

Title: Incorporating Regional Social Aspects and Gamification in STEAM education.

Speaker: Tosh Yamamoto & Dr. Kazuya Takemata

Learning Circle: Society - University - High School - Elementary School

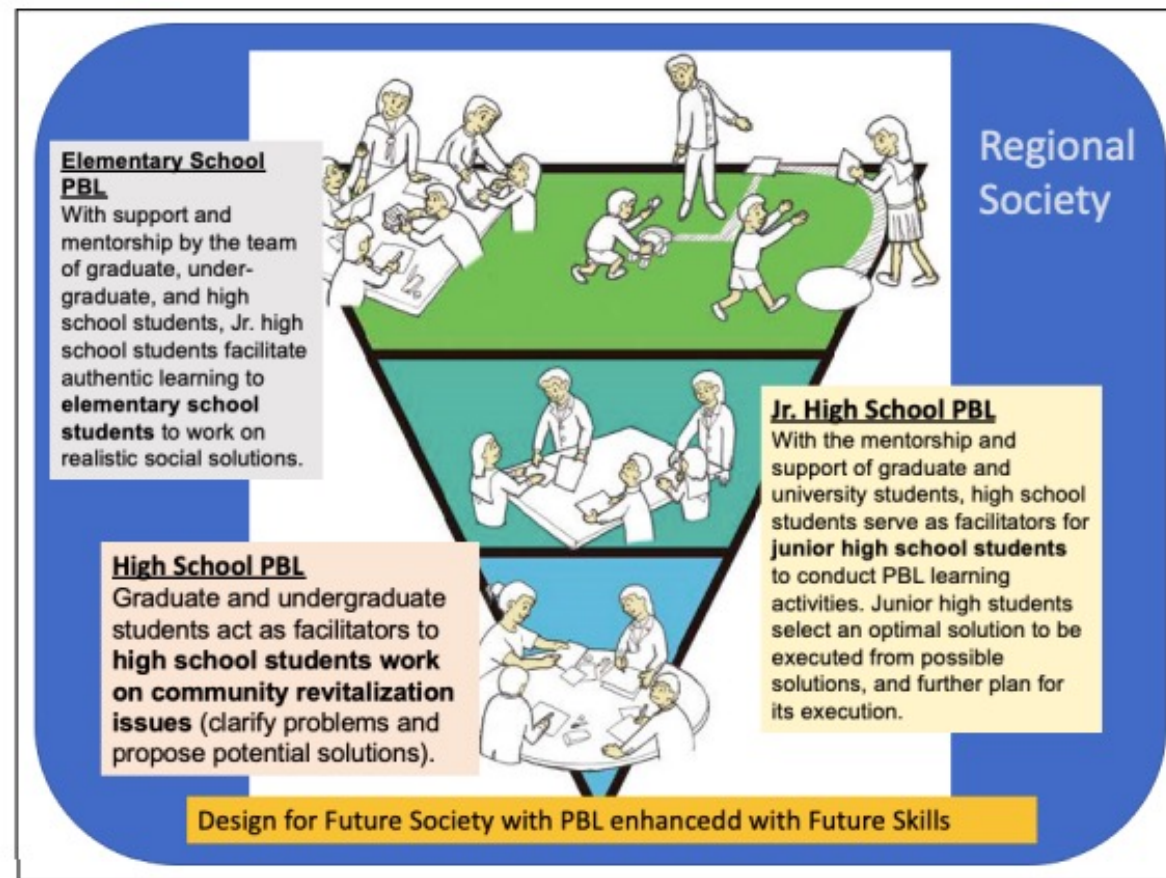


Figure 5. Authentic Learning in Regional Society

Showcase:

It is demonstrated as a showcase that **university students and elementary school children work together** with the local sweet shop owners to create the local sweets exploration map, which later transformed into a **sweets-hunting game designed and programmed by the students**. The elementary school children walked around the neighborhood area and researched sweets shops, finding out their location, history, opening hours, products, most-sold popular sweets, and service types, among others. And then they created a trifold to include all information, as shown below.

Authenticity (Regional Awareness) Example: Elementary School Children



Figure 6. Research Results shown in infographic

Trifold to Gamification

Upon completion of the trifold, the school children worked on designing a sweets-hunting game. The concept of the game is to obtain designated items by maneuvering a robot car. The entire process of this series of learning offers the school children to understand the local neighborhood area.

Game Processes:

1. Assign a mission to accomplish.
2. Program a route to complete the mission
3. Go!
4. Reflection – Feeling of accomplishment

Sharing the Fieldwork/Research Results → Game-based Learning



Figure 7. Game Board for Robot to Complete Tasks



Figure 8. Scene of Completing a Task with Robot

<https://drive.google.com/file/d/148qXeXRS0PIXaJ4LKBYMMCDyz2P8HFx-/view?usp=sharing>

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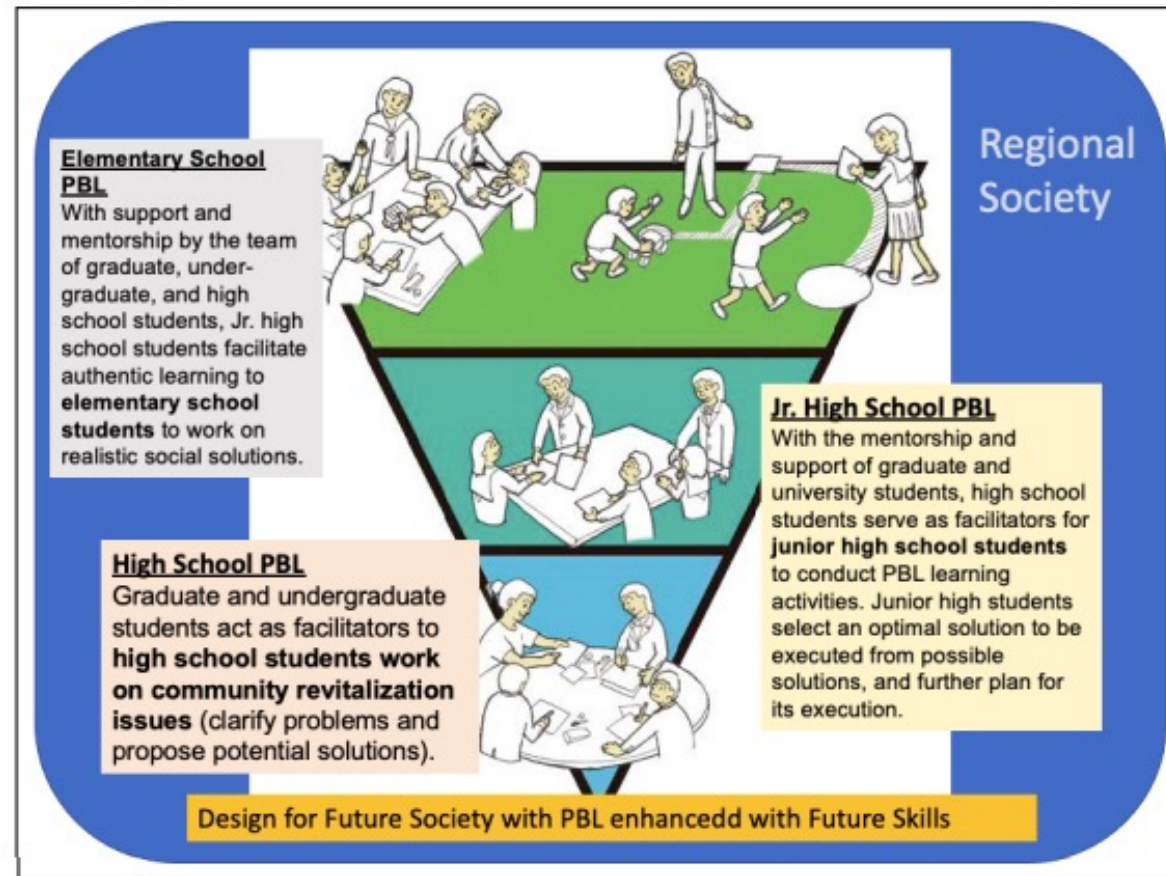


Figure 5. Authentic Learning in Regional Society

Mission of Education

Raising the future generation
Who can think critically &
creatively.

Thank you very much!

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