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Virtual Chemistry Laboratory as Pre-Lab Experiences: Stimulating Student's Prediction Skill

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Abstract : Students Prediction Skill in chemistry experiments is an important skill for pre-service chemistry students to stimulate students reflective thinking at each stage of many chemistry experiments, qualitatively and quantitatively. A Virtual Chemistry Laboratory was designed to give students opportunities and times to practicing many kinds of chemistry experiments repeatedly, everywhere and anytime, before they do a real experiment. The Virtual Chemistry Laboratory content was constructed using the Model of Educational Reconstruction and developed to enhance students ability to predicted the experiment results and analyzed the cause of error, calculating the accuracy and precision with carefully in using chemicals. This research showed students changing in making a decision and extremely beware with accuracy, but still had a low concern in precision. It enhancing students level of reflective thinking skill related to their prediction skill 1 until 2 stage in average. Most of them could predict the characteristics of the product in experiment, and even the result will going to be an error. In addition, they take experiments more seriously and curiously about the experiment results. This study recommends for a different subject matter to provide more opportunities for students to learn about other kinds of chemistry experiments design.

Keywords : virtual chemistry laboratory, chemistry experiments, prediction skill, pre-lab experiences
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