



Influence of the use of 3D printing technology for teaching chemistry in STEM disciplines

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Abstract Problems

Chemistry involves recognizing abstract theories that are difficult for students to conceptualize. 3D printing can "help students better visualize molecular structures."

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3D & Kinaesthetic Learning

Students are often expected to convert 2D models to 3D models in Chemistry. Physical representations allow students to experience 3D representations of molecules in real time.

3

Cost

Molecular models have been developed for commercial use, but often do not provide enough material for each student to use. Additionally, they can be expensive. 3D printing can solve both of these problems

4

Limitations

Students must be able to quickly recognize basic chemistry concepts such as the structure of the periodic table, and electro-negativity. Access to 3D printers and printing materials may be limited.

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The Study

By using 3D printed molecular structures, Trujillo-Cayado shows a decrease in failing grades in an exam from 77.6% to 20.8%.

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In my practice

My school has access to a 3D printer. I could use this to create models of centripetal force, like the "no spill cupholder"