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Developing an online multi-modal research methods training: A way to help students overcome challenges in understanding and designing research

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Abstract:

Students' high anxiety level and low self-confidence in learning research methods have been evidenced in past research (e.g., Nind et al., 2019; Papanastasiou & Zembylas, 2008). This hinders their ability to discover through scientific research, which is an important path to find creative solutions to real-world problems. One of the major hurdles that the students encountered is on comprehending various research methodologies presented in journal articles, and applying these methodologies to investigate their own ideas. Learning activities designed to target these roots of difficulties are needed. Therefore, this proposed project aims to develop an online platform to assess and train our students' skills of comprehending the methodologies in journal articles, and transferring this knowledge to their new research ideas.

Psychology, as a scientific subject, emphasizes empirical evidence in enhancing our understanding of human mind and behaviors. Scientific research is a key component of our Psychology undergraduate curriculum. Our undergraduate students are required to consult journal articles in order to learn about different methodologies. However, they may encounter difficulties in fully understanding these methodologies described, mainly in written text only, in the journal articles. To ensure and promote our students' accuracy in comprehending the methodologies described in research articles, our team will develop an innovative visual literacy training that assesses and trains students' skills of comprehending various major methodologies in psychology journals. The visual literacy training makes use of visual images to help the students enhance their understanding of the methodologies written in text.

The training will be conducted through online mode, which is cost-effective and suitable for the challenging situation we are currently facing with Covid-19. Students who have received the training are expected to have better knowledge of the methodologies, such as experimental set-ups, of different research studies and can better evaluate research findings and design their own experiments. Materials and findings from this project will yield a comprehensive protocol of the visual literacy training, with a good selection of texts that describe various major methodologies of psychological research and the solutions to our students' major hurdles in the comprehension and application of the research methods.

These project outcomes will be made available to all students and teaching staff interested in psychology through a project website. The outcomes of this project will benefit various courses in



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psychology, from group projects in courses to individual final year projects. Through enhancing our students' essential skills to make discovery and test creative ideas, this project will contribute to strengthen the teaching-research nexus, and incorporate problem-based learning and research elements in our curriculum, which equip our students with the skills to search for creative solutions to real-world problems, aligning with the strategic plans of CityU.