Name of Quality Education Fund Thematic Network (QTN)
Developing and Promoting an Effective Learning Community for STEM Education - "Learning, Applying, Getting Feedback & Enhancing STEM Education"

1. **QTN Co-ordinator**
   Shun Tak Fraternal Association Yung Yau College

2. **Address of QTN Co-ordinator**
   Tin Heng Estate, Tin Shui Wai, Yuen Long, New Territories

3. **Beneficiaries**
   4 Secondary and Primary schools

4. **Objective(s)**
   This QTN aims at :
   - Enhancing teaching effectiveness in Science, Technology, Mathematics (STEM) and innovation;
   - Establishing an interactive learning community to promote cross-school professional academic exchange, further enhancing the effectiveness of STEM education in Hong Kong;
   - Solidifying STEM knowledge of students from participating schools;
   - Enabling participating schools to further carry out STEM education and develop school-based teaching and learning modes in the future; and
   - Promoting to other schools to enhance STEM education in Hong Kong

5. **Foci of Support**
   - Curriculum :
     1. IT courseware production;
     2. IoT science and technology course;
     3. School-based STEM lesson plan design, and
     4. Robotics course.
   - Classroom teaching :
     - AR courseware production, VR courseware production, 3D printing technology;
     - Micro:bit programming, Arduino programming, application of sensors;
     - School-based STEM curriculum development (including: lesson plans, teaching kits, teaching materials); and
     - Robotics course (Theory), Robotics course (Practical), Robotics course (Task-based)
   - Learning tasks and materials :
     1. School-based STEM curriculum teaching kits;
     2. IT courseware production teaching guide(s);
     3. IoT development teaching guide(s); and
     4. Robotics teaching guide(s)

6. Mode of Support

- According to the needs of STEM development of the participating schools, the following key learning will be shared through workshops and teachers' lesson study :
  1. How to produce AR coursewares and manage AR applications;
  2. How to carry out 3D printing;
  3. How to carry out 360 photography and produce VR coursewares;
  4. How to use Micro:bit and Arduino to program and apply different sensors to build an IoT system; and
  5. How to design school-based STEM curriculum with existing teaching materials;
- IoT Joint School Competition;
- Establish the culture and the practice of lesson study through :
  1. Initial discussion;
  2. Periodic review;
  3. Cross-school lesson preparation; and
  4. Cross-school lesson observation;
- Establish a STEM material discussion group to facilitate communication between schools; and
- On-site Teachers' Development Day

7. Points to be noted by Participating Schools

To make the best use of the support services, participating schools are required to :

- Build a STEM education team;
- Sustain development of school-based STEM education and promote STEM to other schools; and
- Attend two Executive Committee (EC) meetings and an annual dissemination seminar to share the good practices derived and challenges faced.

8. Enquiries

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