

Science Technology Engineering and Mathematics (STEM) is the future direction of innovative science education in Hong Kong. As Biochemistry is the core discipline of life sciences, the education of Biochemistry is particularly important for the development of life sciences and other relative innovations. In the past few years, Biochemistry Programme has initiated the use of e-learning, including flipped classroom and virtual reality, for the education of Biochemistry. In particular, Biochemistry Programme has developed a comprehensive e-learning platform 'LEARNBIOCHEM' to support the flipped-classroom pedagogy.[1] It is the first comprehensive e-platform for a major undergraduate programme in CUHK and among local life sciences departments for teaching and learning biochemistry. Currently it provides a variety of e-learning materials (e.g. video clips, animations, virtual labs, etc.) which are organized into eight modules.

It started with a simple idea of employing internet technology to facilitate the teaching of laboratory techniques in 2008 and now has developed into a fully-fledged e-learning platform for more than 200 students. Over the years, the activity has attracted the involvement of more Biochemistry teaching staff and covered the teaching of more than 70% of the major courses offered by the Biochemistry Programme, with influence to other life sciences programmes. With the implementation of e-learning pedagogy in biochemistry education for almost 10 years, this project is conceived to (i) evaluate its teaching and learning effectiveness, (ii) identify new educational technologies for content development, and to (iii) consolidate the experience for future pedagogical design.