

Adapting multiple-choice items for group discussion

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Rose Hipkins (2006)

Multiple-choice items may be quite complex and challenging in the thinking sequences required. This strategy allows such items to be redeveloped for formative assessment.

We have used this strategy to redevelop some ARB multiple-choice questions that students found “very difficult”. Such questions may require a chain of reasoning and interpretation before students arrive at a choice of answer. By including discussion, teachers get an insight into the students’ thinking processes that lead to their final choice of answer. The strategy has some similarities to Concept Cartoons in that students discuss the alternatives provided.

When to use

Use when the initial information and/or distractors for a multiple choice question need discussion and analysis before an answer is reached, or where more than one answer may be at least partially correct.

It can be used for:

- checking students' ability to interpret data (e.g. complex tables and charts);
- checking students' ability to draw evidence-based conclusions;
- assessing transfer – that is, students' ability to apply concepts to new contexts;
- encouraging students to clarify values and priorities.

The theory

Socio-cultural learning theory draws attention to the power of shared thinking. When students work together to solve a problem or address an issue, the different ideas they bring may help them forge new understandings that go beyond what they could accomplish alone. Different background experiences can be shared and diverse details of the problem or issue are more likely to be brought to notice and discussed.

How the strategy works

As well as providing teachers with information about students' thinking, students are supported to self-regulate in the following ways:

- Evaluating the distractors provided and listening to others' ideas helps students to begin evaluating their own reasoning processes (and values if relevant).
- Preliminary discussion questions may alert students to possible interpretation strategies and encourage them to think about the ones they are using. This is a "meta" level or thinking about thinking focus.
- Generating discussion often motivates students to want to find out more about an issue.

What to do

1. Choose an interesting but complex multiple-choice question.
2. Analyse the reasoning processes needed to arrive at an answer.
3. Based on this analysis, create preliminary questions that draw attention to salient features of the information provided, and/or assess students' ability to process data. Shape these as simple discussion questions that support them to "unpack" the source material provided – for example by asking questions that draw attention to details in tables or graphs.
4. Ensure that the discussion builds towards analysis of the actual multiple-choice question in a way that encourages students to say why they selected their preferred answer.
5. Old examinations papers and tests can be a good source of appropriate questions to adapt.

Limitations

- Oral responses need to be managed so other group members do not initially influence students. (Use Think-Pair-Share, for example, before sharing with the whole group.)
- Some students may have difficulty explaining their reasoning.
- Analysis needed to redesign the question takes time. Discussions can go in directions not anticipated by the distractors.

Examples of ARB resources that have been adapted from multiple-choice questions to discussion questions

Science

Body temperatures

Maths

A similar strategy in mathematics is described in *Classroom Discourse (Mathematics)*

Published on *Assessment Resource Banks* (<https://arbs.nzcer.org.nz>)