

Design Principle: Preparing the mind of the learner

Principle:

Prepare the mind of the learner to be receptive to new audiovisual information, by generating a sense of anticipation, a need to answer questions, and motivation to gain new insight – in other words, make the learning experience an active process, rather than a passive one.

Rationale:

The multimedia information-processing model suggests prior learning influences attention to new information. Bringing relevant, prior knowledge in the long-term memory to the surface can be done by:

- starting with a chemical demonstration of a reaction or observation – ideally a bit surprising, or leading to a cognitive conflict – that is, a puzzling phenomenon of some kind. The idea is for the visualisation to explain something the student did not know already
- prompt the student to communicate prior ideas of what might happen in the animation, and in the process build a sense of anticipation. Storyboarding has been a successful strategy used by many groups in our project. Peer discussion is another way.
- if students are familiar with the type of animation, ask questions that encourage prediction of what they might expect to see

Demonstration:

In the demonstration of the *VisChem Learning Design*¹ we start by showing students a video of the reaction that occurs when copper metal is exposed to aqueous silver nitrate. After the observations are made explicit, the student is asked to explain the observations in terms of structures and processes at the molecular level, using a storyboard.

[Click here](#) to see the learning design sequence used in our study.

¹ Go to www.learningdesigns.uow.edu.au/exemplars/info/LD9/index.html for details.