Good Questions
Meaningful Assessment

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Assessment

- Collecting data to make decisions about student learning
- It may be
  - Formative - what students have learned so far
  - Summative - what students have learned in total
A two-dimensional continuum
Impacts of Assessment

- **Students:**
  - Loss of learning time
  - Stress
  - Possible disengagement

- **You:**
  - Loss of teaching time
  - Time for writing, marking and interpreting data
What is it used for?

- Planning lessons/units of work
- Evaluating units of work
- Forming classes
- Preparing student reports
How well can you do these things with compromised data?
Quality Tests

- Discriminate
- Motivate students
- Make marking easier
- Provide valid and reliable data
- Develop you professionally
- Help you know your students
- Inform decision making about assessment and reporting
- Should not produce zero or full mark results
Framework

- Test Specifications
  - Focus: knowledge - skills - mix
  - Total mark and desired mark range
  - Number and types of questions

- Content
  - School Teaching programs … based on
  - State Curriculum … based on
  - National Curriculum

- Professional knowledge and judgment
What’s to an item?

Each type of tooth has a different purpose: incisors cut, canines rip, and molars grind.

A bandicoot is a small animal that eats insects.
The photograph shows the upper jaw and teeth of a bandicoot.

How many grinding teeth does a bandicoot have in its upper jaw?

<table>
<thead>
<tr>
<th>(A) 4</th>
<th>(B) 8</th>
<th>(C) 10</th>
<th>(D) 26</th>
</tr>
</thead>
</table>

Introduction

Stimulus

Stem

Options

Key

Distractors
Features of a Quality Item

- **Discrimination:**
  - On the basis of knowledge/understanding and skills

- **Validity:**
  - It measures what you claim it measures

- **Reliability:**
  - Similar results from different groups with the same preparation

- **Construct Validity:**
  - Measures ONE trait only
Writing questions

- The chicken and the egg…..
  - Which comes first, the question or the answer?
  - What response do you want from the students?
  - How do you get that response?
  - What is the response worth?

- Format
  - True/False and Multiple Choice have their place
  - Simplicity of marking v simplicity of writing

- Matching presentation
More than one way .......

- Electrons carry a charge of -1 (T/F)
- What is the charge on an electron?
  - (A) +1  (B) 0  (C) -1  (D) ?
More than one way .......

- The diagram represents an atom.

What is the charge on an electron?

http://www.glogster.com/media/5/19/56/38/19563827.jpg
More than one way …..

- What is the charge on an electron? ______
- Which row in the table correctly matches the subatomic particles with the charge that each one carries?

<table>
<thead>
<tr>
<th></th>
<th>Proton</th>
<th>Neutron</th>
<th>Electron</th>
</tr>
</thead>
<tbody>
<tr>
<td>(A)</td>
<td>+1</td>
<td>-1</td>
<td>0</td>
</tr>
<tr>
<td>(B)</td>
<td>+1</td>
<td>0</td>
<td>-1</td>
</tr>
<tr>
<td>(C)</td>
<td>-1</td>
<td>0</td>
<td>+1</td>
</tr>
<tr>
<td>(D)</td>
<td>-1</td>
<td>+1</td>
<td>0</td>
</tr>
</tbody>
</table>

- Name the three major subatomic particles and describe them in terms of their charge.
Basic steps-1a

- Design each item to measure an important learning outcome
  - *(is the question worth asking?)*
- Make sure that there is only one correct or clearly best answer
- Use quality stimulus-diagrams, graphs, tables
Basic steps-1b

- Express each item in simple clear language
  - Avoid
    - passive voice
    - ambiguity
    - vocabulary or jargon overload

- Make sure that each item is independent of all other items in the test.
Basic steps-2

- Present a single, clearly formulated problem in the stem of the item
- State the stem in positive terms wherever possible
- Avoid repetition of a word or term in the options, by including it in the stem or opening line of the answers
Basic steps-3a

- Make the distractors plausible and attractive
  - No ‘silly’ options
  - Make all options similar in appearance

- Make the optional responses grammatically consistent with the stem
  - gender
  - number
  - a/an
Basic steps-3b

- Present the options in some logical or systematic order
  - alphabetical/numerical
  - same order as in stimulus
  - increasing/decreasing length

- Avoid
  - specific determiners such as 'always', 'never', 'all', 'none' or 'only'
  - use of the option 'All of the above' or 'None of the above'
Basic steps-3c

- Make the options the same length, wherever possible
- Avoid similarity in both the stem and the correct answer
- Make sure that the options are not overlapping, inclusive or synonymous with one another