



Kanchanaburi
Campus
Mahidol University

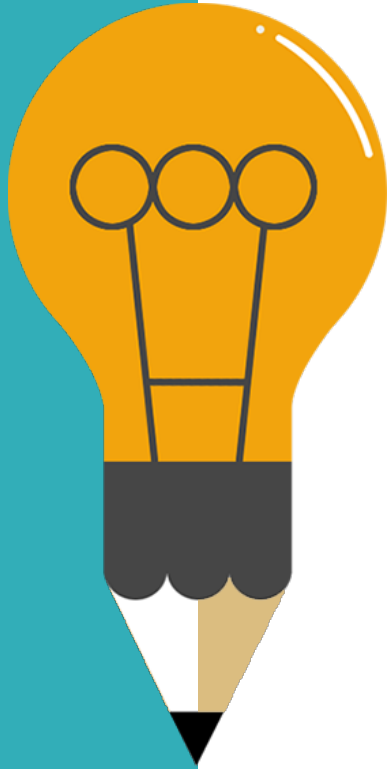


STEAM Teacher Education: Ways to develop real-world problems to the lessons

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Overview



01

Background

02

Teacher Training

03

Classroom Limitation during COVID-19

04

Real-world Problems become Solution

05

Conclusions



Background

U-School Mentoring Program

Ministry of Higher Education, Science, Research and Innovation



**Kanchanaburi
Campus**
Mahidol University



Wat Triratanaram Charity School

Mahidol University Kanchanaburi Campus



School of Interdisciplinary Studies

- ✓ Accountancy
- ✓ Agricultural Science
- ✓ Business Administration
- ✓ Conservation Biology
- ✓ Environmental Engineering
and Disaster Management
- ✓ Food Technology
- ✓ Geosciences
- ✓ Sciences and Liberal Arts
Division

Wat Triratanaram Charity School



Charity School

- located near the Campus
- non-profit school
- supported by charity fund
- Kindergarden-Grade 6
- about 15 teachers
- lack of computers and internet access
- lack to teaching resources



Teacher Training

STEAM Classroom Activities

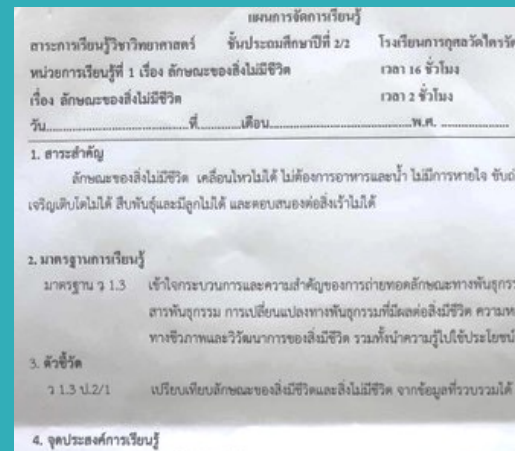
2019-2020



Waste Management



Designing
STEAM
Classroom



Developing
STEAM
Lesson Plan



Classroom Visit



Classroom Limitation during COVID-19



paper-based only



computer and
internet access
was limited



home visited with
worksheets/
picked up from
school



classroom
material was
limited

Classroom Limitation



**The textbook content didn't support
“study form home” context.**

STEAM Education

(Bertrand and Namukasa, 2020)



01

**engage meaningful learning activities
and authentic tasks in real-world context**

02

**elicit curious learners, problem-seekers,
problem-solvers, creators, and innovators**

03

develop students' hard and soft skills

04

solve problem in different context



Real-world Problems
become Solution



Listen to the problems or limitation they faced.



Let them contemplate the local environment.



Discuss about the students' life in 'study from home' context.



Think about “would it be possible to study from their context?”.

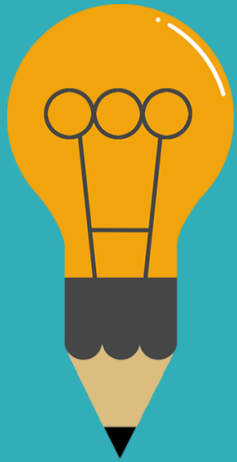


♥ They said, “Yes, it would be possible.”

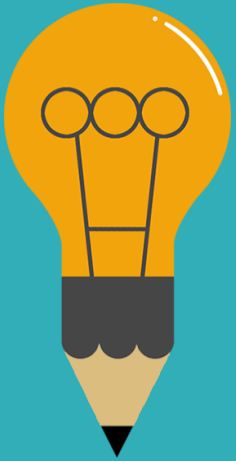


It's time to brainstorm their ideas!

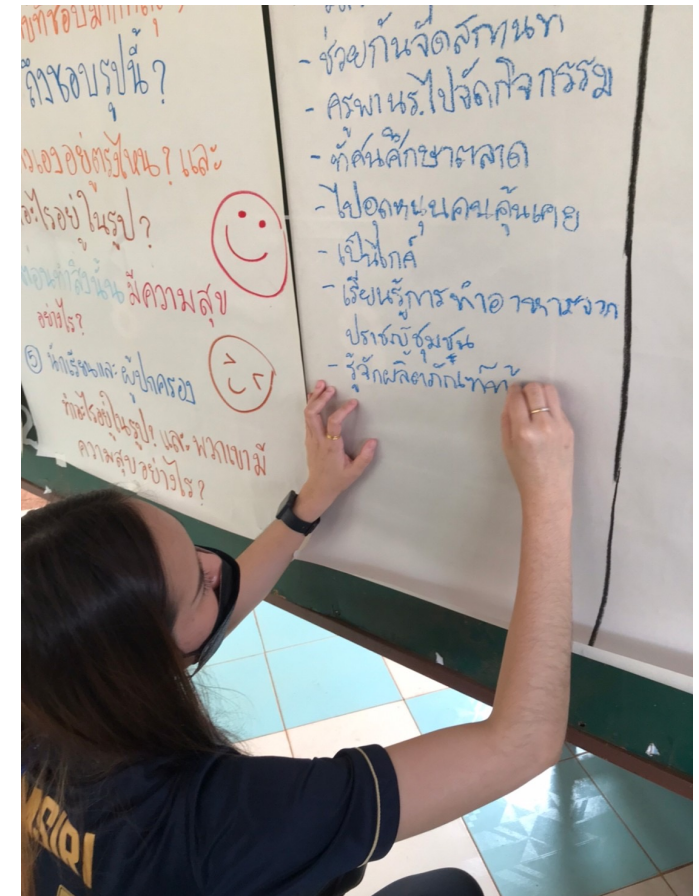
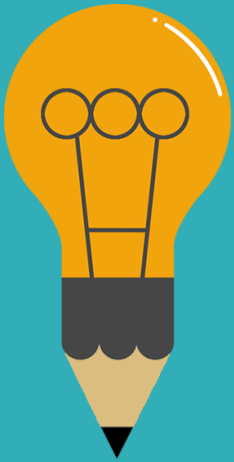
List the possibilities.



List what can be the lessons.

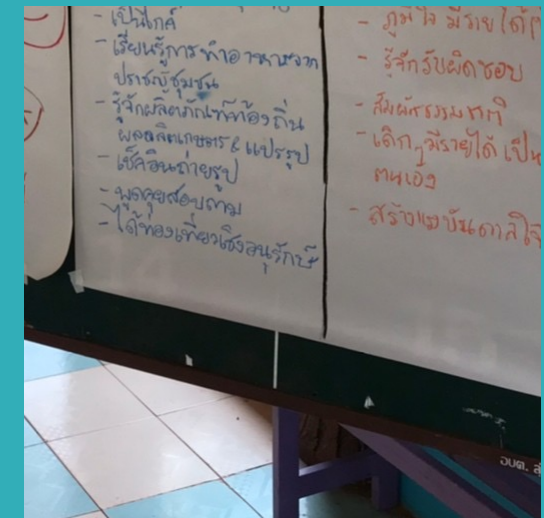
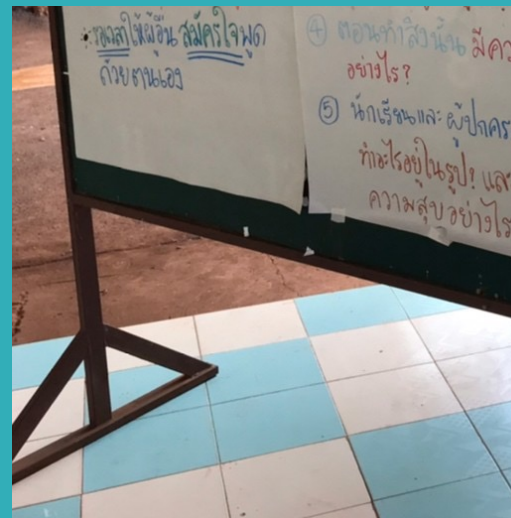
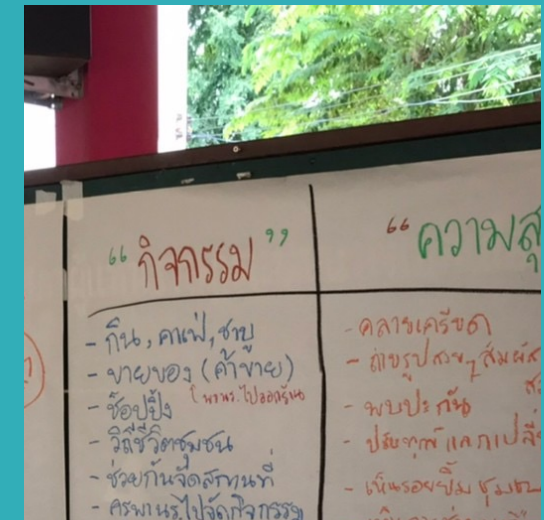


Put them together.



STEAM in Local Market

- shopping local products
- selling local products
- making local crafts
- growing economic plants
- preserving food
- promoting market via social media
- managing waste
- managing parking lot
- performing local or cultural show
- sanitary, plague, epidemic, and pandemic
- etc.

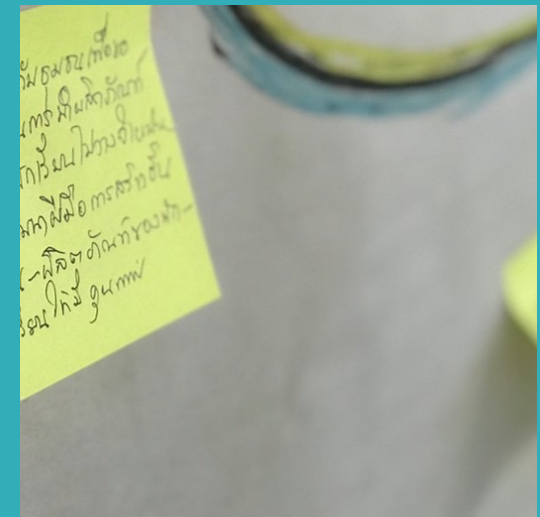
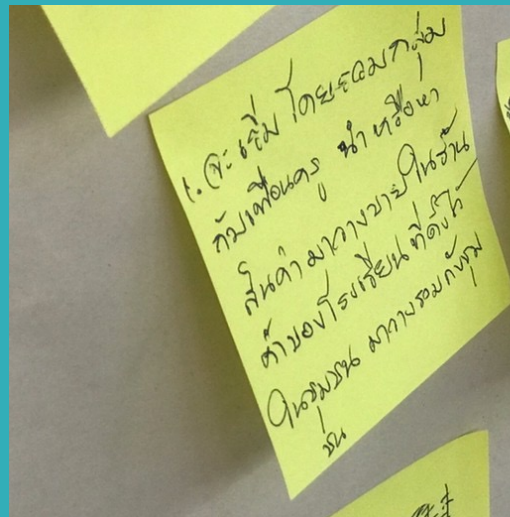
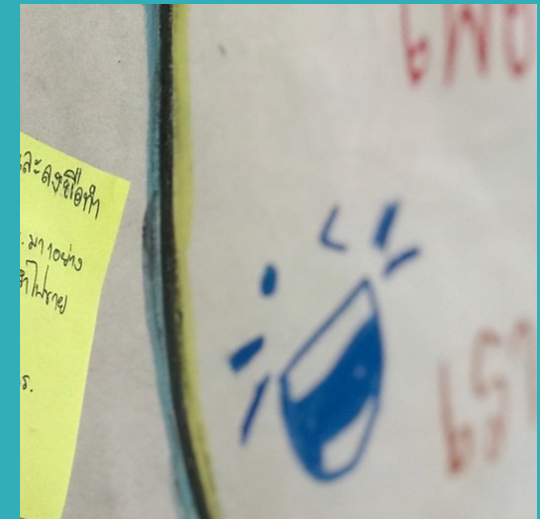
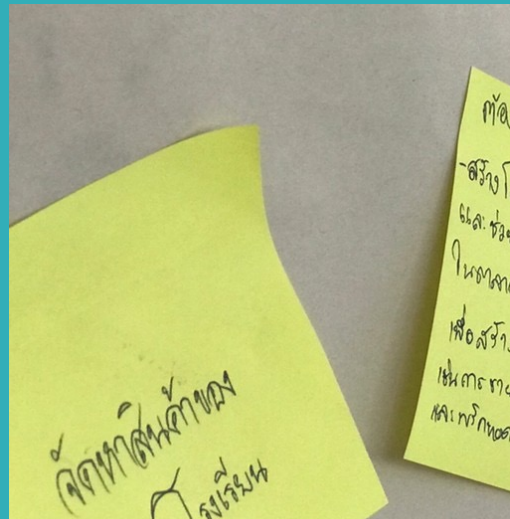




Conclusions

Real-world Problem for STEAM Education

- can be the problem but can be developed to classroom lesson
- can provoke students to engage in learning activities
- can help preparing student for life
- cheap and easy but It can be overlooked
- powerful resource for the learning





- Ministry of Higher Education, Science, Research and Innovation
- Wat Triratanaram Charity School
- Mahidol University, Kanchanaburi Campus
- Contemplative Education Center, Mahidol University

Photo Credit

- Mahidol University Kanchanburi Website
- Wat Triratanaram Charity School Facebook



Thank you