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Summer STEM Workshop - August 2017

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Evergreen Education Foundation held a three-day Summer STEM Workshop at the Mushroom Cloud Makerspace in Shanghai, China from August 11th -13th, 2017.

The Purpose: This workshop aims to provide a platform in bringing more opportunities to a broader range of EEF teachers to learn more about Maker Education. This workshop allows teachers to acquire Design Thinking and Maker knowledge they need to facilitate their students Design Thinking, Maker Culture, and Maker Movement, thus enhance the development of the Maker education in rural areas in China.

The Attendees: This program has attracted 30 teachers from 9 rural high schools in China. These participants have a wide range of backgrounds. Their majors span from Physics, Chemistry, Computer & Information Technology, and Biology to Chinese, English, Politics, and History. Twenty-five teachers have participated previous relevant workshops and the EEF/DFRobot Swap programs.

The Facilitators: Facilitators in the workshop are Mr. Paul Chan, the founder & principal consultant of PaulDesign; Mr. Ken Yip, the founder & CEO of Movie Marketing Co.; Ms. Juice Ju, operations manager of Makerspace; Ms. Xue Jin, Mushroom Cloud Makerspace's Trainer; Mr. Xia Qing, the founder of Mushroom Cloud Makerspace.



Mr. Paul Chan and Mr. Ken Yip giving a design thinking session to the EEF teachers using the Wallet Project from Stanford dSchool.

The Workshop: Day 1 – Mr. Paul Chan kicked started the workshop by giving an introduction to design thinking and sharing typical STEM cases in HK and in foreign countries. He also guided teachers on how to design a STEM

classroom. Furthermore, Mr. Paul Chan facilitated a discussion session on how to apply design thinking in daily life. Day 2 – The teachers started their day by visiting and touring the Mushroom Cloud Makerspace. In the morning session, Mr. Ken Yip shared his thoughts in Maker Education and his experiences in Design Thinking. Mr. Ken Yip then facilitated a hands-on session alongside Mr. Paul Chan. The teachers were put in groups of two and tasked to design a wallet for their partner. This Design Thinking



Two EEF teachers brainstorming at the design thinking session.

session follows the layout put forth by the Wallet Project from Stanford dSchool. The rest of Day 2 morning session involves the Makerspace Hackathon Workshop which focused on the introduction of maker activity and sharing of the STEM Design in community. In the afternoon, the teachers participated in DFRobot's Boson Kit and Makerspace Explorer D1 Mobile Kit sessions. Afterwards, the "Smart Campus" Hackathon Competition was held. It aimed at teaching the teachers how to use intelligent technologies to bring convenience and fun to our life. In the evening, teachers further discussed about their experience and challenges in promoting and implementing maker education at their schools. Day 3 – We kicked off the last day of the workshop by continuing the "Smart Campus" Hackathon Competition to cultivate the teachers' team facilitation skills and brainstorming ability. The teachers presented their creations to gain feedback. Guest judge Mr. Xia Qing reviewed and awarded an Arduino Kit to the top team. After that, teachers shared their experiences in the 1st EEF/DFRobot Kit Swap program. The Swap Kit award

of ¥1000 Arduino coupon went to teacher Yang Qin from the Kaili No.1 High School. In the afternoon, Mr. Paul Chan continued to share the STEM design for the future. At the end of Day 3, teachers shared and reflected on their experience and exchanged ideas. A close ceremony was held and group portraits were taken to finish the workshop.



Two EEF teachers designing wallets in the design thinking session.

The Expense: EEF covered the entire cost of the workshop venue and the DFRobot toolkit workshops. EEF also sponsored the travel, room & board expenditures of all our 30 EEF teachers (from around Mainland China), 2 facilitators (from Hong Kong), and 4 of our EEF staff (around China) in a total sum of US\$15000.

The Feedback: All the participants have rated (from a scale of 1-10) an 8 or higher on this workshop. Teachers think the workshop was full of fun and information. The topics are really useful. Brainstorming, case studies, and sharing sessions are the most popular along with the trainings in DFRobot toolkits and programming. Teachers also indicated that they learn best when involved in hands-on



Teachers working at the DFRobot toolkit session.

sections. All teacher mentioned they are looking forward to joining in the 2nd EEF/DFRobot Kit Swap Program in October 2017.