Assessment of competencies in digital learning: All about change

Terry Neal, Education Specialist
Technical and Vocational Skills Development
A bit about me

• A New Zealander

• 20ish years in innovative TVET

• Developing and implementing institutional and national strategies for use of technology in TVET across Commonwealth

• Two years - Education Specialist: Technical and Vocational Skills Development (TVSD), COL
To help Commonwealth governments and institutions develop and share open learning and distance education knowledge, resources and technologies for sustainable livelihoods.
What really matters?

If you go into a workplace, a mentor or coach is absolutely clear about what they are teaching someone to do. It might be a craft or technique, like filleting a fish for example. But if you go into a class in a college and ask the class tutor what its purpose was, they would tell you it was about passing the test, passing the module, completing the assignment.

Lorna Fitzjohn, National Director, Further Education and Skills at Ofsted, UK
Be clear about why moving to use technology

What is the reason to put everybody through all this change?
• Emergency access now
• More choice of when and where
• More completions
• More affordable
• Skills for employment

“It is not the strongest of the species that survives, nor the most intelligent that survives. It is the one that is the most adaptable to change.”
- Charles Darwin
A story of supporting **LOTS** of assessment change

**LEADERSHIP**
- Vision – increased access for marginalised people through greater flexibility and affordability
- Strategy – educator-industry partnerships, workbased plus distance learning, OER, automated formative assessment for theory, remove literacy as a proxy for competence, include recruitment and transition, evidence for policy makers

**ORGANISATIONAL WAYS OF WORKING**
- Appoint team – industry plus educational institution, government support
- Tools and templates - learning design, assessments, storyboarding
- Agile development
- Monitoring and evaluation

**TECHNOLOGY**
- Online and offline (Aptus)
- Devices for students and teachers
- Learning management system (Moodle)
- Video feedback software (Flipgrid)
- Formative assessment (H5P)
- Multimedia (Canva, Davinici Resolve, Audacity)

**STAFF CAPABILITY**
- Educators, artisans, learners, policy makers
- Competency based assessment
- Learning design (WBL plus ODL)
- Multimedia development, OER creation and reuse
- Embedding literacy and numeracy
- LMS implementation and administration
- How to access and use technologies
- Workplace coaching
A story of supporting LOTS of change

- Model – theory of change
- Expressions of interest
- Introductory workshop
- Detailed proposals
  - Shared vision
  - Industry and educational partnership
- Project design workshops
- New business model, agreement
- Create tools, templates
- Select technologies
- Capability building
  - Online courses
  - Virtual mentoring
  - New online course
- Monitoring and evaluation
Qualification, Unit / Skills: Certificate in Carpentry and Joinery- Module 1: Wood Working Machinery

In yellow – suggested additions
In Veronese – questioning aspects that are unclear or look out of place

<table>
<thead>
<tr>
<th>Standard (occupational knowledge, skills, attitudes and values)</th>
<th>Assessment (learner meeting the standard based on assessment or naturally occurring evidence at the workplace)</th>
<th>Resources (resources needed for the learner to work with and learn)</th>
<th>Activities (description of activity(s) learners are engaged in including learning hours)</th>
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<tbody>
<tr>
<td>UNIT B6.1 CUTOFF TIMBER ON A CIRCULAR SAW</td>
<td>Professional conversation: In a professional conversation with a Master Craftsman the learner is able to state various methods of cutting on a Circular Saw Machine. <strong>Or Moodle Quiz:</strong> the learner is able to match various methods of cutting on a Circular Saw Machine description to a visual image of the method.</td>
<td>In person presentation and explanation of the various methods of cutting on a Circular Saw Machine (Dip cutting, Cross cutting and Ripping), [R] or video presentation [C] *</td>
<td>Activity 1: Learners watch the presentation and have the opportunity to look at various methods of cutting on a Circular Saw Machine and ask questions. L: ½ hr, T: 0 hr, M: ½ hr, I: 0 hr, G: ½ hr*</td>
</tr>
<tr>
<td>6.1.1 State various methods of cutting on a Circular Saw Machine</td>
<td></td>
<td>In person presentation showing appropriate techniques of mounting circular saw blades, [R] or recorded presentation in a video [C]</td>
<td><strong>Activity 2:</strong> Learners watch the presentation (in person or video) and review the checklist. L: ½ hr, T: 0 hr, M: ½ hr, I: 1 hr, G: 1 hr</td>
</tr>
<tr>
<td>6.1.2 Use operational adjustments when ripping</td>
<td>Practical observation and Quiz: For the learner to achieve this standard appropriately the following activities will be performed meeting the established performance standard: In a practical demonstration or video the learner will demonstrate:</td>
<td>In person presentation showing appropriate techniques of mounting circular saw blades, [R] or recorded presentation in a video [C]</td>
<td><strong>Activity 3:</strong> When ready they practise matching the circular saw blade with mounting techniques by taking the practice quiz as many times as desired. L: 1 hr, T: 0 hr, M: 0 hr, I: ½ hr, G: 0</td>
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* Refer to Appendix: Explanations
# Qualification, Unit / Skills: Certificate in Joinery- Module 1: Wood Working Machinery

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| **UNIT B6.1 CUTTING TIMBER ON A CIRCULAR SAW**  
6.1.1 State various methods of cutting on a Circular Saw Machine | **Professional conversation:** In a professional conversation with a Master Craftsman the learner is able to state various methods of cutting on a Circular Saw Machine.  
**Or Moodle Quiz:** the learner is able to match various methods of cutting on a Circular Saw Machine description to a visual image of the method. | In person presentation and explanation of the various methods of cutting on a Circular Saw Machine (Dip cutting, Cross cutting and Ripping). [R] or video presentation [C] * | **Activity 1:** Learners watch the presentation and have the opportunity to look at various methods of cutting on a Circular Saw Machine and ask questions.  
L: ½ hr, T: 0 hr,  
M: ½ hr, I: 0 hr, G: ½ hr* |
| 6.1.2 Use operational adjustments when ripping | **Practical observation and Quiz:** For the learner to achieve this standard appropriately the following activities will be performed meeting the established performance standard:  
*In a practical demonstration or video the learner will demonstrate:*  
- Ensuring the ripping saw is in place | In person presentation showing appropriate techniques of mounting circular saw blades.  
[R] or recorded presentation in a video [C]  
Handout / checklist (in hard copy or digital format with images/pictures and wording) providing information about different types of sawblades. [NW]  
Practice quiz in Moodle of matching images of different types of sawblades to appropriate techniques of mounting them with build in | **Activity 2:** Learners watch the presentation (in person or video) and review the checklist.  
L: ½ hr, T: 0 hr, M: ½ hr, I: 1 hr, G: 1 hr  
**Activity 3:** When ready they practise matching the circular saw blade with mounting techniques by taking the practice quiz as many times as desired.  
L: 1 hr, T: 0 hr, M: 0 hr, I: ½ hr, 6:0 |

* Refer to Appendix: Explanations
**SUBTOPIC**

**RESOURCES**

**TEXT**
- Word Doc #1: Lesson Content on Circular saw Machines
- Word Doc #2: Lesson Content on bandsaw machines curving
- Word Doc #3: Lesson Content on Sanding of Timber
- Word Doc #4: Lesson Content on Planing of Timber

**VIDEO**
- Video #1: Learners watch the presentation and have the opportunity to look at various methods of cutting on a Circular Saw Machine and ask questions.
- Video #2: showing appropriate techniques of mounting circular saw blades.
- Video #3: Showing a ripping, crosscutting, grooving & mitering of timber
- Video #4: Showing a recorded video on straight cutting(ripping) & curving
- Video #5: Showing a recorded video on straight cutting(ripping) & curving
- Video #6: Showing a demonstration of the operational adjustments on a combined sanding and relevant safety aspects.

**IMAGES**
- Image #1: Part of the Circular saw machine
- Image #2: Appropriate PPE to be worn when operating wood machinery
- Image #3: Parts of the Planning Machine
- Image #4: Parts of the Bandsaw Machine
- Image #5: Parts of the Combined Sanding Machines
- Image #6: Operations on the Circular Saw
- Image #7: Operations on the Band saw Machine
- Image #8: Operations on the Planing Machining
- Image #9: Operations on the Combined Sanding Machine
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<th>QUESTION #1</th>
<th>QUESTION TYPE:</th>
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| To make a long straight cut with the portable circular saw:  
   a. clamp a guide on the material.  
   b. such cuts can not be made with a portable circular saw.  
   c. move the saw rapidly through the cut.  
   d. move the saw slowly through the cut so it can be guided straight. | Multiple Choice |

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<th>QUESTION #2</th>
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| To make a long straight cut with the portable circular saw:  
   a. clamp a guide on the material.  
   b. such cuts can not be made with a portable circular saw.  
   c. move the saw rapidly through the cut.  
   d. move the saw slowly through the cut so it can be guided straight. | Multiple Choice |

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<th>QUESTION #3</th>
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| To make a long straight cut with the portable circular saw:  
   a. clamp a guide on the material.  
   b. such cuts can not be made with a portable circular saw.  
   c. move the saw rapidly through the cut.  
   d. move the saw slowly through the cut so it can be guided straight. | Multiple Choice |
Highlight the PPE needed when you are ripping and crosscutting timber.

- Safety Boots
- Gloves
- Helmet
- Goggles
- Ear defenders
LOTS of advice

- Selecting technology is the easy part
- ‘Why?’ is crucial to agree collectively
- Genuine partnerships
- New organisational ways of working
  - new roles
  - new tools and templates
  - new policies and processes
- Build capability - all staff roles and learners
  - different for different roles
- Bring government with you
- Agile development – work it out together
- Be there for the long haul, keep communicating
- Celebrate success