

## **Flipped Classroom in Bioethics Education: A Blended and Interactive Online Learning Courseware That Enhances Active Learning and Student Engagement**

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**Abstract :** In this study, a blended and interactive e-learning Courseware that our team developed will be introduced, and our team's experiences on how the e-learning Courseware and the flipped classroom benefit student learning in bioethics in the medical program will be shared. This study is a continuation of the previously established study, which provides a summary of the well-developed e-learning Courseware in a blended learning approach and an update on its efficiency and efficacy. First, a collection of animated videos capturing selected topics of bioethics and related ethical issues and dilemma will be introduced. Next, a selection of problem-based learning videos ("simulated doctor-patient role play") with pop-up questions and discussions will be further discussed. Our recent findings demonstrated that these activities launched by the Courseware strongly engaged students in bioethics education and enhanced students' critical thinking and creativity, which were consistent with the previous data in the preliminary studies. Moreover, the educational benefits of the online art exhibition, art jamming, and competition will be discussed, through which students could express bioethics through arts and enrich their learning in medical research in an interactive, fun, and entertaining way, strengthening their interests in bioethics. Furthermore, online survey questionnaires and focus group interviews were conducted. Consistent with the preliminary studies, our results indicated that implementing the e-learning Courseware with a flipped classroom in bioethics education enhanced both active learning and student engagement. In conclusion, our Courseware not only reinforces education in art, bioethics, and medicine but also benefits students in understanding and critical thinking in socio-ethical issues and serves as a valuable learning tool in bioethics teaching and learning.

**Keywords :** bioethics, courseware, e-learning, flipped classroom

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