The potential of formative assessment at work

ASEM
Workplace as a learning space
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WE INSPIRE, ADVOCATE AND LEAD ADULT LEARNING AND PROFESSIONAL PRACTICE
Learning & assessment – our assumptions

The research project

Tales from the field & the ‘so what’ factor.
Our assumptions

The root of the word “assessment” is from the Latin *assidere*, which means “to sit beside.”

Learning and assessment: separate but entwined
Formative assessment

Assessment for learning

• **Engaging** participants to know:
  • What they are succeeding at what, why and how to improve
  • Continuous **dialogical** feedback from variety of sources
Context (spaces for learning & assessment)

- Type of work - the vocation, profession
- Conditions and affordances for learning at work
  - Development capabilities available
  - Perspectives, understandings of L&A
  - Degree of challenge and discretionary power
- Learner agency and learning biography
Singapore Context

SkillsFuture
- Workplace-based learning
- Including IHLs

Training providers
- Most private for profit
- Engage adjunct (freelance) ‘trainers’ (adult educators)

Historical practices
- WSQ (CBT)
- Mainly classroom delivery
Assessment for the changing nature of work: Research questions

How can assessment design and practices be shaped to meet changing policy directions and workforce development needs?

1. How do different contexts (e.g. different institutional policy contexts, their purposes including credentialing, discourses and practices) mediate assessment practices and decisions?

2. What are the current experiences of and challenges in assessment for learners, AEs, providers, and employers?

3. What factors enable and/or disable an establishment and practitioners in adopting leading practices in assessment?

Research team: Dr Helen Bound, Dr Arthur Chia and Annie Karmel
<table>
<thead>
<tr>
<th>Case</th>
<th>Duration</th>
<th>Assessment activities</th>
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</thead>
<tbody>
<tr>
<td>Workplace learning facilitators</td>
<td>10 months</td>
<td>Formative assessment from coaches; summative assessment through learning journal, enterprise report and final assessment interview; 70% attendance required.</td>
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<tr>
<td>New promotional menu items</td>
<td>4 weeks</td>
<td>Live cooking demonstration; close coaching by chefs; written feedback from chefs; site visits by chefs after launch of new menu items.</td>
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<tr>
<td>Rota commander</td>
<td>7 months</td>
<td>Simulated (evaluation) exercises; written theory tests; presentations.</td>
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<tr>
<td>Resident doctor</td>
<td>3 years</td>
<td>360 feedback, monthly evaluations, Mini-CEX, written exams.</td>
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<tr>
<td>Aircraft engineer</td>
<td>3 years</td>
<td>Individual Final Year Project; summative assessment through learning journal, FYP report &amp; final presentation, written exams.</td>
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<tr>
<td>Certified IP Associate</td>
<td>1 week</td>
<td>Observation of basic skills by facilitator; formative assessment of problem solving exercises; written test involving a range of network problems to identify.</td>
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Types of data collected

Data points \( n=105 \)

Semi-structured interviews, observations and curriculum documents, assessment artifacts

- Learner interviews: \( N=41 \)
- Facilitators Assessors Curriculum designers interviews: \( N=24 \)
- Employer interviews: \( N=19 \)
- Observations: \( N=15 \)
- Other: \( N=6 \)
Exercise briefing; review; feedback

Dry run: instructor instructs trainees on entry procedure

Tactical schematic: pumps, bridging, hoses, nozzles

Into the compartment fire; ‘smoke reading’
Tales from the field - Flash over training

• **Identify symptoms** of a flashover fire.

• **Techniques** to handle flashover fire in an enclosed environment – entry & exit procedures; smoke cooling; equipment handling i.e. nozzle control – ‘pulsating’, holding/aiming the nozzle, half-squat position.

• Compartment fire **simulates the conditions**: intensity, heat, smoke and danger of flashover.

• ‘So it’s not just the ‘theory’ or watching a video. They are there so that they can smell the problem; see the magnitude (of the problem); realize how tired the men are; understand how difficult it is to control the entire scene...’ (MAJOR W).

• **Embodied learning** – see, smell, feel to know; bodily techniques to move, position, hold and handle (equipment). Mastery through experience and practice, practice, practice!
• Nature of fire-fighting knowledge/know-how is embodied rather than distinct or easily separable;

• Much of the knowing is demonstrated in the doing, and involves developing/cultivating capacities like awareness, responsiveness and fortitude.

• Shifts understanding of ‘skill’ as highly technicalized and de-contextualized to ‘skill’ as embodied learning, personal formation, systems of knowledge and forms of knowing.

• Modularized training package (planned, documented) → Integrated, summative-formative assessment during Final Exercise (in practice), suggests issue of ‘alignment’.
Implications for assessment

• Assessment needs to reflect the multifaceted and complex ‘realities’ of learning i.e. learning is no longer understood simply as mechanical processes of acquisition and transfer of knowledge and skills but encompasses notions of embodiedness, of knowing—‘Authenticity’; ‘Future-Orientedness’.

• The integratedness of learning and know-how suggests that assessment be designed holistically. Yet the design of assessment is still premised on “traditional” dichotomies of mind-body, knowledge-skills, and theory-practice—‘Holism’; ‘Alignment’.
Tales from the field: IT Network Engineers

- Holistic
- Future oriented

What do you want your ‘graduate’ to ‘BE’?

Thinking like an engineer
Our conceptual frame – from the data

Elements of assessment for the changing nature of work
Our conceptual frame – from the data lit.
Feedback

“... the contribution of others to learning through assessment, and repositioning the notion of feedback not as an act of information giving to students, but as a co-productive process in which both students and others have key roles to play.” (Boud & Soler, 2016, p.403)

- Helps/enables learners to improve and grow
- Provision of many opportunities to give and receive feedback
- Feedback is not limited to dialogue, includes interaction with texts, artefacts, etc.
- Key elements of good feedback/dialogue are:
  - “responsivity” &
  - “the attempt to achieve enhanced understanding”
Judgment

• **Learners** are enabled to **make judgments** about their **own performance**

• Assessors have a **shared understanding** of expected performance

• Acceptance of **variation** of judgments but within the criteria/expected standard of performance

Not same for everyone (CBT regime)
Formative assessment for work

- Authentic
- Feedback
- Judgment
- Aligned
Spaces for learning and assessment

In, through and for work

Affordances for learning and development

• Conditions for learning
• Challenge in the work
• Capability to support assessment for learning
  • Workplace pedagogies

Partnerships

• Enterprise-training provider/educational institution
• Shared intent or motive
Discussion

Change is a process, not an event.
Dimensions of assessment for the changing nature of work (1 of 3)

Authenticity:
- Uses, draws on and/or is embedded in real work practices
- Focuses on performance in various circumstances of work – within the scope of the learning outcomes
- Enables learners’ engagement.

Alignment:
- Program designers integrate assessment and learning
- There is consistency and connectedness between the espoused purposes, and learning activities and assessment
Dimensions of assessment for the changing nature of work (2 of 3)

Holistic:

- Courses integrate knowing, doing & thinking
- Outcomes, learning activities and assessment embody the complexity of work.
- Reflective of the interdependence between different aspects & ‘wholeness’ of work

Future-Orientedness:

- Readiness for work, ability to face future unknowns and new challenges beyond the course/training.
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