

Teachers of the general education foundation course UGFN1000 “In Dialogue with Nature” have produced a series of micro-modules, with a total of 134 videos hosted on KEEP, to supplement the students with basic science knowledge as well as further historical and technical background knowledge related to the core questions. This project is to evaluate the effects and risks of micro-modules implementation in both quantitative and qualitative approaches.

Quantitative Study

Students who have watched the micro-modules were invited to participate in an online survey. From the 55 valid responses, students generally thought that the micro-modules helped them to attain the intended learning outcomes (ratings ranged from 4.02 to 4.33 in a 6-point Likert scale). Students also thought that watching micro-modules enhanced their understanding of the text (4.51), allowed them to have in-depth reflection (4.18), enhanced their performance in tutorial discussion (4.11), and in some degree enriched the materials for their written assignments (3.78). Regarding the potential risks of micro-modules implementation, students did not think that watching micro-modules had negative impacts to their lecture attendance, motivation to read and discussion with fellow classmates and teacher (ratings ranged from 2.29 to 2.47). Moreover, a longitudinal analysis of the Course and Teaching Evaluation results did not show much difference before and after implementing the micro-modules on KEEP, on items such as effective communication, lecture and tutorial attendance, assigned text read and discussion with teacher.

Interview Study

A total of 17 students have joined an interview study to express their views towards the effects and risks of micro-modules implementation in UGFN1000. Most students recalled that they watched the micro-modules after lecture and before tutorial discussion. All interviewees reported that watching micro-modules had no negative impacts to their lecture attendance, as they recognized that lecture focused on the assigned texts while micro-modules are more about basic science knowledge and extended discussion. All interviewees also thought that watching micro-modules did not discourage them from reading the assigned texts, with 3 of them even reported that they had more motivation to read. A majority of interviewees (70.6%) opined that watching micro-modules helped them better understand the assigned texts, with the major reason that the fundamental concepts in the texts were covered in the micro-modules. More than half of the interviewees (58.8%) expressed that the micro-modules enhanced their tutorial discussion. 7 of them claimed that understanding the basic concepts through watching micro-modules could help them better engage during the discussion. Regarding discussion with teachers, no students claimed that watching micro-modules discouraged them to discuss with teacher, with 2 of them showing increased motivation to discuss with teachers. For written assignment, around one-fourth of the interviewees found the micro-modules useful, as students thought that micro-modules provided them with a solid background and concrete examples for constructing their papers. There are several unexpected positive impacts identified during the interview, which includes learning and recalling scientific knowledge not directly

related to the assigned texts, increasing interests to science-related issues and increasing understanding and appreciation towards Chinese science and medicine.

Conclusion

Overall, both the quantitative analysis and interview study showed that micro-modules implementation in UGFN1000 is effective, and no apparent risks have been identified.