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Improving Learning and Teaching of Software Packages among Engineering Students

Authors : Sara Moridpour

Abstract : To meet emerging industry needs, engineering students must learn different software packages and enhance their computational skills. Traditionally, face-to-face is selected as the preferred approach to teaching software packages. Face-to-face tutorials and workshops provide an interactive environment for learning software packages where the students can communicate with the teacher and interact with other students, evaluate their skills, and receive feedback. However, COVID-19 significantly limited face-to-face learning and teaching activities at universities. Worldwide lockdowns and the shift to online and remote learning and teaching provided the opportunity to introduce different strategies to enhance the interaction among students and teachers in online and virtual environments and improve the learning and teaching of software packages in online and blended teaching methods. This paper introduces a blended strategy to teach engineering software packages to undergraduate students. This article evaluates the effectiveness of the proposed blended learning and teaching strategy in students' learning by comparing the impact of face-to-face, online and the proposed blended environments on students' software skills. The paper evaluates the students' software skills and their software learning through an authentic assignment. According to the results, the proposed blended teaching strategy successfully improves the software learning experience among undergraduate engineering students.

Keywords : teaching software packages, undergraduate students, blended learning and teaching, authentic assessment
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