Authentic assessment

Singapore Seminar on Authentic assessment (Part 1)
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**EDUCATION AND
SOCIAL WORK**

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Defining Authenticity in Assessment

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Authentic

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- ▸ What makes an assessment authentic? What makes it seem authentic?
- ▸ What are the characteristics of authenticity that we can replicate in our teaching-learning environment?
- ▸ What does the dictionary say?
  - ◦ *of undisputed origin and not a copy; genuine; real; verified; not false; origin supported by unquestionable evidence; trustworthy; authenticated;*
    entitled to acceptance because of agreement with known facts or experience;
  - ◦ *Looks like the real thing*

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Authentic Assessment

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Assessment is authentic when we directly
examine student performance in the context of
a meaningful learning environment that
reflects actual and worthwhile experiences,
and worthy intellectual tasks.

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Authentic Assessment Characteristics

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▸ Real-life
▸ Process vs. product
▸ Multi-dimensional
▸ Self-evaluation
▸ Higher order thinking
▸ Applied knowledge
▸ Identified and communicated standards
▸ Fairness and consistency
▸ Mimicking things done in the real world

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Characteristics

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Pros	Cons
▸ Construct meaning ▸ Relevant and meaningful ▸ Continuous ▸ Motivating ▸ Rich useful feedback ▸ Disciplined inquiry ▸ Connects to what student already knows, and to learning ▸ Educative – helps student learn better, and teacher teach better ▸ Develops generic problem-solving & research skills	▸ Time consuming ▸ Expensive infrastructure & staffing ▸ Low public trust & confidence ▸ Low status ▸ Low reliability of scoring

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Authentic (NZQA)

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‣ Is meaningful and closely connected to the 'real world' situation.
‣ Provides the best opportunities for learners to demonstrate skills and understanding.
‣ Ensures evidence *is produced by the learner* –that outside assistance does not influence / affect / distort the process or result.
  ◦ No cheating, no inappropriate extras

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What is acceptable evidence?

‣ Direct performance
‣ Explanations that are based on good evidence & argument
‣ Interpretations of an event/situation
‣ Effective application of knowledge
‣ Ability to critique
‣ Ability to sensitively perceive other perspectives
‣ Recognition of self- style, prejudice, & strengths

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Authentic education: Writing

‣ Process Model of Writing
  ◦ brain-storming, drafts, readings, rewrites, before publication
  ◦ mimics the world of how a writer's work is published.
‣ how we assess writing processes and products can mimic the real world if we make use of a portfolio system and rubrics
  ◦ But this is the hardest part...more later

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School vs Real World Writing

‣ Essays
‣ Grammar, punctuation, spelling tests
‣ Generic forms
‣ Purposes artificial

‣ Executive summary
‣ Abstract
‣ Annotated bibliography
‣ Practicum report
‣ Proposal (Research, Grant, Funding)
‣ Review of article, performance, etc.
‣ User Documentation
‣ Letter to Client

School	Life

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What can be achieved?

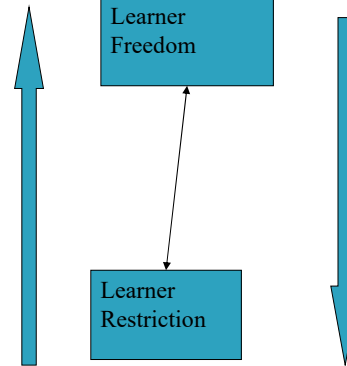THE UNIVERSITY OF AUCKLAND — Te Whare Wānanga o Tāmaki Makaurau — NEW ZEALAND

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▸ It depends…
  ◦ Learner age, preparation
  ◦ Nature of curriculum objective
  ◦ School resources

Increasing Validity

Learner Freedom

Learner Restriction

Increasing Reliability & Practicality

Food technology great authentic learning & assessment context; it's like reality.
Curriculum: Integrates technology, aesthetics, economics, mathematics, science, literacy.
EXPENSIVE: labour, resources, time, low status?

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Why Use Authentic Assessment?

"Testing should be as close as possible to the situation in which one attacks the problem."

"Ill-structured problems are not found in simulated and/or standardized tests."

"The variation inherent in professional practice will always elude capture by a set of rules."

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Driver Exam: A common authentic assessment

- Highly valued
- Personally Relevant
- Important life outcome
- Performance (not just recall)
- Integrated skills & knowledge

- Realistic but safety provisions
- Structured precursor tests & teaching
- Structured tasks & scoring
- Skilled judges trained in consistent scoring

Expensive & time consuming

| Administration | Conditions |

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Does it pay off?

- Newmann, Marks & Gamoran 1996
  - Large study in Chicago, 26 schools
  - multilevel modeling analysis
  - Relatively low level of authentic pedagogy implemented,
  - high variability between classes
  - BUT Impact on achievement $\beta=.37 \rightarrow R^2=.14$, $r^2=.16$
  - Moderate effect and worth having
- Authenticity in assessment (and teaching) is HARD, but it will pay off for learning

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Table Talk

› *What do you look for in an authentic assessment?*

› Discuss with people in a zoom chat room …
› Hair Dressing
  ◦ You've been a client, you've had hair cut, styled, etc.
  ◦ what criteria and levels of performance would you create to rate or assess the last hair dresser or barber you visited?
    • Personality? Skill-level? Price? Communication skills? Attractiveness?—what makes it a good haircut?

  ◦ *If this is hard, imagine how hard it is to score authentic work in complex fields*

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Mapping the real world purposes of education

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Authenticity

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‣ Depends on knowing what the thing looks like in the world after schooling/learning
  ◦ Scholarship   reading, writing, analysis, synthesis/civic participation
  ◦ Knowledge   professional practice/social interaction
  ◦ Skill   technical expert practice/personal life
  ◦ Social   interpersonal communication & cooperation
  ◦ Self   responsibility & reliability

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Authentic outcomes: Comprehensive secondary schooling

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‣ What is the purpose of such schools?
  ◦ Employability: entry into jobs.
  ◦ Further Education: entry to University or Polytechnics.
  ◦ Citizenship: entry into communal life of our society.
‣ THUS, authentic assessment has to align with:
  ◦ skills, knowledge, and functions that predictably will occur within the multiple domains of employment, the multiple routes for further learning, and the expectations of society.
‣ So, these must be part of defining authenticity.

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Authentic outcomes: Higher education

- ▸ **Specialist knowledge & abilities** (Technical, Discipline–specific)
  - ◦ *Yes it is authentic to test knowledge (declarative, procedural) because it is required in the 'real world'*
- ▸ **General intellectual skills & capacities**
  - ◦ *Supposedly if you can pass our assessments, you must have these?*
- ▸ **Personal qualities, dispositions**, attitudes, attributes
  - ◦ *Supposedly obtained, but do we know? Are these incidental, rather than deliberate?*

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Authentic Outcomes: Intellectual
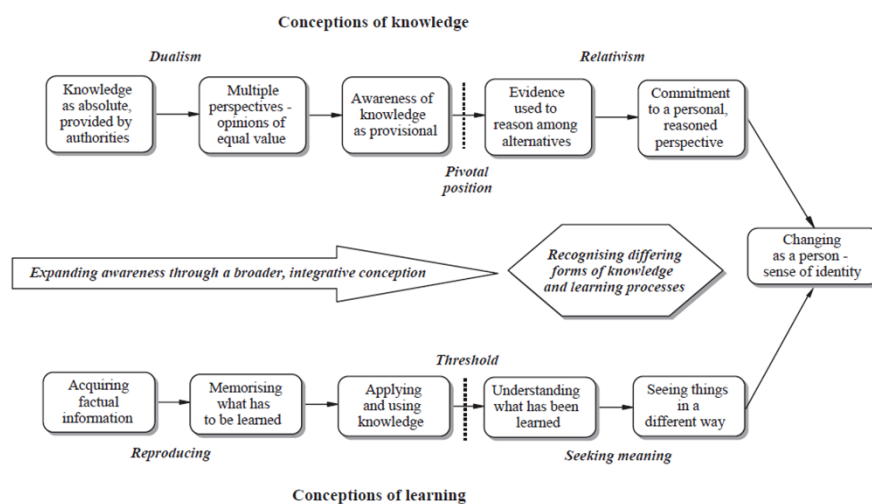
Fig. 1. Comparison between categories describing conceptions of knowledge and of learning.

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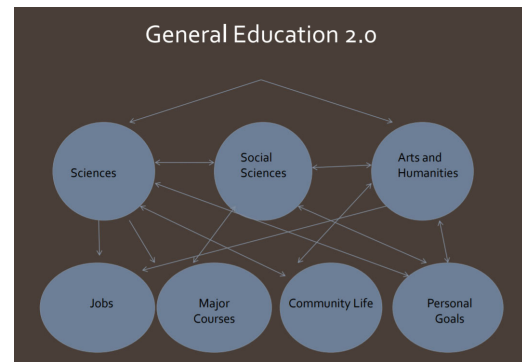**MOU7** Earlier, maybe?

Microsoft Office User, 9/04/2018

Academic vs Vocational settings

▸ Easier to perceive authenticity in vocational contexts
▸ Academic subjects (esp. humanities & arts): what is authentic?
  ◦ Application of intellectual skills to real world problems
  ◦ Consider Greta Thunberg
    (https://en.wikipedia.org/wiki/Greta_Thunberg)
  ◦ American liberal arts colleges
    general education
    • Not just preparation for
      university—citizenship in a 'wicked' world

General Education 2.0

Sciences   Social Sciences   Arts and Humanities

Jobs   Major Courses   Community Life   Personal Goals

Paul Hanstedt, Washington & Lee University;
@curriculargeek

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Why is technical discipline not enough?

▸ Mastery of required technical knowledge & skills
▸ Communicative ability (oral & written)
▸ Cognitive skills (analysis, synthesis, evaluation, trouble-shooting, problem-solving, etc.)
▸ Self-management (agency to regulate learning by meeting quality expectations, deadlines, goals)
▸ Inter-personal competencies (group & team work; leadership)

▸ Appropriate technical competencies
▸ Communicative abilities
▸ Thinking (esp. trouble-shooting, problem-solving)
▸ Self-management (regulate self in work expectations & environments)
▸ Inter-personal competencies (group work, following, leading)

Academic
It's not just accounting, welding, history, etc.

Life, Citizenship, & Employment

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Making school more real

- Authentic problems & contexts
  - ill-structured,
  - poorly defined,
  - exhibit variation and novelty inherent in the real world
- the learner has to figure out what is going on before attempting the activity.

- Example:
  - A science teacher aims to teach climate vs weather.
  - He asks learners to select the best city in which to live based on actual data about NZ cities
  - They must search weather data and make an argument to the class as to the best place using climate and weather patterns information

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Table Talk

- *What are the goals & purposes you seek to achieve in your school/institution? What stops you from assessing those goals?*
- Discuss with people in a zoom chat room …
  - What is the authentic ambition you are preparing your learners for?
  - *citizenship; leadership; scholarship; employment; profession; vocation; life….*
  - What goals do you actually assess? Are you happy?

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What is authentic assessment?

Good	Authentic
Valid	Mimics exhibition of real behaviour
Reliable	Requires holistic judgment
Efficient	Inefficient, slow

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Authentic Assessment

▸ You need to ensure that assessment is
  ◦ Valid
    · The right things are being assessed in the right way
    · Assessments are aligned with life beyond HS
  ◦ Educational
    · The sequence and structure of courses & assessments supports learning
    · That feedback supports the transition from easy to hard, introductory to advanced
  ◦ Robust, Reliable
    · That quality is being prioritised when judging work
    · End-users are assured that the performances have been awarded the right scores or grades

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Validity in Authentic Assessment

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Assuring validity in authentic assessment

‣ What ultimately defines your courses and assessments as authentic?
  ◦ The end user of your qualifications—the employer, the graduate school, the industry, society…so use them to comment on the design of your courses & assessments
    · Of course, your staff are experts in the discipline, so they should have good insights…but does it hurt to verify or keep in touch with contemporary world?
‣ What could you ask them to do?
  ◦ Score a sample of work; how close are they to each other?
  ◦ Set standards for samples of work; do they agree on Pass-Fail or A, B, C; can they see excellence in the work we gave A to?

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Standards for Authentic Assessment

‣ Analysis
  ◦ **demonstrates** and explains thinking by organizing, synthesizing, interpreting, hypothesizing, describing patterns, making models or simulations, constructing content arguments, or inventing procedures.
‣ Disciplinary Concepts
  ◦ **demonstrates** an understanding of important ideas that goes beyond application of algorithms by elaborating definitions, making connections to other concepts, or making connections to other disciplines.
‣ Elaborated Written Communication
  ◦ **demonstrates** a concise, logical, and well-articulated explanation that is clear, coherent, and provides richness in details, qualifications, and argument.
  ◦ Newmann, F. M., Marks, H. M., & Gamoran, A. (1996). Authentic pedagogy and student performance. *American Journal of Education, 104*(4), 280–312. doi:10.1086/444136

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Validity design concerns in authentic assessment

▸ Objective marking vs. Professional judgment
  ◦ *Trivial content?*
▸ Easy to mark content vs. Hard to mark
  ◦ *Time to manage?*
▸ Knowledge about vs. Knowledge to do
  ◦ *Does one lead to the other?*
  ◦ *How easy is to see & rate the performance?*
▸ Quantity of knowledge vs. Quality of performance
  ◦ *What do our grades and qualifications mean?*

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Problems in making things authentic

▸ SWEETS
▸ When you eat certain sweets they dissolve in your mouth and fizz. They do the same thing in water.
▸ This is what you have to find out:
▸ What makes the difference to how long the sweets last for?
▸ Is it how hot or cold the water is or how much the sweet is broken up?
▸ 26% success

▸ CHEMICAL
▸ When certain chemicals are placed in water they fizz and bubbles of gas are formed.
▸ This is what you have to find out:
▸ What makes the difference to how long the chemicals last for?
▸ Is it how hot or cold the water is or how much the chemical is broken up?
▸ 54% success

Realism can disguise the academic task, create a distraction. The tasks aren't actually the same
Cumming & Maxwell (1999)

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Making school more authentic: pedagogy

- *Minute paper.*
  - Write down in 60 seconds, what was the most important concept from what we just heard, saw, read, or discussed (a realistic task when in meetings or presentations).
- *Muddiest point.*
  - Tell me or write down, what was the most unclear concept/point to you from what we just heard, saw, read, or discussed (a realistic skill for participating in lectures or other presentations).
- *Chain notes.*
  - Write a question on an envelope related to what we are learning. Circulate the envelope to your classmates who will put their written answers inside, without looking at what others wrote. Summarise the results for a class discussion or report to the teacher (an innovative way to practise data collection and reporting).
- *Bus-stop summary.*
  - Imagine you are at a bus stop, talking to someone else waiting for the next bus (a fairly authentic scenario). You have 60 seconds before the next bus comes (also realistic) to explain what you have learned or done.

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Authenticity Checklist

- Characteristics of authenticity relevant to design of tasks
- Silent about scoring, rating, judging
  - Sridharan, B., & Mustard, J. (2015). *Authentic assessment methods: A practical handbook for teaching staff Part I.* Melbourne, Australia: Deakin University, Faculty of Business & Law.

Checklist
The following is a checklist to help teaching staff to self-assess if the assignments they set are authentic (Herrington, 2000; Wiggins, 1998)

Authenticity checklist	Response
My assessment tasks have real-world relevance	☐
My assessment tasks comprise complex tasks to be investigated by students over a sustained period of time.	☐
My assessment tasks provide the opportunity for students to examine the task from different perspectives, using a variety of resources.	☐
My assessment tasks provide the opportunity to collaborate.	☐
My assessment tasks provide the opportunity to reflect.	☐
My assessment tasks can be integrated and applied across different subject areas and extend beyond domain-specific outcomes.	☐
My assessment tasks are seamlessly integrated with situations that reflects real-world rather than artificial scenarios.	☐
My assessment tasks create polished products valuable in their own right rather than as preparation for something else.	☐
My assessment tasks allow competing solutions and diversity of outcomes.	☐

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Authentic Assessment Example

Conventional:

Define the terms warm front, cold front, occluded front, and circle the correct map symbols below.

Authentic:

Predict Saturday's weather for a school picnic and create a multimedia forecast for the local news channel explaining your forecast.

RISKS
Distraction from curricular learning;
Slower learning;
Less assurance of intended learning

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Validity: Use my own data

▸ Activity tracker *(my data)*
▸ Integrated with substantive learning in Health
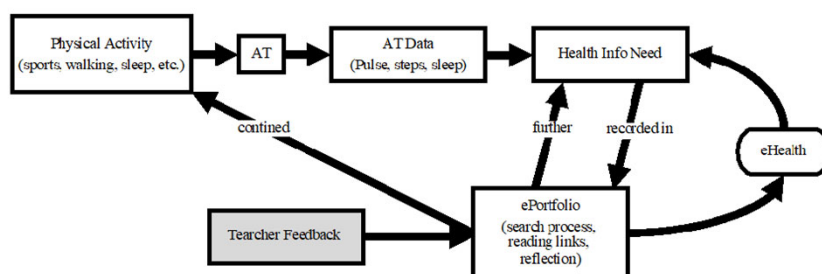▸ What data source fits your curriculum?

Figure 1. Learning process pathways involving an AT and ePortfolio

Sobko, T., & Brown, G. T. L. (2019). Reflecting on personal data in a health course: Integrating wearable technology and eportfolio for ehealth. *Australasian Journal of Educational Technology, 35*(3), 55-70. doi:10.14742/ajet.4027

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Table Talk

› *How realistic or valid are your assessments?*

› Discuss with people in a zoom chat room …
  ◦ How realistic are your assessments (not your tasks, pedagogy)?
    • Completely artificial ▢ ▢ ▢ ▢ ▢ ▢ ▢ Fully realistic
  ◦ Does it matter? What might you need to change to ensure some authenticity in your assessments?

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