Virtual Simulations for Technical Training: Opportunities for Both Domestic & International Settings

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Abstract

Vocational education internationally and career and technical education in the United States, can be defined as training that prepares individuals to work in the technical area of the food and fiber industry. Hands-on training is relied upon to prepare students with skills to operate complicated machinery, understand intricate processes, and is critical in preparing the global workforce. However, these hands-on activities often require access to expensive equipment and due to limited resources, are frequently either not available or substantially reduced. This can be especially true in international settings. Virtual simulations can be an excellent method of providing instruction for complicated material.

The purpose of this poster presentation was to visually depict how simulations have been successfully used to teach “shop” and “laboratory” activities for career and technical education. A summary of simulations use in multiple settings will be provided, including: 1.) integration of simulations with current materials, 2.) student learning and reaction, and 3.) recommendations for working with local companies/businesses/agencies to extend simulations to real-life work environments.

There is a definite need for individuals with vocational and technical education worldwide; however, providing these skills can be complicated and expensive. The use of virtual simulations is an alternative and given that the simulations are available in six languages, expanded opportunities exist. The educational importance focuses on informing those working in international settings of the potential for simulations to enhance and expand training across vocational and technical education.

Keywords: virtual simulations; career & technical education; agricultural engineering