Review of: "Implementing Simulation Software to Develop Virtual Experiments in Undergraduate Chemical Engineering Education"

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Potential competing interests: No potential competing interests to declare.

Implementing Simulation Software to Develop Virtual Experiments in Undergraduate Chemical Engineering Education

The manuscript presents a collection of case studies in UNISIM and MATLAB/SIMULINK for undergraduate chemical engineering education. The study includes an assessment methodology for learning outcomes. The manuscript is well-written, easy to read, and could interest a wide audience. Using simulation tools like those described in the manuscript has become routine in chemical engineering education. The presented case studies are described in sufficient detail and are low-to-medium complexity tasks. The most interesting part of the study is the assessment of learning outcomes. Unfortunately, this is not described in sufficient detail. Here are some recommendations for a stronger paper.

Include a case study for open-source DWSIM software, highlighting the differences between UNISIM and the pedagogical possibilities.

Use a table to summarize key information in the introduction. Supporting the same statement with several references makes it difficult for the reader to look for specific information in the provided literature. Try to avoid this, especially in the introduction.

The manuscript should include a revision of assessment methodologies for virtual experiments in the introduction.

Section three is very important and should be described in more detail. Which aspects of the implementation require improvement, and which aspects turn out as expected? Include a reflection on the next research steps and progress in this field. What about virtual reality and artificial intelligence?