Progressive disclosure

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Juliet Twist (2007)

A text (written, oral, or visual) is revealed progressively, e.g., sentence by sentence, paragraph by paragraph, verse by verse, section by section (in the visual arts), phrase by phrase (in music), or element by element (in mathematical problem solving). As each new piece of narrowly focused information is revealed, students integrate it with previously revealed information (and their prior knowledge) to thoroughly and systematically build up an understanding of the text as a whole.

When to use

Progressive disclosure provides an authentic context for assessing students' use of

- Comprehension strategies (reading, listening, and viewing)
- Critical thinking (analysing or evaluating information, particularly statements that have been claimed to be true)
- Meta-cognition (what individuals know about their own thinking)

The Theory

Progressive disclosure is part of the wider Problem-based Learning theory (PBL) (Hmelo-Silver & Barrows, 2006). PBL refers to approaches to learning that are driven by a process of inquiry.

Progressive disclosure has close associations with Cognitive Load Theory (Sweller, 1998). Cognitive load refers to the load on working memory during problem-solving, i.e., the more things a person has to think about at any one time, the more difficult it is for them to process information. Progressive disclosure minimises cognitive load.

How the strategy works

Because students analyse narrow or targeted pieces of a text and also synthesise what they learn from across the whole text, they and their teachers are able to gain insight into their thinking at various levels of the text, e.g., sentence, paragraph, and whole text level.

What to do

- Develop the learning intention.
- Progressively reveal sections of the text, e.g., a narrative, poem, science explanation, photograph, film, mathematical problem, piece of music, or a play/dance rehearsal.
- As each section of text is revealed: guide student thinking with questions related to the learning intention; support them to make their thinking explicit by discussing what they know and identifying the evidence they have to support that knowledge; discuss any questions the text raises; support them to integrate new and previously known information, and to refine their thinking in light of new information where necessary.

When analysing student responses, look for:

- Evidence used and neglected
- Integration of evidence, e.g., within and across sentences and paragraphs, and across the text as a whole
- Revision of thinking in light of new evidence

- Meta-cognition
- Critical thinking; and
- Engagement with the task

Limitations

- The process can become laborious if the text is long: spread the lesson over a number of sessions; have groups or individuals take responsibility for analysing particular sections of text then integrate those sections as a whole class (e.g., Jigsaw learning); or do some of the work for the students yourself.
- If students do not have the meta-language (the language we use to discuss language itself) needed to discuss how texts are constructed and what they mean, this strategy will be of limited use.

The resources are from the English bank and cover levels 2-5. They assess the comprehension strategy of inference, and involve the progressive disclosure of poems.

Link to the *set* article, *How students interpret poetry: findings from Assessment Resource Banks trials*.

References

Hmelo-Silver, C. & Barrows, H.S. (2006). Goals and strategies of a problem-based learning facilitator. *Interdisciplinary Journal of Problem-based Learning*. 1, 1, 21-39.

Goals and Strategies of a Problem-based Learning Facilitator. This paper describes an analysis of facilitation of a student-centred problem-based learning group.

Sweller, J. (1998). Cognitive load during problem solving: Effects on learning. *Cognitive Science*. 12, 1, 257-285.

Examples of ARB resources that use progressive disclosure

Resource List

- If I were...
- What or who are they?
- What is Susan making?
- What or who am I?
- Fat, four-eyed and useless
- What is this tiny thing?
- Memory
- What is it?
- Tangiwai
- Cuthbert's Babies
- Voices in the Park
- What could it be?
- Boy's Song
- What are "they"?
- Which one am I? (1)
- Which animal am I?
- Which one am I? (2)
- Fat, four-eyed and useless II