Authentic assessment of authentic tasks

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Lost keys and lamp posts

Assessment in e-learning
Do we assess only what we can see (or measure)?

Assessment and values
“We assess what we value and we value what we assess”

Popular online/blended measures

<table>
<thead>
<tr>
<th>Assessment type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple choice tests,</td>
<td>Lower order factual knowledge</td>
</tr>
<tr>
<td>quizzes</td>
<td>Time online</td>
</tr>
<tr>
<td>Minutes in LMS</td>
<td>Quantity not necessarily</td>
</tr>
<tr>
<td>Number of posts to</td>
<td>quality</td>
</tr>
<tr>
<td>forums, chats</td>
<td></td>
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Focusing on assessment

“The design of educative assessment tasks could be considered to be the most important element of tertiary teaching”

(Angelo, 1999)
Focusing on the task

It’s the task that matters most!
Tom Reeves

Two sides of the one coin

Task
Assessment

Back to the future?

“One step forward for the technology, two steps back for the pedagogy”
(Mioduser, Nachmias, Oren, & Lahav, 1999)

Research on online/blended learning

Instructivist
Constructivist
Transmission of knowledge
Active construction of knowledge
Step-by-step
Exploration
Individual
Collaborative
Standardized testing
Integrated assessment
Decontextualized
Authentic

9 elements of authentic learning

- Authentic context
- Authentic activity
- Expert performances
- Multiple perspectives
- Collaboration
- Reflection
- Articulation
- Coaching and scaffolding
- Authentic assessment

Authentic context

A physical or virtual environment that reflects the way the knowledge will be used in real-life
Authentic context

- A design to preserve the complexity of the real-life setting
- Provides the purpose and motivation for learning
- Ideas can be explored at length in the context of real situations

Complex scenarios
Real world problems

Authentic tasks

Tasks and activities that have real-world relevance

- Clear goals and real-world relevance
- Require production of knowledge rather than reproduction
- Complex and ill-defined
- Completed over a longer period

Expert performance

Access to expert thinking and the modeling of processes

- Access to the way an expert would think and act
- Access to learners in various levels of expertise
- Opportunities for the sharing of narratives and stories

Multiple perspectives

Different perspectives from different points of view

Podcasts and vodcasts
Different perspectives from different points of view
Multiple perspectives

- Not just a single perspective - such as a textbook
- Powerful search tools enable range of views

Collaboration

- Joint problem solving and social support

Collaboration

- Teams or pairs rather than individuals
- Collaboration encouraged through technology
- Tasks addressed to groups, not individuals

Articulation

- Opportunities for students to speak about their growing understanding

Articulation

- Public presentation of argument to enable defence of position and ideas
- Presentations to online class

Reflection

- Opportunity to think about, reflect and discuss choices
Reflection

- The facility to move around the environment and act upon reflection
- Not quiet and solitary – can be a two-way process
- Opportunities to reflect in online journals and diaries

Scaffolding

- No attempt to ‘transmit’
- Teacher’s role is supporting rather than didactic
- Collaboration where more able partners can assist

Authentic assessment

- Seamless integration of assessment and task
- Opportunities to craft polished performances
- Significant student time and effort in collaboration with others

Example: Research methods

- Course: Research preparation
- Research methods
- Max Angus & Jan Gray, School of Education, Edith Cowan University
Characteristics of authentic assessment

Many authors have provided criteria for the design and evaluation authentic assessment, e.g.

- Newmann and Wehlage (1993),
- Wiggins (1990, 1993),
- Reeves (2000),
- Reeves and Okey (1996)

Authentic assessment

Essential vs. tangential
Authentic vs. contrived
Rich vs. superficial
Engaging vs. uninteresting
Active vs. passive
Equitable vs. inequitable
Open vs. closed

Leinwand and Wiggins

Context factors

Assessment is most likely to be authentic if it satisfies the following:

- Requires fidelity of the task to the conditions under which the performance would normally occur
- Requires connectedness and transfer to the world beyond the classroom

Student factors

- Requires problem solving skills and higher order thinking
- Requires production of knowledge rather than reproduction
- Requires significant student time and effort in collaboration with others
- Is characterised by substantive conversation
- Requires students to be effective performers with acquired knowledge, and to craft polished, performances or products

Task factors

- Stimulates a wide range of active responses
- Involves complex, ill structured challenges that require judgement, multiple steps, and a full array of tasks
- Requires the assessment to be seamlessly integrated with the activity

Indicators

- Provides multiple indicators of learning
- Achieves validity and reliability with appropriate criteria for scoring varied products
Issues

- Technology problems
- Institutional restrictions
- Alignment of task and assessment
- Does the setting need to be real?

Issue 1: 
**Constraints of university assessment policies**

- Most universities in Australia have introduced assessment policies
- Quality assurance and greater accountability measures mean pressures on teachers to conform to set standards

**University assessment policies affect pedagogy**

Many assessment policies run counter to constructivist philosophies and situated approaches to learning
- **minimum number of assessments** means complex course-based assessments are sometimes impractical
- **restrictions on group work** makes collaborative, large-scale projects unworkable

Issue 2:
**Alignment of task and assessment**

- An authentic task is often stymied by teachers inappropriately applying norm-referenced criteria in their marking of the varied products presented by students
- The importance of alignment between a task and its assessment is at the heart of this problem

Alignment of task and assessment

Example:
A teacher of an introductory research methods course develops an authentic task that requires students to produce a research report for publication in a magazine (such as a consumer magazine like Choice).
Alignment of task and assessment

- The task is presented in the form of a scenario to capture the authentic nature of the activity
- Students are to produce a report comparing products, such as five different types of detergent powder or yoghurt or car insurance.

Alignment of task and assessment

- If the assessment is to be aligned with the task, the context of the scenario should assist with the assessment of the task
- It would not be aligned if the teacher marked the work according to the guidelines for writing a different kind of research report (say for a thesis)
  - Literature review
  - Significance of the research or
  - Limitations of the research
- The assessment must use the purpose of the work as a guide

Example: Task-based course

- Course: Prevention of Accidents and Ill-Health at Work
- Janis Jansz, School of Nursing and Public Health, Edith Cowan University (now Curtin)
- Occupational Health and Safety

Virtual laboratory

Complex problems simplified

- Instead of a realistic product like OHS workplace evaluation
- Task and assessment simplified as list of specific questions:
  - What biological materials are present in the lab?
  - What biological hazards are evident?
  - How many instances of contamination exist in the lab?
  - What preventive measures should be in place?

1st & 2nd order expectations (Wiggins & McTighe)

- Example from Wiggins:
  - Students required to learn historical analysis through the examination of author perspective in a text.
  - The scenario: Set in a trial in a courtroom, where the student is required to take the role of a prosecutor or defence lawyer
  - Trial brought to court by a parent group seeking to forbid the use of a particular textbook in a high school.
  - What are students learning?
Issue 3: Does it need to be real?

- Some would argue that only a real problem situation should be presented and assessed.

  - Savery and Duffy (1996):
    - the problems must raise the concepts and principles relevant to the content domain, and
    - the problems must be real.

Example: Design-based Research

Real

- Course: Research in Learning Environments
- Jan Herrington, University of Wollongong

Example: Literature

Real

- Course: North American Fiction and Film
- John Fitzsimmons, Faculty of Arts Health and Sciences, Central Queensland University

Example: History

Real

- Course: Year 10 History - World War I
- Peter Morrissey, Coonabarabran High School

Some alternative views

- Maximum fidelity does not necessarily lead to maximum effectiveness in learning, particularly for novice learners (Alessi, 1988).
- The ‘physical fidelity’ of the simulation materials is less important than the extent to which the simulation promotes ‘realistic problem-solving processes’, a process Smith describes as the ‘cognitive realism’ of the task (Smith, 1986).

Example: Research methods

Simulated

- Course: Research preparation: Research methods
- Max Angus & Jan Gray, School of Education, Edith Cowan University
Example: Business writing

- Course: Writing in organizations
- Marsha Durham & Russ Pennell, University of Western Sydney

Simulated

Research interview

(We) very deliberately didn’t try, to make total simulation out of it. There is so much suspension of disbelief required, but there just had to be enough to get them engaged.

Research interview

Things can be real world without being engaging. Working in an industrial riveting shop is real world but is not very engaging. I think engagement of students is critical.

‘Cognitive realism’

Our research has indicated that the physical reality of the learning situation is of less importance than:
- the characteristics of the task design, and
- the engagement of students in the learning environment.

Applying these guidelines

Alignment among task, assessment and policies frees the teacher from a judgmental, teacher-driven role to one where realistic criteria can be used to assess real products.

Avoids the reproduction of surface knowledge that is quickly forgotten after an examination or test.

Where to now?

- Many teachers employ authentic assessment online, but we need more than anecdotal evidence
- Design-based research studies would contribute:
  - knowledge about the veracity of the approach
  - design principles to inform theory and practice in education
- Educational designers - important leadership role
Authentic learning environments in higher education

- Many examples of authentic tasks and assessment in edited book: 
  Authentic learning environments in higher education
  Herrington & Herrington, 2006

A guide to authentic e-learning

- Authored book:
  A guide to authentic e-learning
  Herrington, Reeves & Oliver, 2010

Presentation website

Downloadable papers, links to sites and resources

Link from conference website
OR
http://web.me.com/janherrington/AuthenticAssessment/

With thanks to the co-researchers: Ron Oliver, Tom Reeves and Tony Herrington