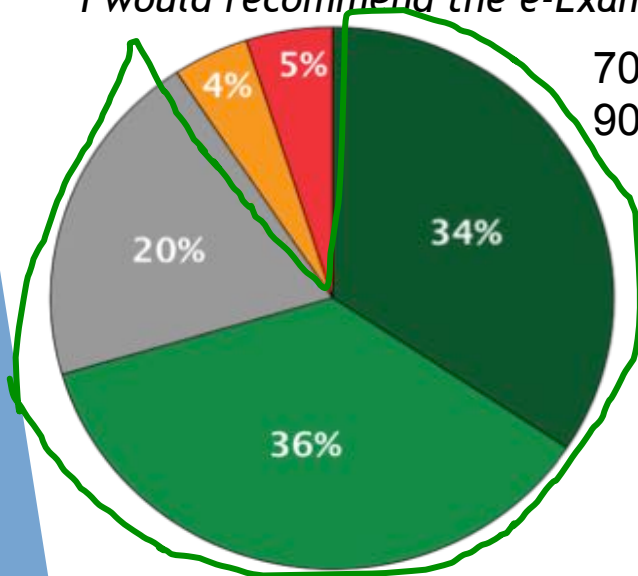


Student voice: BYOD e-Exam research overview

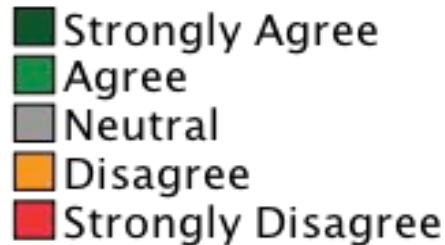
Exams	Typists	Pen	Weight	Minutes
Sum	1750	1309	~	4145
Mean	40	37	32%	106
Smallest	1	~	5%	15
Largest	166	~	50%	180

The big picture (typists):

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



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



Institution	Trial year			Total
	2016	2017	2018	
CQU		2	1	3
ECU		2		2
Monash	3	9	6	14
MQU		1		1
UniSA		1	1	2
UNSW-ADFA		1		1
UQ		2	2	4
UTAS	2	1	1	4
Total	4	16	11	31

The comments were received from **3000** participant pre and post exam surveys.

Design the Assessment – Priorities

Alignment:

1. Learning outcomes (unit/subject -> proposed task)
2. Criteria – areas / categories of evidence
3. Standards – levels of performance (e.g. poor to great)
4. Task design – the activity for student's to demonstrate their achievement of the above.
5. Select e-tools – for both the task and the marking rubric.

Note: some back-and-forth consideration of the latter elements is to be expected! E.g. available tools set boundaries.

Design the Assessment - Rubrics

Rubrics can help both teachers (markers) and students:

An expression of the learning outcomes in terms of criteria and standards of performance. Often a grid/matrix:

- **Criteria** provide an interpretation of the stated objectives (performance, behaviour, quality) - *Rows*
- **Standards** (levels) of performance between highest and lowest - *Columns*
- **Descriptors** specify the characteristics of performance corresponding to each level, to allow assessors (and students!) to interpret which level has been met – *each box*.

Example Rubric in Moodle

Standard of performance at each level (in columns)

Accuracy of language	Very poor use of language, cannot be understood 0 points	Poor use of language, can barely be understood 0.25 points	Average use of language with many errors, can be understood 0.55 points	Good use of language with some errors 0.7 points	Proficient use of language with some errors 0.8 points	Skilled use of language with little to no errors 0.9 points	Info: The accuracy of the paper's grammar and syntax 1 points	Skilful use of techniques
Relevance of content	Content is not relevant to the topic 0 points	Content has little relevance to the topic 0.25 points	Content is relevant to the topic, covers some required points 0.55 points	Content is relevant to the topic, covers many required points 0.7 points	Content is relevant to the topic, covers most required points 0.8 points	Relevant content covering all required points 0.9 points	Info: How relevant the content is to the topic 1 points	
Appropriateness of style	Style is inappropriate for the content 0 points	Style has minor relevance to the content 0.25 points	Style is acceptable for the content 0.55 points	Style is acceptable and improves the content 0.7 points	Style fits and greatly improves content 0.8 points	Style is near professional 0.9 points	Info: How appropriate is the style of writing for the content 1 points	Good Effort!

Criteria
(rows)

Space for
comments

Design the Assessment - Rubrics

Pros: delivers greater clarity to students and markers, helps moderation, enables students to judge own performance (assessment AS learning).

Cons: difficult to specify exacting criteria and standards, dealing with creative/unexpected responses, some difficulty capturing the wholistic and subjective dimensions of performance (tends towards measurable reductionism)

Digital tools can help (deliver and assess – e.g. Moodle/Turnitin has rubric tools).

More about Rubric design and use <http://taw.fi/rubric>

A collection of rubrics <http://taw.fi/rubricbank>

Students need your guidance

Students are can be novices in interpreting the rubric.

Students need practice to develop their judgement of standards – this is a learned skill! Don't expect osmosis!

- in particular how the standards you have set play-out in terms of the specific assessment task. Especially important for new assessment types!

Consider how you can help students understand the requirements and their own achievement.

e.g. 1: Co-develop a rubric with students – have them work in groups/pairs to think about the characteristics of a quality assessment response.

e.g. 2: Conduct a mock marking exercise with students. Have the students mark an example assessment response.

What else could you do to help?

Engage students: A mock marking exercise

Phase 1 – off-the-cuff marking:

- 1) Give an example assignment for students groups/pairs to review.
- 2) Ask students to give a mark to the assignment.
- 3) Quickly poll students about what mark they gave. (you will note a wide distribution). Tip: use Mentimeter or Moodle Choice and show the class.
- 4) Have the class discuss – what did they have in mind when giving their mark.

Phase 2 – rubric marking:

- 1) Provide students with a rubric for the assignment task (for the same assignment)
- 2) Ask students to read the rubric and discuss in their group/pairs – then give a mark.
- 3) Quickly poll students about what mark they gave. (you will note narrower distribution). Show the class the results again.
- 4) Have the class discuss – what was different to the first time around? Did it help understand the marking/judgement of what was expected? Was it easier or harder to give mark?

Your task – An overview

- 1) Select from **Option A** or **Option B**
- 2) Consider the support materials (links provided).
- 3) Work in your breakout group – 15 minutes

Discuss and decide:

- a) the *main criteria* you will use in a rubric.
- b) create a *student engagement activity*.

Note: You might like to use google docs/sheet, shared word doc or the Zoom whiteboard to help your colleagues work together and share the outcome.

- 4) Report back

See <http://transformingassessment.com/UUM>

Option A: Assessment using Moodle communication tools

1) **In your groups** – Consider that you want to set an online group assessment task for “**students to review a theory or concept and then discuss with others how it has implications for practice**”.

2) Which e-tools would you select and why? Ref:

<http://taw.fi/BWF>

3) Design a rubric to assess the task above.

4) Design a student activity around the rubric.

Hint: engagement with evidence and content to be assessed.

Which tool for what?

Moodle tools!

Be informed – tools and their affordances*.

Blog	Wiki	Forum	Portfolio
Individual work. Publishing of work. Reflective writing. Seeking external opinions and comments. Analytical writing and reflection. Discussion with experts and networking.	Collaborative work. Peer editing of a document e.g. report, essay, paper, textbook. Creating glossary of terms or collection of resources e.g. bibliography, reading list. Brainstorming for a project. Shared knowledge base on a topic.	Communicative work. Online asynchronous tutorials. Analytical writing and reflection. Exploration of views and opinions on a topic or idea. Student feedback. Help facility.	Individual work. Collation of learning evidence. Skills log. Showcase. Capstone.

<https://teaching.unsw.edu.au/assessment-blog-wiki-or-forum-which-should-you-use>

* See Bower (2008).

Option B: Interactive oral assessment

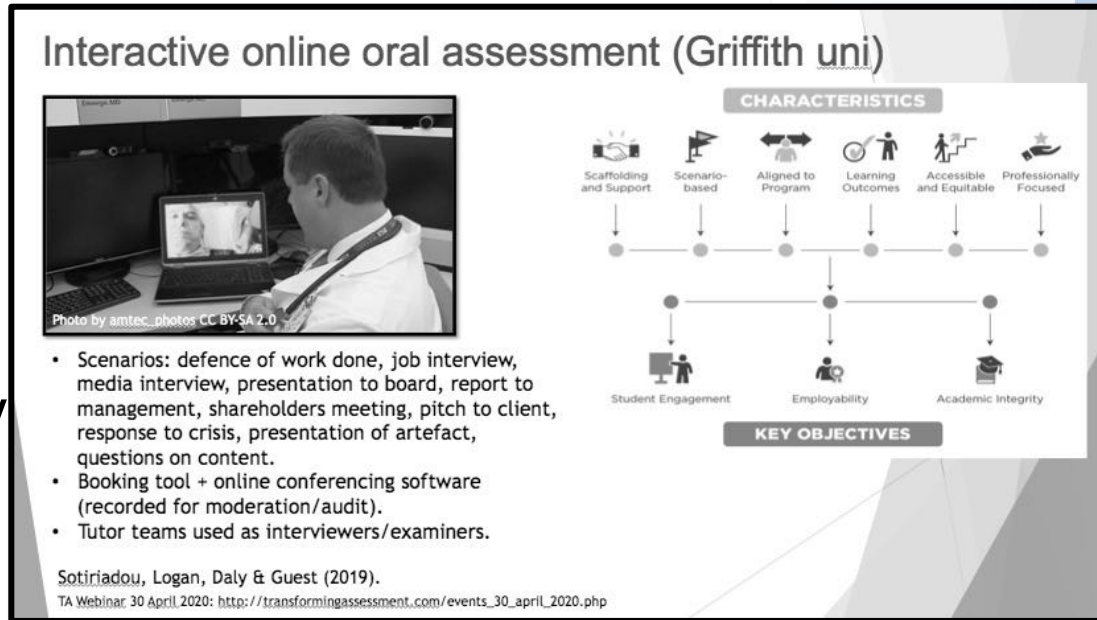
1) In your groups – Consider that you want to set a online individual oral assessment task for each “**student to present to a client or stakeholder group their a solution to a problem you set in the discipline**”.

2) Which e-tools would you select and why? Ref <http://taw.fi/IOA>

3) Design a rubric to assess the task above.

4) Design a student activity around the rubric.

Hint: delivery and content to be assessed.



Return to the group and share

A group representative to tell us:

- 1) The option you selected A (coms) or B (oral).
- 2) Which tool(s) would you select and why?
- 3) Show or outline the
Criteria/categories/rows
Standards/performance levels/columns

See these slides <http://transformingassessment.com/UUM>

References

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Questions please!

Stay in touch

Dr Mathew Hillier

Now at Macquarie University, Sydney,
Australia

Mathew.Hillier@gmail.com

MathewHillier.com (Linkedin – add me)

TransformingAssessment.com

TransformingExams.com