

Science Education Through Dialogue

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Abstract

Traditional science education in universities typically involves lectures and laboratory sessions to convey knowledge to students. At The Chinese University of Hong Kong (CUHK), an “experiment” was initiated in 2012 to teach science to all undergraduates through oral discussion. Another trial was launched in 2020 to cultivate science communication skills among life sciences majors. In this presentation, the implementation, evaluation, and reflections on these two “experiments” will be discussed.

In the first “experiment,” a science-related general education course, *In Dialogue with Nature* (UGFN), was made compulsory for all undergraduate students at CUHK. Students were asked to read science classics such as Isaac Newton’s *Principia* and Charles Darwin’s *On the Origin of Species*, and to participate in a weekly two-hour, teacher-led tutorial discussion. The discussions covered scientific knowledge, the nature of science, scientific methods, and the impact of scientific knowledge on individuals and society. The course was well received by students and offered them a different perspective on science.

In the second “experiment,” a self-selected group of senior life sciences students enrolled in the *Science Communication Training Scheme*. The training included science communication theories, practical skills, museum visits, and demonstrations by experts. These students then led experimental workshops for UGFN students to put theory into practice. For example, an antibiotic-resistance selection experiment related to Darwin’s text was conducted. During the workshops, the senior life sciences students had opportunities to communicate scientific concepts to non-science majors, allowing them to refine their communication skills. The training scheme was also well received, and the intended learning outcomes were achieved.