HOW CAN A VIRTUAL REALITY ENVIRONMENT ALLOW FOR TRANSFERABLE LEARNING IN SCIENCE?

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Virtual reality (VR) is already providing the ability for students to have direct interactions with content in its ability to convert conceptual knowledge into reality. A VR environment can serve as a platform to further extend students understanding by allowing for exchangeable content that is co-created by students and their lecturers.

We discuss how to achieve this using a modular VR platform which can be modified without needing VR programming expertise, containing customised content to create interactive learning experiences to serve various STEM subjects.

For example, for students to study electromagnetism, a physics concept known to be difficult and counter-intuitive for students to understand, designing an environment where students can create and experience their own understanding is key. Here lecturers will provide a library of fields/operations and students draw from the library to see the phenomena in action, thus solving, testing and resolving interactions as a way to tacitly understand concepts.

Having an environment that can be built to accommodate not only physics, but through scaffolded design allows students from chemistry, biochemistry or mathematics to be similarly engaged in the disciplinary content, creates transference not only between subjects but also into the real world.