Assessing for quality decision making

Prof Geoffrey Crisp

https://www.zeetings.com/gcrisp
Teaching at UNSW

Welcome to the Teaching Gateway. This site is designed to support staff with:

- Learning and teaching,
- Research into teaching
- Career development

Peer Review of Teaching

The UNSW peer review of teaching registrations are open for Semester 2, 2017

Subscribe to our eBulletin to keep informed on learning and teaching events, news and resources.
We should assess what is important and not what is easy to assess

https://www.zeetings.com/gcrisp
What value do we place on student responses?

The idea that valid and reliable inferences can be made about students’ acquisition of 21st century skills through judging responses as correct or incorrect is too simple an approach for the assessment of complex capabilities.
**Assessment responses**

**convergent** type, in which one correct answer is expected, and **divergent** responses, in which the answer depends on opinion or analysis (Torrance et al., 2001)

**convergent assessment** has its origins in mastery-learning models and involves assessment of the student by the master-teacher

**divergent assessment** is often associated with a constructivist view of learning, where the teacher and student engage collaboratively within Vygotsky’s (1986) zone of proximal development
Assessment tasks should be worth doing

• if students can answer your question by copying from the web, maybe you are asking the wrong question
• if students can answer your question by using Google, maybe you are asking the wrong question
• if students can answer your question by guessing, maybe you are asking the wrong question
Assessing 21st century skills

For 21st century skills, our assessment designs need to accept multiple solutions to a problem or issue and provide feedback to students on their chosen strategies that have been used to solve the problem.

- **diagnostic** assessment (before learning)
- **formative** assessment (during learning)
- **summative** assessment (after learning)
- **integrative** assessment (future learning)
How I teach
• with technology
• with others
• with inspiration

Where I teach
• anywhere
• collaborative classrooms
• online

Changing assessment practices
• authentic
• flexible
• negotiated

Where I assess
• online
• at home
• at work
• in class
<table>
<thead>
<tr>
<th>Assessment Task Type</th>
<th>Abstract</th>
<th>Literature Review</th>
<th>Simulation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annotated Bibliography</td>
<td>Log/Workbook</td>
<td>Student negotiated assessment</td>
<td></td>
</tr>
<tr>
<td>Blog (or weblog)</td>
<td>Peer Review</td>
<td>Journal</td>
<td></td>
</tr>
<tr>
<td>Case Study</td>
<td>Performance</td>
<td>Simulation</td>
<td></td>
</tr>
<tr>
<td>Critique</td>
<td>Poster presentation</td>
<td>Student negotiated assessment</td>
<td></td>
</tr>
<tr>
<td>Debate</td>
<td>Portfolio</td>
<td>Research Paper</td>
<td></td>
</tr>
<tr>
<td>Demonstration</td>
<td>Practicum/Clinical Placement</td>
<td>Thesis</td>
<td></td>
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<tr>
<td>Design/Drawing/Plan/ Sketch</td>
<td>Presentation (individual or group)</td>
<td>Workshop</td>
<td></td>
</tr>
<tr>
<td>Discussion posts (online)</td>
<td>Problem Solving</td>
<td>Interview</td>
<td></td>
</tr>
<tr>
<td>Essay</td>
<td>Project</td>
<td>Minutes</td>
<td></td>
</tr>
<tr>
<td>Examination mid or end (invigilated)</td>
<td>Quiz/Test</td>
<td>Model/Artefact</td>
<td></td>
</tr>
<tr>
<td>Examination mid or end (take home)</td>
<td>Reflection</td>
<td>Modelling (theoretical)</td>
<td></td>
</tr>
<tr>
<td>Exhibition</td>
<td>Report</td>
<td>Oral Examination / Viva Voce</td>
<td></td>
</tr>
<tr>
<td>Field Notes/Report</td>
<td>Self Assessment</td>
<td>Laboratory/Practical</td>
<td></td>
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</table>
## AAGLO - Assessment task by discipline that evidences graduate capabilities

<table>
<thead>
<tr>
<th>Assessment Task</th>
<th>Business</th>
<th>Chemistry</th>
<th>Drama</th>
<th>Engineering</th>
<th>History</th>
<th>Law</th>
<th>Vet Science</th>
<th>TOTAL</th>
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<tr>
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<td>2</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>5</td>
<td>4</td>
<td>1</td>
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<td>0</td>
<td>0</td>
<td>1</td>
<td>4</td>
<td>5</td>
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<tr>
<td>Oral presentation</td>
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<td>1</td>
<td>1</td>
<td>3</td>
<td>0</td>
<td>1</td>
<td>0</td>
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<td>5</td>
<td>0</td>
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<td>0</td>
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<td>0</td>
<td>3</td>
<td>0</td>
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<td>6</td>
<td>0</td>
<td>1</td>
<td>1</td>
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<td>Tutorial and rehearsal activities</td>
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<td>2</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>3</td>
<td>1</td>
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<td>0</td>
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<td>Working demonstration</td>
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<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3</td>
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<tr>
<td>Other</td>
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<td>0</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>11</td>
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<tr>
<td>Multicomponent task</td>
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<td>0</td>
<td>1</td>
<td>5</td>
<td>1</td>
<td>4</td>
<td>1</td>
<td>17</td>
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</tbody>
</table>
We should assess what is important and not what is easy to assess

You can respond once

- I do this already for most of my assessments
- I would like to do this for most of my assessments but don't have time
- I do not think this is important
- Students just want to know what is on the exam
Quizzes with interactive tools

1. Which structure shown below represents meso 2,3-dichlorobutane, A, B or C? [Click on the text below to open a window with the three choices]

   Three structures, A, B and C

   Answer: 

   Submit

2. Use the JSmol tool to view the structure of the presented molecule. Use the display to match the following statements.

   - There are 7 stereogenic centres in the molecule
   - There is evidence for an intramolecular hydrogen bond
   - There is evidence for an intermolecular hydrogen bond

   Check

Use the Periodic Table below to find the element that has the highest first ionization potential

Periodic Table

Select one:

- A. Cl
- B. F
- C. P
- D. Li
- E. K
- F. Ga
- G. Rb

Check
Interactive spreadsheets in assessment

Use the following Excel spreadsheet to match the following statements.

If the average total cost decreases, and all other parameters remain the same
If the chosen output level increases, and all other parameters remain the same
If the average total cost increases, and all other parameters remain the same

Choose...
Choose...
the profit will decrease
the profit will increase
the marginal cost increases

Submit
QuickTime VR or YouTube videos

You are required to construct a 500 word argument that either supports or refutes the statement 'Some historians claim that the Bayeux Tapestry is not an historical record of the Battle of Hastings, but rather it is simply Norman propaganda'.

You will need to use this QuickTime virtual reality link to view the Bayeux Tapestry to assist you in selecting and describing two scenes that you will use as the basis for your argument.

Click on this link to the assessment rubric to view the marking criteria for this task.

Answer:

Submit
Remote Labs

We can rethink the type of questions we ask if students have access to live data and resources in the assessment.
Scenario based learning - SBLi

The importance of capturing students’ decision points
Habworlds

Are We Alone?

Habitable Worlds (HabWorlds) explores the formation of stars, planets, Earth, life, intelligence, technological civilizations and, ultimately, is a quest of exploration as we attempt to answer one of the most profound questions: are we alone in the universe?

Designed by Prof. Arel Anbar and Dr. Lev Horodyskyj from Arizona State University, HabWorlds is now available for faculty to teach at your university.

EXPLORE >>

EMPHASIZES LEARNING BY DOING

Students learn by doing as they create and destroy stars, hunt for planets, and search for signs of life. The course features a personalized quest, “Habitable Hunt”, where students search a field of stars for evidence of inhabited worlds.

GIVES FACULTY CONTROL

Faculty can create a continuous cycle of improvement for their course. You will get access to a lesson-authoring tool to create and deploy content and real-time learning analytics to analyze how their students learn, so you can tailor the lessons to your students’ specific needs.

USES ADAPTIVE TECHNOLOGY

Students get unique, adaptive feedback and learning pathways that can adapt dynamically as they learn. Access real-time learning analytics to help you understand your students’ responses, misconceptions, and visualize their learning pathways.

VIRTUAL FIELD TRIPS

HabWorlds Beyond also includes immersive, media-rich virtual field trips that take students around the world and back in time to explore the limits of Earth’s habitability. See a virtual field trip.
Build-a-Planet

Via the transit and radial velocity methods, you have found a planet with the following properties.

**Mystery Planet**

Radius = 1.6 $R_E = 1.01 \times 10^9$ cm
Mass = 3.0 $M_E = 1.80 \times 10^{26}$ g

1. Calculate the planet's density:
   
   Density: $4.17 \text{ g/cm}^3$

2. Build your planet using the simulation on the right

**Planet Properties**

- Mass: $320.7897 M_E$ vs $1.009408 M_J$
- Radius: $15.13406 R_E$ vs $1.381117 R_J$
- Density: $0.508256 \text{ g/cm}^3$

**Mass (g)**

<table>
<thead>
<tr>
<th>Component</th>
<th>Mass (g)</th>
<th>% by mass</th>
<th>% by volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas</td>
<td></td>
<td>97.867%</td>
<td>99.483%</td>
</tr>
<tr>
<td>Ice</td>
<td></td>
<td>0.8526%</td>
<td>0.4333%</td>
</tr>
<tr>
<td>Rock</td>
<td></td>
<td>0.0136%</td>
<td>0.0023%</td>
</tr>
<tr>
<td>Metal</td>
<td></td>
<td>1.2658%</td>
<td>0.0804%</td>
</tr>
</tbody>
</table>

[Verify]
https://www.best.edu.au/
https://inspark.education/
Assessment by design

https://www.youtube.com/watch?v=2W2iKhNZOZ0

Using negotiated assessments in higher education
Hook, A and Bodell, SJ 2010
http://usir.salford.ac.uk/19324
5. Please describe the picture shown below.

Please write your answer below this line

6. Click on this link or open the file Test.pdf.  
Please write your answer below this line

7. Place a drawing of yourself below (you can draw using the GIMP as described on your student eXchange.

Please put your answer below this line

8. View the video file by clicking on this link. 
Materials folder.
a) Could you see the video playing on your screen?
e-Exam Workflow

Set-up: prepare exam learning materials

Academic creates exam learning material

Create master USB (tested)

USBs duplicated per student

Exams room use

Ubuntu Live USB, Libre Office, Moodle etc

Pre-session:
Student laptop setup & practice.

1. Students enter room
2. Given USB
3. Boot laptop
4. Do exam
5. Return USB
6. Leave room

Post session: retrieve responses and assessment

Collect USBs (responses)

Responses retrieved from USBs.

Collated e-responses sent to academic.
Rethinking assessment in a participatory digital world - Assessment 2.0 and beyond

Transforming Assessment is an ASCILITE SIG

We are about exploring assessment in higher education with a particular focus on use of information and communications technology to enhance the assessment of student learning (e-assessment).

Transforming Assessment Webinars

The preliminary schedule for 2017 is now taking shape!

- Schedule and session details -> See right side column!
- How to participate in sessions
- Technical help & FAQs for webinars
- Recordings of past events from 2010 to 2016 are available in multiple formats.

Partners and Joint Activities

- Australasian Society for Computers in Learning in Tertiary Education (ASCILITE) as the e-Assessment SIG.
- Assessment in Higher Education (AHE) 2017 conference in the UK.
- Higher Education Academy (HEA UK) joint webinars showcasing work of HEA fellows.
- e-Assessment Association (eAA) joint webinars - details soon!
- e-Assessment Scotland (See session archives for the 2013 and 2014 conferences.

Professor Geoffrey Crisp’s ALTc Fellowship (2009-2011)

- Read about the fellowship and download reports.

Things to do on our site...

- Participate in events: keep up to date on our Web seminars.
- View e-Assessment Exemplars: explore the assessment examples utilising a range technologies. You will also find a collection of presentations and other documents relating to e-assessment. An Zotero database containing a citations relating to e-assessment is also available.

- AHE International Conference: 7-9 June 2017, Bath, England
e-Exam System Trials @ Monash: Paper Equivalent e-Exams

Paper equivalent exams are where students can choose pen or keyboard. A fully functioning word processor is used to collect responses.

1) Boot your laptop with the e-Exam USB stick. After the system has started, enter your student ID and name then click ‘Start Exam’.

2) The exam file will be prefixed and labelled with your id, then opened ready to enter your responses.

3) Auto save occurs every 2 minutes. Manually save the document at any time. Use Exit when you are done.

4) When ready to hand-in your exam click the red ‘shut down’ button to close down properly.

5) Hand back the e-Exam system USB stick.

e-Exam is 100% free, configurable, open source. Contact mathew.hillier@monash.edu

Typical e-Exam trial timeline

Pre-semester: Trial arranged with unit leader and a customised plan developed.

Week 1 to 3: Students choose to type or handwrite exam via online form.

Two weeks prior to exam: Typists go to setup/practice session.

On the day of the exam: Students who are typing bring along their laptop, a wired mouse and go to the assigned room while others handwrite with pen-on-paper.

At the end of the exam: All students will be asked to complete a post-exam survey.

Project information and participation consent forms are available upon request.

Moodle exams coming soon!
The traditional meaning of the inukshuk is "Someone was here" or "You are on the right path."