

RESEARCH INTO PRACTICE: VISUALIZING THE MOLECULAR WORLD USING A COGNITIVE LEARNING MODEL

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ABSTRACT

My early experience with students, confirmed by the chemical education literature, indicated student misconceptions and difficulties in chemistry stem from an inability to visualize the invisible molecular world. To address this challenge I developed an integrated suite of molecular-level animations in our *VisChem* project in the mid-90s. However, I quickly realised that you cannot change a student's mental model at this level by simply *showing* animations that portray *our* expert models of this world, and then just expect novices to adopt them for understanding chemistry concepts.

This started my journey to develop and evaluate learning designs (Tasker & Dalton, 2006) to enable students to engage with and learn from multimedia resources, based on an information-processing model consistent with the latest research in cognitive science. The most successful learning design is demonstrated here – <http://www.youtube.com/watch?v=l7Hrj0hiWS8>.

REFERENCES

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