



Teacher Work Attachment At Maritime Port Authority of Singapore (MPA) MPA: Learning Experiences & Applications

from 3 Feb 2025 to 14 Feb 2025

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Hwa Chong Institution (HCI)**



M P A
S I N G A P O R E

Overview of Sharing

- **Why** undertake a Teacher Work Attachment?
- **Why** the Maritime Port Authority of Singapore (MPA)?
- **How:** My Learning Experiences at MPA
- **What's next?** My Takeaways and Possibilities for HCI teachers and students.



TWA+ participant Ms Ng Swee Chu (left) with her MPA colleague (right) and PUB officer (centre) who is working with MPA on an outreach programme.



Why undertake a Teacher Work Attachment?

Inspired by: Insights contributed during staff meetings by HCI colleagues who have undertaken-attachment



School as our World to World as our School

Enrich the teaching and learning environments with more funding provided by MOE. Connect students and educators to industry and community partners through MOE's Partnerships Engagement Office.



Guided by: Embracing the principle 'The School as Our World, the World as Our School' (WPS 2023, Minister Chan Chun Sing), acknowledging that not all cutting-edge knowledge or best practices reside with us; we must constantly engage with and learn from the world to help our students learn better and faster

About Maritime Port Authority of Singapore (MPA)



MPA
SINGAPORE

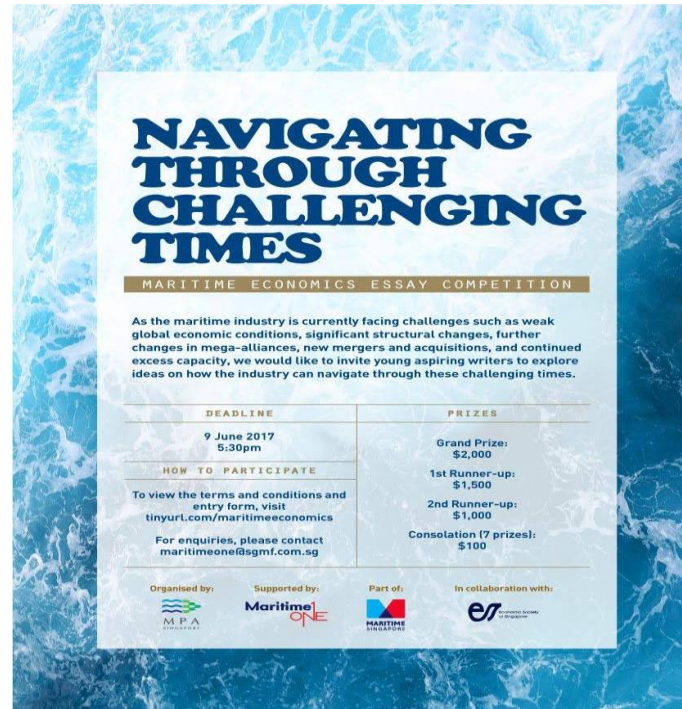
- The MPA is the driving force behind Singapore's maritime and port development, fulfilling the roles of **maritime and port regulator and planner.**
- The MPA is responsible for the overall development and growth of the Port of Singapore, which includes **terminal operators such as PSA Corporation (Port of Singapore Authority) and Jurong Port Pte Ltd.**
- The Port of Singapore comprises numerous facilities and terminals that handle a wide range of cargo.
- **The MPA is not equivalent to PSA.**

Why the Maritime Port Authority of Singapore (MPA)?



MPA
SINGAPORE

In 2017, some of my H3 Economics students participated in the Maritime Economics essay-writing competition of their own accord. Grateful for the mentorship, they kindly invited me to the prize-giving ceremony when they won.





A poster for the 'NAVIGATING THROUGH CHALLENGING TIMES' Maritime Economics Essay Competition. The background is a blue and white wave pattern. The text is in blue and black. It includes a deadline of 9 June 2017 at 5:30pm, prizes for Grand Prize (\$2,000), 1st Runner-up (\$1,500), 2nd Runner-up (\$1,000), and Consolation (7 prizes) (\$100). It also mentions that the competition is organized by MPA, supported by Maritime One, and is part of the Maritime Economics Essay Competition. The poster also includes a link to the terms and conditions and contact information for enquiries.

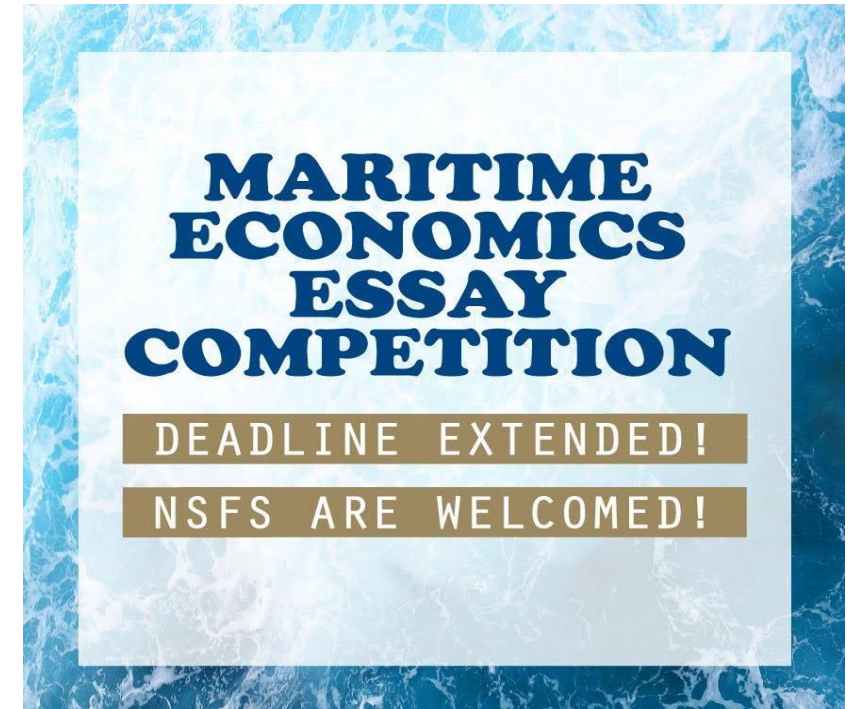
NAVIGATING THROUGH CHALLENGING TIMES
MARITIME ECONOMICS ESSAY COMPETITION

As the maritime industry is currently facing challenges such as weak global economic conditions, significant structural changes, further changes in mega-alliances, new mergers and acquisitions, and continued excess capacity, we would like to invite young aspiring writers to explore ideas on how the industry can navigate through these challenging times.

DEADLINE	PRIZES
9 June 2017 5:30pm	Grand Prize: \$2,000
	1st Runner-up: \$1,500
	2nd Runner-up: \$1,000
	Consolation (7 prizes): \$100

HOW TO PARTICIPATE
To view the terms and conditions and entry form, visit tinyurl.com/maritimeeconomics
For enquiries, please contact maritimeone@sgmf.com.sg

Organised by:  Supported by:  Part of:  In collaboration with: 

A poster for the 'MARITIME ECONOMICS ESSAY COMPETITION'. The background is a blue and white wave pattern. The text is in blue and black. It includes a banner that says 'DEADLINE EXTENDED!' and another banner that says 'NSFS ARE WELCOMED!'.

MARITIME ECONOMICS ESSAY COMPETITION

DEADLINE EXTENDED!

NSFS ARE WELCOMED!

How: My Learning Experiences at MPA



My attachment at MPA began with assigned work: studying gallery-based learning and developing educational packages for Singapore Maritime Gallery visits.

During my attachment, an exciting opportunity arose: I was asked to prepare talking points for the ministerial

opening of 'Tides of Time', a new segment at the Maritime Gallery.

This additional assignment became a valuable part of my attachment experience, allowing me to contribute to a significant institutional milestone.

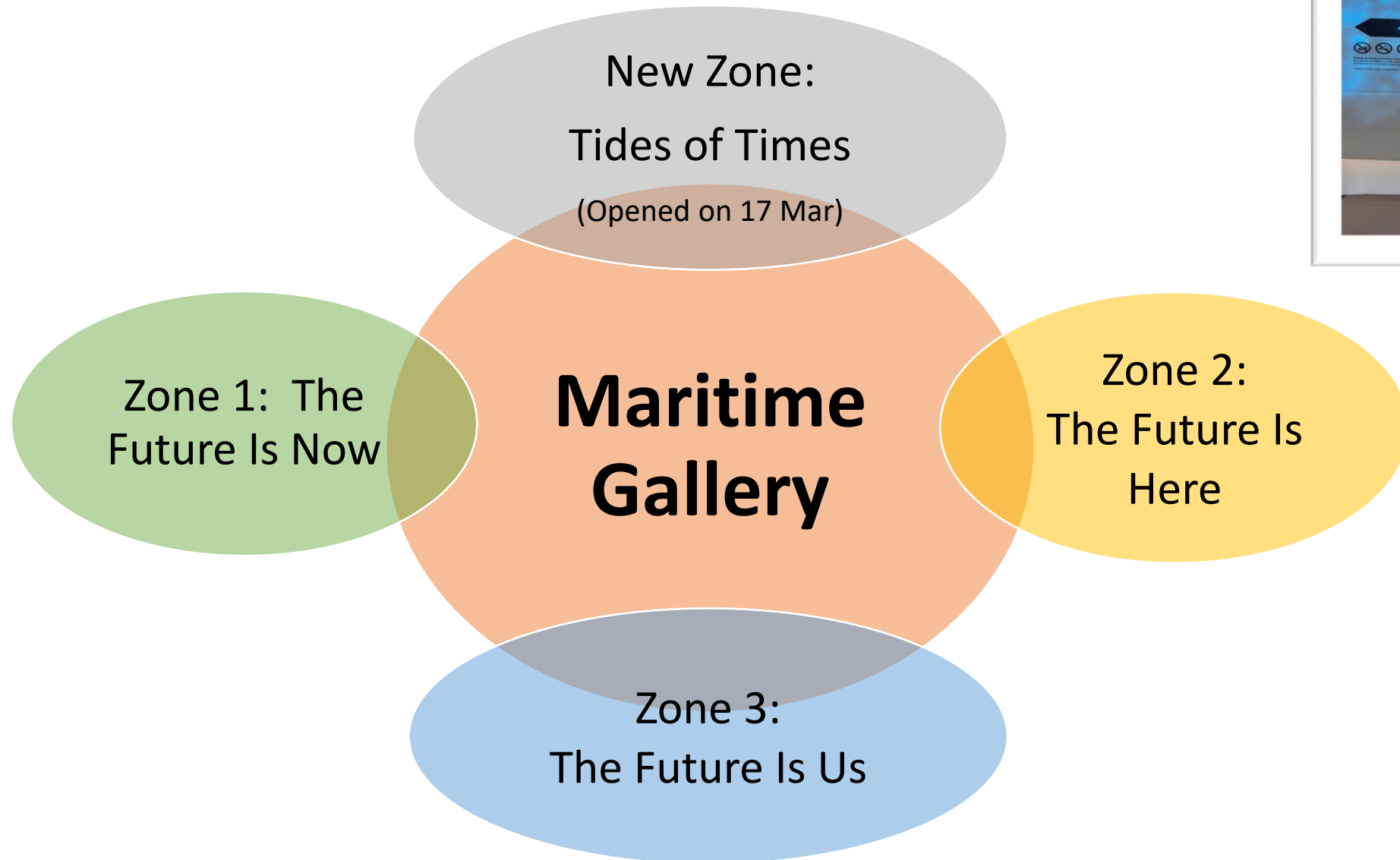
The key lesson: When embarking on work attachments, stay open to new opportunities that may emerge. These additional experiences often provide rich learning and allow you to make meaningful contributions beyond your original work scope.

How: My Learning Experiences at MPA

- **Cultural Awareness:** Departmental 'lohei' lunch at Bali Thai (noting it is considered taboo to say 'huat' at MPA!)
- **Inter-agency Collaboration:** Meetings with the National Library Board (NLB) to discuss the SG 60 exhibition
- **Communication:** Meetings with the deputy director to review the talking points for ministerial opening of the new section of the Singapore Maritime Gallery



Singapore Maritime Gallery



My Takeaways

- **Gallery-based learning offers rich inter-disciplinary learning.**

The Singapore Maritime Gallery provides authentic contexts for teaching multiple subjects, from economics and STEM to national education, making learning more relevant and engaging while enabling students to develop adaptive and inventive thinking.

- **Teacher learning journeys build pedagogical capacity.**

Experiencing the gallery as learners first enables teachers to design more effective student learning programmes and understand real-world applications of what is taught in the classroom. These learning journeys also provide valuable opportunities for teachers to exchange and bounce off ideas with peers.

- **Hybrid learning journeys maximise educational impact.**

Combining multiple venues and experiences creates deeper, more comprehensive learning opportunities that connect theory to practice across different contexts.



Some Possibilities (Useful for Both the Sciences and Mathematics)



Maritime Expedition Tours:

- Tour operator: Lions Befriender
- Target audiences: Student groups, tourist groups, and new citizens

Route 1:

- Singapore Maritime Gallery (SMG) + Port Operations Control Centre (POCC)

Route 2:

- Singapore Maritime Gallery (SMG) + Integrated Simulation Centre (ISC)

During my attachment, I saw how a new citizen group (PRs who had just become Singaporean citizens) was guided by Lions Befrienders in a visit to the Singapore Maritime Gallery.

Route 1: Singapore Maritime Gallery (SMG) + Port Operations Control Centre (POCC).

Singapore Maritime Discovery Tours

- Maritime Heritage Tour (more suitable for National Education (NE) learning journeys)
- Maritime Evolution Tour (History/NE)
- Sea Exploration Tours (History/ Geography)





Shaping the Future of Learning

**Every Student a
Creator, Connector, Contributor**

Enhance the 21CC framework and
place a greater emphasis on:

- Adaptive and Inventive Thinking
- Communication
- Civic Literacy



Gallery-based Learning: the School as Our World, the World as Our School



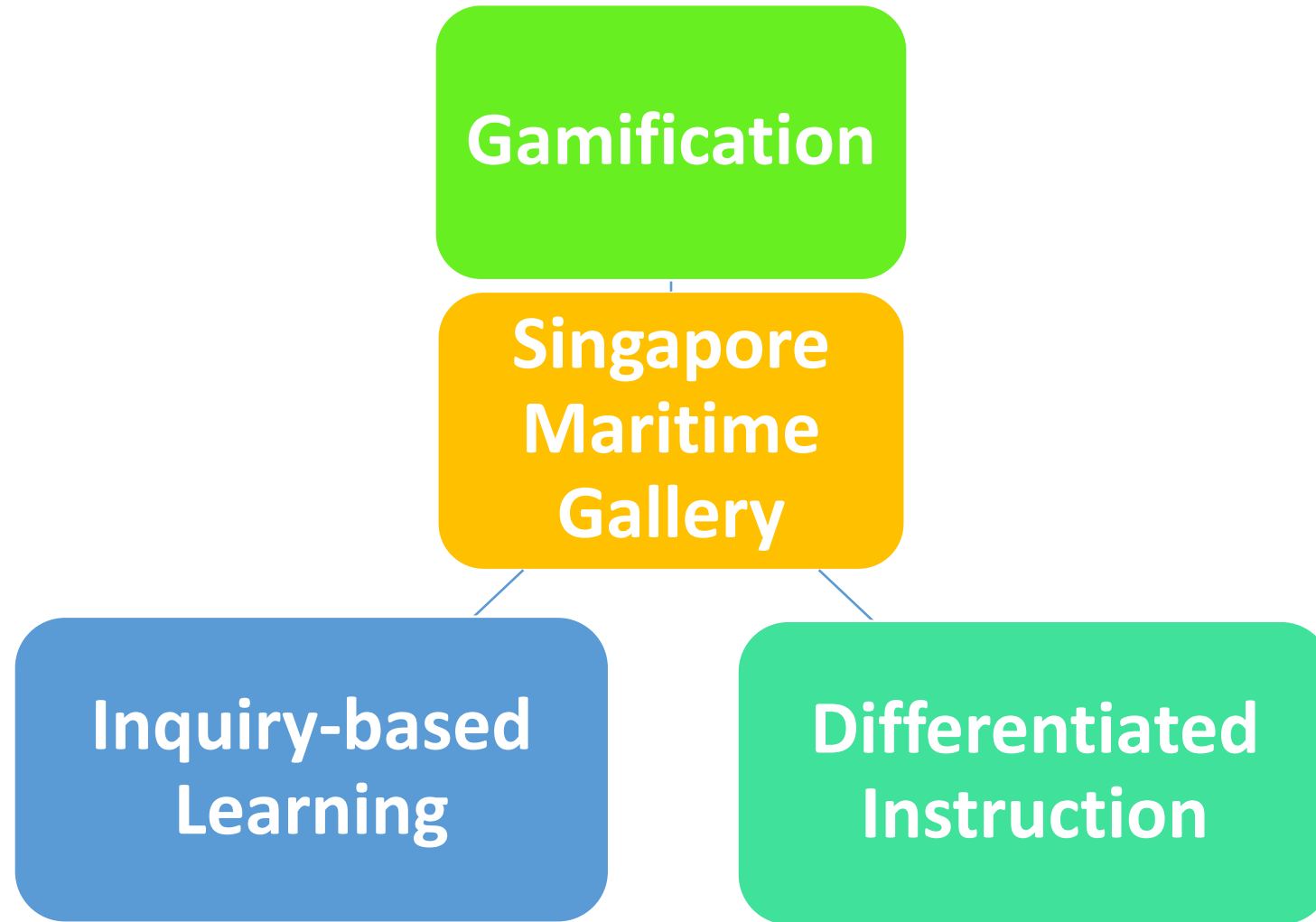
Overview of Lesson Outline For SMG

Lesson Objectives:

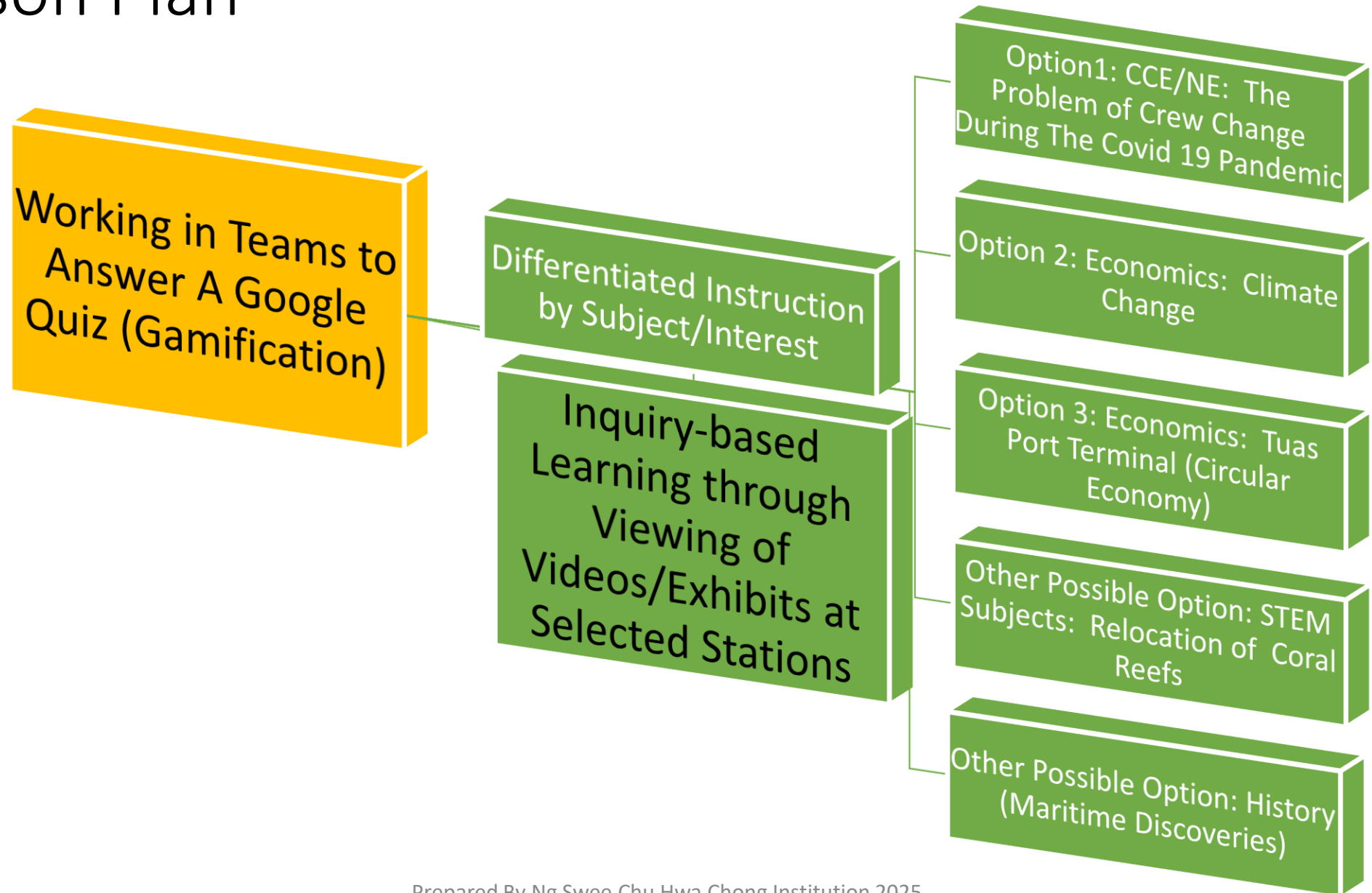
1. To nurture adaptive and inventive thinking by seeing parallels in the real world to solve community-/school-based problems
2. To ignite interest in real-world issues through inquiry-based learning in galleries/museums



Pedagogy



Lesson Plan



Option 1: CCE/NE: the Problem of Crew Change during the Pandemic

- **Trigger Activity in Zone 2 (The Future is here: Introduction Videos 1 and 2**
 - https://www.youtube.com/watch?v=CmhPTBfIVOg&ab_channel=MPASingapore
 - https://www.youtube.com/watch?v=ynqVA_Y2Wq0&t=120s&ab_channel=MPASingapore
- What was the problem?
- Where were the constraints?
- What were the solutions?

NE Message 1: No one owes Singapore a living.



Option 1

CCE/NE: the Problem of Crew Change during the Pandemic

Get students to think of a school-based/community problem where they can draw parallels (e.g., lack of space, need to prevent cross-contamination, etc.) and brainstorm for solutions:

- a) Congestion in school canteens
- b) Wastage of electricity in school compounds
- c) Problem of stray animals in the community and school compounds



Adaptive & Inventive Thinking

3 Qualities of Adaptive Thinking

1

Open-mindedness
to new ideas,
perspectives, and
information

2

Flexibility
amid changing
circumstances or
new information

3

Willingness to
learn and a growth
mindset



Option 2

Economics: Climate Change (under the Section on Challenges and Opportunities)



The Maritime **Singapore Decarbonisation Blueprint**, **launched in early 2022**, outlines initiatives including the transition to low-carbon port terminals, harbour craft, marine fuels and more.

Option 2: Economics Balancing Economic Development with Sustainability

Guiding Questions after Viewing the Panels:

1. Explain how the carbon tax works using an externality diagram.
2. What would be the impact on firms with implementation of carbon tax (consider both short term and long term)?
3. What would be the impact on consumers (consider both short term and long term)?
4. Areas for further research, get student into groups of 3 to 5 and get them to research on one of the following programmes initiated by MPA:
 - a) The Green Ship Programme
 - b) Green Port Programme
 - c) Green Energy and Technology Programme
 - d) Green Awareness Programme



Option 3: Economics: The Tuas Port (Constructed Based on Circular Economy Principles)

- Tuas Port, which officially opened on 1 September 2022, is set to be the world's largest fully automated terminal by the 2040s!
- PSA Singapore plans to consolidate all operations **from Tanjong Pagar, Keppel, Brani, and Pasir Panjang Terminals to Tuas by the 2040s.**



Trigger Activity on Innovating for a Sustainable Port

Video 01

Tuas Port: Our Next Lap

https://www.youtube.com/watch?v=f4qaBs_MCds

Video 02

Highlights : Completion of Tuas Port Phase 2 Caissons Fabrication

<https://www.youtube.com/watch?v=y5BnClaR3H0>



Economics: The Tuas Port (Constructed Based on Circular Economy Principles)

Guiding questions after watching the video:

- What were the two ways which the Tuas Port was constructed which was in line with the circular economy?
- How does this contribute to sustainable development of Singapore?



Economics : The Tuas Port (Circular Economy Construction)

- Get the H2 students to research in groups on Singapore's initiatives in the circular economy and present on 1 other initiative, e.g., extended producer responsibility (EPR)

Note: While the Circular Economy is a concept covered in H3 Economics, this gallery-based inquiry learning provides H2 Economics students valuable exposure to new frontier Economics beyond their syllabus.



Inclusive Education: You need not do a H3 subject to be exposed to H3 Concepts

Other Possibilities

- For **STEM Subjects**: The relocation of coral reefs is covered under the section on Challenges and Opportunities.
- For History: The section on **Maritime Discoveries** traces Singapore's development as a port.



What's Next? My Takeaways and Possibilities for HCI Teachers and Students



For Colleagues: Sharing My Experiences and Extending the Learning from TWA



Sharing with HCI colleagues about my experiences at MPA and the possible connections to the different subjects and possible pedagogies.




Organising a learning journey for HCI colleagues to the Singapore Maritime Gallery.

Reflections of HCI's Colleagues from Learning Journey to the Singapore Maritime Gallery

Reflections From The Learning Journey To The Singapore Maritime Gallery 29th May

Swee Chu + 3 • 1mo

Swee Chu
a month ago




1. What are the 2 interesting exhibits that left an impression on you?
2. Highlight an idea that was sparked off by this learning journey eg. a future learning journey for your students/ lesson idea/ possible way to change the library displays? Please elaborate.

Youyu
a month ago

1. I find the introduction video at the entrance of the gallery quite interesting. The gaming stations also seem quite fun though I don't know how to play.
2. I think it can be an interesting learning journey for SMTP students who want to find out more about the sea trade in Singapore.
3. It might be better if MPA has a guide who can walk us through the gallery and introduced the difference exhibits in more details.

Swee Chu
a month ago



Padlet • swee chu

Reflection From The Learning Journey To The Singapore Maritime Gallery 29th May

From Loy Chong Mei & Kris

Hi Ms Ng, Kris and I would like to combine our responses under the "Library staff".

Q1: Interactive game stations and Maritime Traveller

Q2: To make the book displays more engaging, maybe we can explore the idea of collaborating with some departments eg the Art and Music Departments to include simple interactive elements—such as paper crafts, cartoon drawing, or mini music

Leong Choong Fatt
a month ago

1. The use of technology at the entrance to the gallery is impressive, showcasing how trade has developed and Singapore was being part of the trading evolution. The other aspect is the interactive panel display of the people in their various job roles in shipping, like ship financier, technology developer and even the ship crew are featured.
2. There is section in the gallery where models of ships are displayed for visitors to try their hands on doing up a model for a ship to be built. This is good for students who aspire to pursue naval architectural studies to see if they can build a ship model to assess their inclination or gift for architecture course through testing out the ability

Xu Hongjuan
a month ago

1. The introductory video at the entrance - it gave me the special feeling of being on a ship sailing at sea. The cargo handling simulator game - it was fun to play with a partner, though I wasn't very good at operating it.
2. This visit inspired me to adapt the immersive exhibition approach for our school library. We could create interactive displays for literary works or art pieces, allowing students to engage through sight, sound, and touch. For example:
 - For a war novel: ambient battlefield sounds + replica artifacts to handle.
 - For nature poetry: projected forest visuals with rustling leaf audio.This multi-sensory method

For Students

- **For My Civics Class**

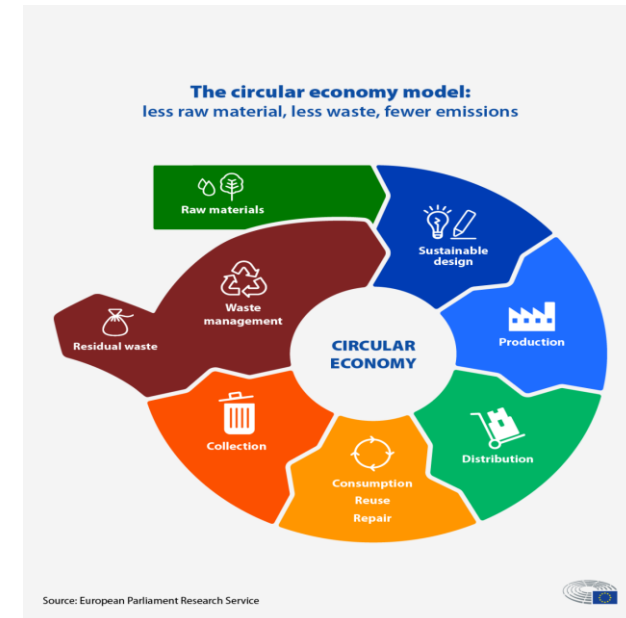
- Learning journey to the Singapore Maritime Gallery
- Gallery-based learning: Trialled the Google quiz created during the attachment

- **For My H2 Economics Classes**

Adapting my lesson plan and getting my students to research the various pillars of the **decarbonisation programmes** of the Maritime Port Authority of Singapore as a June-holidays project

- **For the HCI's MOE H3 Economics Programme**

- Infusion of Tuas Port as a case study of the circular economy principles



‘Life is about perspective and how you look at something...Ultimately, you have to zoom out.’

Whitney Wolfe Herd

