Using different assessment types
to obtain better information about LLN in VET
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Outline

1. Research overview
2. Numeracy assessments
3. Listening assessments
4. Writing assessments
5. Reading assessments
The way ahead for VET sector assessments

• From:
  A scatter-gun approach of simply placing a learner in a general LLN class where all learners undertake the same LLN material whether or not it is relevant to their needs.

• To:
  A wider choice in selecting what is appropriate for the particular learner and context, by identifying strengths and gaps of the learner and providing important information to develop an individual learning plan.
ACER initiatives for VET sector assessments

1. Take note of related research:
   • from UK
   • from USA
   • from Australia

2. This conference!

3. Develop new assessments: CSPA, FSAT

4. Upgrade existing assessments
Research evidence from UK

• A major UK review (Coffield and others, 2004) *Learning styles and pedagogy in post-16 learning: a systematic and critical review* describes how “tutors and trainers in the post-compulsory sector … are faced with a panoply of possible interventions” p134

• As always, it is a matter of the trainer meeting the learner at the individual’s stage of learning and devising learning activities that will advance the student towards the immediate goal

From
TEACH $\rightarrow$ LEARN $\rightarrow$ ASSESS
to
ASSESS $\rightarrow$ TEACH $\rightarrow$ LEARN …

Emphasis on formative assessment at the beginning of, and throughout, a teaching/learning sequence:

- identify specific gaps or needs
- monitor development of skills and understandings
- differentiate instruction
Research evidence from Australia

• Professor John Hattie reviewed thousands of studies about what works best in the teaching/learning process, including the use of assessments and feedback.
• Historically, research in education has been mainly school-based.
• “Visible Learning means an enhanced role for teachers as they become evaluators of their own teaching. Visible Teaching and Learning occurs when teachers see learning through the eyes of students and help them become their own teachers”.

Effective interventions

• Hattie calculated the relative effect sizes for different types of interventions as

\[
\frac{\text{test group score} - \text{control group score}}{\text{standard deviation}}
\]

with values above 0.5 being a medium effect and above 0.8 a strong effect

– some easy interventions are very effective

– some expensive interventions are not particularly effective
Most effective interventions/factors

- *Self-reported grades* = 1.44
- *Formative evaluation* = 0.90
- *Teacher credibility in eyes of students* = 0.90
- *Acceleration* = 0.88
- *Feedback* = 0.75
- *Teacher-student relationships* = 0.72
- *Teacher professional development* = 0.62
- *Cooperative learning* = 0.59
- *Peer influences* = 0.53

A local VET sector commentary on Hattie’s work:

[link to commentary](http://www.vetcentre.vic.edu.au/research-and-reports/entry/teaching-practices-with-the-biggest-effects-on-student-achievement)
The most effective intervention

- **Self-reported grades = 1.44**
- Refers to students’ expectations for and beliefs in themselves. Involves students predicting or self-reporting their grades.
- Implication: teachers need to provide opportunities for students to be involved in predicting their performance.
- “Making the learning intentions and success criteria transparent, having high, but appropriate, expectations, and providing feedback at the appropriate levels is critical to building confidence in taking on challenging tasks.”
Discussion of assessment types

- 1:1
- Small group
- Generic online
- Specific purpose online
- other
1:1 face-to-face assessments

Interview

- allows the assessor and learner to develop some rapport
- typically takes about an hour
- able to choose appropriate tasks that will provide pertinent information
- core skills can be assessed together, e.g. reading and numeracy, by choosing relevant stimulus and questions
- able to observe how the learner goes about the task
- support can be provided, e.g. where reading difficulties interfere with numeracy performance
- concludes with a discussion of steps to address a gap and/or a pathway to meeting the learner’s goals
Comparing face-to-face and online assessment

Validity

• **1:1 face-to-face assessment**
  Trainer/institution can assess skills that they value highly for the course or purpose.

• **Online computer adaptive assessment**
  Carefully and objectively aligned with relevant Framework.
  Non-valid items are discarded via trialling and psychometric review processes.
Reliability

- **1:1 face-to-face assessment**
  Subject to some variation in interpretations by different assessors
  or by the same assessor at different times
  or with different learners.

- **Online computer adaptive assessment**
  All items sit on the same scale so learner location on the scale is determined consistently.
Delivery

• **1:1 face-to-face assessment**
  Allows assessor to treat candidates as individuals, such as in the level of support provided by the assessor. The supportive environment can be a particular advantage for low level, reluctant learners.

• **Online computer adaptive assessment**
  Consistent format for all users.
  Timing can be flexible.
  But relies on a level of digital literacy skill.
Cost

• **1:1 face-to-face assessment**
  
  Low materials cost.
  
  High per-user cost: delivery, marking, reporting, moderation and validation.

• **Online computer adaptive assessment**
  
  High development cost.
  
  High equipment cost (but generally-available platforms are used).
Create Numeracy assessment items

Finding stimulus material:

- **Text:** setting out the scenario
  - can be original or borrowed
  - the reading level of a text affects the numeracy performance of a student
- **Diagram:** for example, a picture of a clock or a graphic of a geometric shape
- **Data:** in a table, graph or list
Using the ACSF framework

• what **Domain**?
  personal & community
  workplace & employment
  education & training

• what **Level**? 1 to 5
  match the ability of the learner
  match the demand of the training syllabus

• what **Focus area**?
  number & algebra
  measurement & geometry
  statistics & probability
As well as ...

• what Indicator(s)?
The table below shows the eye colour of all the students in Jayda’s class.

### Class eye colours

<table>
<thead>
<tr>
<th>Eye Colour</th>
<th>Number of Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue</td>
<td>12</td>
</tr>
<tr>
<td>Brown</td>
<td>14</td>
</tr>
<tr>
<td>Green</td>
<td>5</td>
</tr>
<tr>
<td>Grey</td>
<td>7</td>
</tr>
</tbody>
</table>
Metadata

- **Domain:** Education and training
- **Level:** 1.09, 1.10
- **Mathematical knowledge and skills:** statistics and probability.
- **Focus areas:** Explicitness of mathematical information; complexity of mathematical information; problem solving processes.....reflecting; mathematical methods and use of tools
- **Item intent:** locates four pieces of information in a simple table and adds them
Actual question

• How many students are there in Jayda’s class?

• students (Key 36)
Good distracters for multiple-choice items

- are written concisely
- are of similar length and are written in a similar style to the key - the key must not stand out
- do not give a clue to the answer for another item
- are not partially correct
- do not mislead or confuse through ambiguity
- do not overlap in meaning, should not be synonyms.
Your turn …

PGA prize money distribution: top 10

1. 18% of the purse goes to the winner
2. 10.8%
3. 6.8%
4. 4.8%
5. 4%
6. 3.6%
7. 3.35%
8. 3.1%
9. 2.9%
10. 2.7%

Divide the money equally among players who tie for a position.

Listening at ACSF Levels 2 and 3

• OCL062 Keep your cool
Unit questions

What does this information advise about drinking water?
• avoid drinking lots of water
• drink water before you get thirsty
• only drink water when you are thirsty
• water is the only fluid that rehydrates
Which of the following activities are given as examples of strenuous exercise? (hotspot)

- opening windows
- closing the blinds
- walking to the shops
- watering the pot plants
- vacuuming
- gardening
What would make a good title for this information?

- tips for summer activities
- hints for surviving hot weather
- appropriate clothing in the heat
- protect your garden from sun damage
Writing task

Fill in this form about a job you would like to have.
My Job

I would like to open a Mechanic shop for my self. I will live better than before. I can than more and longer work. I will show my family that I can do that. I look forward and hope the best.

L1 is German.

Provide a brief outline of your education and schooling.

I was in the High school and Mechanic school.
What are your education goals over the next 12 months?

I will open a Mechanic shop relevant?

What skills and knowledge do you have that will help you achieve your goals? Please provide details.

- I will work to learn more for mechanic.
- More Money
- Work

What might interfere with you achieving your goals? How will you deal with these? Please provide details.

- My English

* v. brief
Rating a Writing script

- Background: The candidate was able to produce two examples of writing, a short prose piece and some short answers on a form.
- This writing was undertaken as part of a class assessment where there was not the option to provide support. It could be assumed that ‘My Job’ was chosen because the writer felt familiar enough with the topic. There was also no guidance to re-read the text and make corrections. The work contains some short comments added by the assessor after the event.
- The candidate was given 5 minutes to fill in the form and 15 minutes to complete ‘My Job’.
• 1.05
• wrote two short simple pieces, a form and a simple personal story
• although brief and simple, the writer was able to convey ideas and opinions about himself
• able to format the two pieces appropriately, e.g. wrote sentences in ‘My job’ and dot points for the form
• demonstrated a limited understanding of sequence though the cohesion of the writing is marked by disjointed sentences and phrases, e.g. …for myself boss.
• adjusted statement to add ‘more’ during his writing
• 1.06
• used a small bank of words that he used to communicate an account of himself and his aspirations
• used basic punctuation, e.g. full stops and capital letters
• demonstrated spelling which was mainly accurate though variations apparent, e.g. Mechenic/mechanic; famili. These spellings do not interfere with meaning. Familiar words are consistently in place, e.g. school, high, money as well as many of the common smaller words e.g. would, like, to, can, that, the etc.
• wrote mostly legible script with mixed upper and lower case demonstrated
• The difficulty in rating this writing is the fact that the candidate did not have any support and was responding to overly complex questions. The instructions in the form are not appropriate for a level 1 candidate as they are too difficult and request information beyond basic personal details; however the writer did attempt to answer them independently.

• Because of the conditions of the assessment it is difficult to make a conclusion about indicator 1.06 in particular. Some assessors might feel that because of the following two points the writing only provides evidence at pre level 1:
  • errors in word order which interfere with meaning. This is a particular gap in the writing
  • very few sentences demonstrate correct grammar and syntax
Create assessment items - considerations

Mode of delivery

• what **Format**?
  - interview
  - paper-based
  - online

• what **Item type**?
  - multiple choice
  - numeric response
  - drag & drop
  - matching
  - ordering
  - hotspot …
A good generic online Reading item

Is it a reflection of the framework?
  – relevance, coverage, level of difficulty

Does it engage the centrality of the text?
  – is it important, worth asking?
    – not answerable from general knowledge, common sense

Is the meaning of the task transparent?
  – direct, unambiguous wording

Is it presented on a ‘level playing field’ for the users?
  – avoid relying on background knowledge, local terminology …
Good Reading items - 1

• do not contradict or diminish the main strength of the text
• follow the development of the central issues of the text; not peripheral or trivial details
• are focussed and clearly point to the relevant section of the text
• do not overlap so that a penalty is only given once for an error: no two items should ask the same question, or focus on the same point, even in different guises
• stand alone: the possibility of answering one question correctly should not depend (even partly) on an understanding which has formed the basis of a previous question
Good Reading items - 2

• are as transparent as possible and should not be more difficult to read than the text
• may contain information that is related to, but not a part of the text
• are varied in style and format
• are expressed as positives: if it is necessary to use a negative item, draw attention to the negative word in the stem by presenting in **bold** type
• about vocabulary are directed at the meaning of the word in the context of the text, rather than general knowledge
• If multiple choice: have only **one**, indisputably correct key
Create Reading assessment items

Refer to the *Echidnas* handout

- One True/False
- One Multiple choice (4 options)
Perfection is elusive!

“Have no fear of perfection – you'll never reach it.”

Salvador Dalí