MULTIMODAL REPRESENTATIONS IN CHEMISTRY EDUCATION: EXPLORING STUDENT CONCEPTIONS OF RESONANCE THEORY THROUGH REPRESENTATIONAL SEQUENCING

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BACKGROUND
Chemistry utilises multimodal representations to visualise abstract concepts and phenomena occurring at a molecular level. Due to the abstract nature of the topic, students often develop misconceptions involving resonance theory. Misconceptions can arise due to the representations used to convey the phenomena and student's interpretation of each representation. Research has been dedicated to developing multimodal representations to better assist students' representational competency and learning. However, there has been minimal consideration regarding the sequencing of each representation and whether this has an impact on student learning.

AIMS
To investigate the effect the sequence of representations has on student perceptions of resonance theory.

METHODS
Semi-structured, 'think aloud' interviews were implemented to investigate students' internal representations of resonance concepts and determine students' perceptions of multimodal representations (Patton, 2002; Herrington & Daubenmire, 2014). Additionally, student feedback on the order of which they were presented with each representation was used to develop a final learning module to optimise learning with multimodal representations.

REFERENCES
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