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

Teodora Hristova[1]

1 University of Mining and Geology "St. Ivan Rils"

Potential competing interests: No potential competing interests to declare.

The topic is suitable for the journal. There is a thorough review. The author has achieved results. Using sources from previous years makes a good impression. It is necessary to have more from the last 2-3 years.

The tables are clear and informative.

The purpose of the article is to study the results of applying a virtual chemistry laboratory in distance learning.

I have the following remarks:

1. One citation of the authors without Soumen's involvement is noted.

2. The English text needs correction.

3. Missing sources from the last year.

4. Enrich the introduction with https://doi.org/10.20368/1971-8829/1135420 and DOI10.18178/ijeetc.11.5.373-384. Data are given not only on the benefits but also on the harms when applying a virtual laboratory. Success rates with different teaching methods are discussed.

5. To explain positive and negative feedback in 2.3.1.

6. To give the meaning and influence of each of the components of the PID regulator. Only the proportional component is discussed, and the integral and differential must be defined separately. Together they are described.

7. The experiment of 2.3.3. needs an explanation regarding the fluctuations in damping curves according to the stability of the process itself from the point of view of automation and obtaining chemically pure substances.

8. Fig. 9 and 10 – both experiments have the same coefficients of the proportional and integral components.

9. Figures 11 and 12 have the same coefficients of the proportional and integral components again.