Teaching Students Basic Programming Skills for Building Psychological Experiments through Online Learning Modules

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Abstract:

Aligning with the goal of the Discovery-enriched Curriculum, engagement of Psychology students with experimental research offers them an opportunity to make an original discovery of new knowledge. However, acquisition of basic computer programming skills for designing experiments and analyzing data is a pre-requisite for implementing research in real life. This project aims at designing an online workshop with a scaffolding exercise to facilitate students' acquisition of the basic programming technique required for psychological experiments. The proposed online workshop will include learning modules for (1) designing basic reaction time and response accuracy experiments using a software called Paradigm, (2) organizing data using Excel, (3) analyzing data using SPSS, and (4) an integrated practice exercises. With the help of technology, this online workshop will allow students to self-learn basic technical programming skills easily at their own pace anywhere. After the taking the online workshop, students will be able to create simple psychological experiments in Paradigm. This online workshop will be made available to all psychology students and teaching staff. It will enable instructors in big class (class size of 80) to assign hands-on project-based assignments involving design and implementation of simple psychological experiments. By lowering the initial learning cost, this online workshop will also motivate students who are reluctant to pursue experimental research for their final year project.