

Quality Education Fund Thematic Networks – Tertiary Institutes (2023/24)

Project Title:

Self-directed Learning as a Strategy to Promote STEAM Education

1. Objectives

The project aims:

- to support participating schools in strategic planning and implementation of STEAM-related lessons and curriculum using a whole-school approach
- to strengthen curriculum leadership, foster collaboration across STEAM-related KLAS/subjects such as Mathematics Education, Science Education/General Studies and Technology Education
- to enhance teachers' professional capacity in adopting self-directed learning (SDL) as a strategy to promote STEAM education
- to strengthen students' ability to integrate and apply knowledge and skills across different subject disciplines to unleash their innovation, and to help them develop positive values
- to provide professional views and technical solutions in field of STEAM including electronics and robotics

2. Foci of Support

- To support participating schools in designing learning and teaching strategies related to STEAM education
- To support the development of learning activities relating to STEAM education that integrate knowledge, skills and attitudes to help students develop positive values
- To support the development of school-based resources and promote activities for the successful implementation of STEAM education and SDL
- To help teachers understand the objectives and principles of STEAM education and SDL through teacher professional development programmes
- To provide consultancy service to participating schools to create the environment and space that is suitable for the implementation of STEAM education, such as setting up a STEAM Lab or cross-science subject laboratories for STEAM education and SDL
- To focus on, but not limited to, the following themes: robotics and sensors, 3D and VR technologies, coding and computational thinking, science project learning, artificial intelligence, smart city, e-learning

3. Modes of Support

- To provide onsite support and conduct lesson study including collaborative lesson planning, lesson observation and post-lesson discussion, school consultancy services to each participating school, meeting with the STEAM education team to develop and implement school STEAM education curriculum
- To conduct networking activities, exchange activities among participating schools to share experience and good practices, e.g. sharing sessions, open lessons, learning community meetings and exhibitions

- Teacher training workshops at the University of Hong Kong to equip participating schools with knowledge relating to STEAM education and SDL
- To arrange project learning competitions to foster students' learning interest in STEAM education

4. Points to note

- The duration of the support services normally lasts for one year
- The school STEAM education team actively participate in pre-lesson preparation, lesson observation and teacher training activities of the project, formulate school-based objectives and conduct corresponding assessments and reviews, and establish a long-term development plan and direction in STEAM education
- Participating schools nominate one teacher-in-charge to liaise with the support team and the related Curriculum Development Officer
- Participating schools arrange regular timeslots for teachers concerned to attend meetings and participate in various professional development activities, e.g. collaborative lesson planning
- Participating schools attend two Executive Committee (EC) meetings and an annual dissemination seminar to share the good practices generated and effective ways to cope with challenges encountered
- Participating teachers share with other teachers their experiences in school curriculum development and the materials and resources they develop, e.g. work plans, learning and teaching materials, research reports and student work. (The copyright of these materials will be owned by the Quality Education Fund.)
- Participating schools should comply with relevant laws, such as compliance with the Copyright Ordinance in developing school-based learning and teaching materials
- Please visit the project website (<https://elearning.eee.hku.hk/stem/>) and QEF website (<https://qcrc.qef.org.hk/en/fund/activity.php?cate=7>) for details

5. Support Service Coordinator

School-based Professional Support Section, Curriculum Support Division, Education Bureau