

Po Leung Kuk Vicwood K.T. Chong Sixth Form College
Report of Use of One-off STEM Grant for Secondary Schools

In response to the Overview “Promotion of STEM Education – Unleashing Potential in Innovation” published by Curriculum Development Council dated on November 2015, our school had formed STEAM Education Committee (SEC) to promote STEM Education holistically starting from school year 2017/18

The plan of our committee are as follow:

Strategy 1: Provide regular training and join STEM related competitions

Aim:

- Enrich gifted students by implementing more hands-on experiences.
- Increase student’s problem solving skills and innovative thinking.
- Prepare students to obtain higher performance in public exam.

Action:

- 1.1 Attend completions that required instant problem solving skills
- 1.2 Attend completions involve students innovative thinking
- 1.3 Attend academic based completions.

Strategy 2: Develop a STEM environment in KTC

STEM environment was consider to divide into 3 tires

Tire 1: *Steam in individuals*

Aim:

- to provide varies exposure in STEM area and arouse their interest
- Look for further development in their career planning

Action:

- 2.1.1 Organizing varies workshop such as robotics for students
- 2.1.2 Align with CLPC and promote STEM related career such as engineer, architecture, programmer, etc. Related program: degree and sub-degree taster program, department or faculty visit, alumni sharing, career talk, career exhibition, study tour

Tire 2: *Steam in our Community*

Aim:

- Relate STEM to our community
- Increase the sense of belonging to our community through using STEM to help our community
- Enhance student’s problem solving skills

Action:

- 2.2.1 Improve our school environment through student’s innovations.
- 2.2.2 Discuss social issue and look for STEM idea to solve social issue such as helping elderlies or disabilities, hygiene management.

Tire 3: *Steam in our World*

Aim:

- Relate **STEAM** to our world
- Educate important value related to our world and life such as: (1) environmental protection, (2) sustainability of human activities, (3) caring people in need and (4) admiring life

Action:

- 2.3.1 Promote understanding in sustainability by constructing Biosystems.
- 2.3.2 Discuss how human activities affect our world and raise awareness environmental protection by improving school recycling system and planning varies strategies.

Strategy 3 Provide a makerspace for students who participating in STEM activities

Aim:

- Provide students spaces for STEM discussion, competition preparation and workshop

Action

- 3.1 Bring in varies equipment for STEM design such as 3D Printer.
- 3.2 Introduce robotics devices such as MBot, microbit and organizing workshop.
- 3.3 Arrange places for students to work for their STEM ideas.

Budget on the STEM grant 2018/19

1 Air Drone and related protective equipment	10,000
2 Arduino	8,000
3 Laser Cutter	35,000
4 Competition related materials	44,300
5 Internal school activities/workshops	29,300

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Major Strategies	Activities	Expenditure (\$)	Evaluation / Result
Provide regular training and join STEM related competitions	<ol style="list-style-type: none"> 1. 2019 Robofest – Competition fee 2. 2019 Robofest – Related materials 3. HK Biology Literacy Award 	<p>71,800.00</p> <p>3,868.80</p> <p>300.00</p>	The team won the 2 nd runner-up in Robofest – Bottlesummo (ultimate) and entered the international competition held in the U.S. The team travelled to the U.S. in May for the competition. Students thought that the trip widened their views on technological ideas and enriched their life experience.
Develop a STEM environment in KTC	<ol style="list-style-type: none"> 1. School based workshop – sustainable aquatic system 2. School based workshop – understanding air drone 3. School based workshop – Robofootball game 	<p>1,125.00</p> <p>9,147.00</p> <p>0.00</p>	Several workshops were conducted in both the first and the second term. Most of the students enjoyed the activities held in the workshops.
Provide a makerspace for students who participate in STEM activities	<ol style="list-style-type: none"> 1. Micro:bit 2. mBot 	<p>16,470.00</p> <p>26,232.00</p>	Items purchased were fully utilized in different workshops and competition preparation.
	Total	128,942.80	