



Concello da Coruña

SAIL TRAINING INTERNATIONAL CONFERENCE 2024

**Bridging Oceans and Classrooms:
Linking Tall Ships sail training with educational
curriculum for youth development**



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Sail Training International



Bridging Oceans and Classrooms

Linking Tall Ship Sail Training with Educational Curriculum for Youth Development

Who are we?

Murray Henstock

Murray has been involved with sail training in a range of capacities since 2000. As a high school science teacher he seeks to connect teachers and students with sail training. Murray's research into the impact sail training has on student engagement with education and learning is now being used to investigate the impact sail training has on teacher pedagogy.

Jill Hughes

Jill is a captain with and the VP of programs at World Ocean School, a sail training organization based out of Boston, MA. With over twenty years of experience in sail training, she has worked aboard a wide range of vessels. Jill's research examined the use of traditional sail training vessels as platforms for professional mariner training and she is an advocate for high school and collegiate at sea programs, and the unique skills and experiences sail-training provides.

For This Session

You'll need

- Access to a ship's program
- Access to your countries National Curriculum





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STEM, Humanities, Science, Social and Emotional Wellbeing 15mins

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Developing take-away resources you can implement aboard your vessel 20mins

02 Opportunities to Connect

Exploring Programs and finding Opportunities to connect 20mins

04 Sharing Practices

Who is doing what aboard their vessels. 15 mins



01

Exploration of Curriculum

STEM, Humanities, Science, Social and Emotional Wellbeing



Science

01 Physics

Investigate forces acting on the sails and hull, such as lift, drag, and buoyancy, as well as how mechanical advantage is achieved through pulleys and levers.

02 Chemistry

Explore the properties of seawater, salinity, pH levels, and the effects of salt corrosion on metal parts of the ship.

03 Biology

Study marine ecosystems, identify marine species, and learn about ocean biodiversity and conservation.

04 Earth and Environment

Examine oceanic and atmospheric systems, study the carbon cycle and how oceans sequester CO₂, investigate microplastics, and discuss human impacts on the marine environment.

Applied Science

01 Geography

Map reading, navigation using charts and compasses, understanding latitudes and longitudes, and learning about ocean currents, tides, and coastal geography.

02 Engineering

Explore the design of the ship, understanding how hull shapes affect movement and stability, as well as the function and mechanics of rigging and sails.

03 Meteorology

Analyze weather patterns, learn about atmospheric pressure, winds, and how weather impacts sailing.

04 Ecology

Conduct environmental sampling, study the impact of pollution on the ocean, and discuss sustainability practices in marine settings.

Arts and Humanities

01 History

Study the history of exploration, trade routes, famous voyages, and the role of tall ships in global trade and cultural exchange..

02 Civics and Ethics

Discuss maritime laws, environmental stewardship, and the importance of ethical decision-making in resource management and navigation..

03 Language Arts

Write daily journals, reflective essays, or create a shipboard blog to capture and communicate their experiences.

04 Visual Art

Draw the ship and surrounding landscapes, create sea-inspired art, or photograph marine life and daily shipboard activities.

Mathematics

01 Mathematics

Calculate distances, speed, and fuel consumption, and use trigonometry in celestial navigation..

02 Astronomy

Learn to identify constellations for navigation, study the phases of the moon, and understand celestial navigation techniques used by sailors historically.

03 Economics

Understand the economics of maritime trade, the costs of maintaining a ship, and the global implications of shipping on economies.

04 Information Technology

Use GPS, weather apps, and other marine technology for navigation and communication, and explore how tech impacts modern sailing.

Physical and Social Sciences

01 Leadership and Personal Development

Engage in teamwork, build leadership skills, practice conflict resolution, and develop personal responsibility.

02 Health and Safety

Learn about first aid, emergency response protocols, and the importance of safety measures in confined, remote environments.

03 Physical Education

Develop fitness through active ship duties, including hoisting sails, climbing rigging, and learning safe practices in a dynamic environment.

04 Social Studies

Reflect on the dynamics of teamwork, the psychology of group living in close quarters, and strategies for mental well-being during isolation.

Languages and Cultural Studies

01 Communication

Practice clear, effective communication crucial for safety and coordination on a ship, as well as active listening and giving precise instructions.

02 Cultural Studies

Study the influence of different cultures on shipbuilding and sailing traditions, and explore the cultural practices of coastal communities.

03 Languages

Learn maritime terminology in different languages. If sailing internationally, students can practice communication and language skills with locals at port stops.

04 Philosophy

Reflect on philosophical questions related to exploration, discovery, and the human connection to the ocean.



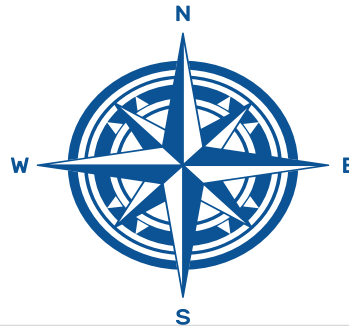
Others

What others can you think of?
At your table, think of your country's curriculum(s)
and jot down any other subjects that come to
mind

02

Opportunities to Connect

Exploring Programs and finding Opportunities to
connect



Types of Activities

- Sail Hoisting and Trimming:** *Physics and Physical Education:* Understanding forces (lift, drag), teamwork, and physical fitness.
- Navigation Using Compass and Charts:** *Geography and Mathematics:* Learning map reading, coordinates, angles, and distance calculations.
- Knot Tying:** *Engineering and Physics:* Understanding tension, friction, and mechanical advantage through different types of knots.
- Celestial Navigation Using Sextants:** *Astronomy and Mathematics:* Calculating latitude by observing the sun or stars and applying trigonometry.
- Weather Observations and Recording Data:** *Earth & Environmental Science and Meteorology:* Observing clouds, wind, barometric pressure, and temperature to understand weather patterns.
- Marine Life Identification:** *Biology and Environmental Science:* Studying marine ecosystems and identifying various species to understand biodiversity.
- Water Quality Testing (pH, Salinity, Temperature):** *Chemistry and Earth Sciences:* Measuring salinity, pH, and temperature to understand ocean chemistry and environmental impacts.
- Journaling and Daily Logs:** *English Language Arts and Personal Development:* Writing descriptive logs to reflect on the experience and enhance writing skills.
- Shipboard Emergency Drills:** *Health and Safety Education:* Learning and practicing emergency procedures, first aid, and the importance of safety measures.
- Leadership Rotations (e.g., Taking on the Role of Watch Leader):** *Leadership and Social Studies:* Developing teamwork, conflict resolution, and decision-making skills.

Types of Activities

- Cooking and Meal Planning in the Galley:** *Home Economics and Mathematics:* Budgeting, measuring, and teamwork while preparing meals in a small space.
- Rope Splicing and Maintenance:** *Engineering and Materials Science:* Learning techniques for joining ropes, understanding material properties and durability.
- Ship's Log Data Entry (Tracking Speed, Direction, etc.):** *Mathematics and Information Technology:* Recording data for navigation, calculating speed, and managing digital logs.
- Raising and Lowering the Anchor:** *Physics and Physical Education:* Understanding forces, weight, and resistance while coordinating physical effort.
- Environmental Clean-Up Activities:** *Ecology and Environmental Science:* Learning about pollution and taking direct action to protect the marine environment.
- Team Games and Physical Activities on Deck:** *Physical Education and Social Skills Development:* Building fitness, teamwork, and camaraderie through group activities.
- Reading and Interpreting Maritime Flags and Signals:** *History and Languages:* Understanding maritime communication, history, and international codes of signaling.
- Boat Maintenance and Cleaning Routines:** *Chemistry and Responsibility:* Learning about cleaning agents, materials, and teamwork to maintain a safe, clean environment.
- Star Gazing and Astronomy Lessons at Night:** *Astronomy and Philosophy:* Observing constellations, discussing humanity's connection to the stars, and learning ancient navigation techniques.
- Cultural Exchange at Port Visits:** *Languages and Cultural Studies:* Practicing language skills, learning local customs, and understanding global cultural diversity.



Your Turn

Around the Room are Flip Charts
Each chart represents one of the core 'types' of curriculum
Thinking of your ship and your program, what activities do
you do onboard that could connect to an educational
curriculum (20mins)



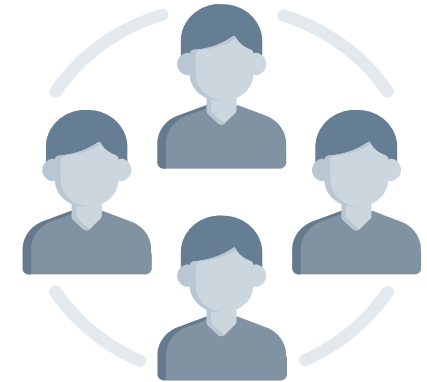
03

Developing Learning Resources

Developing take-away resources you can implement aboard your vessel (20mins)

Developing Resources

- Think of your vessel and/or program and your national curriculum
- Select one or more learning areas you would like to connect to.
- At your table discuss
 - What types of activities onboard could link to that outcome
 - How the scaffold provided can be used to create a learning resource you can use.



Scaffold

1. Resource Title
2. Learning Objectives / Success Criteria
3. Curriculum Links
4. Required Materials
5. Pre-Activity Preparation
 - Teacher Prep
 - Student Background Knowledge
 - Context Discussion
6. Step-by-Step Procedure
 1. Extension Activities
 2. Teacher Tips & Notes
7. Assessment & Reflection

Learning Resource Scaffold:

1. Resource Title:

2. Learning Objectives:

By the end of this activity, students will be able to:

-
-

3. Curriculum Links:

-
-

4. Required Materials:

-
-

5. Pre-Activity Preparation:

- Teacher Prep:
 - Student Background Knowledge:
 - Context Discussion:
-

6. Step-by-Step Procedure:

- Step 1: Introduction
 - Step 2: Activity 1
 - Step 3: Activity 2
 - Step 4: Practice
 - Step 5: Application
 - Extension Activities
 - Teacher Tips and Notes
-

7. Assessment and Reflection:

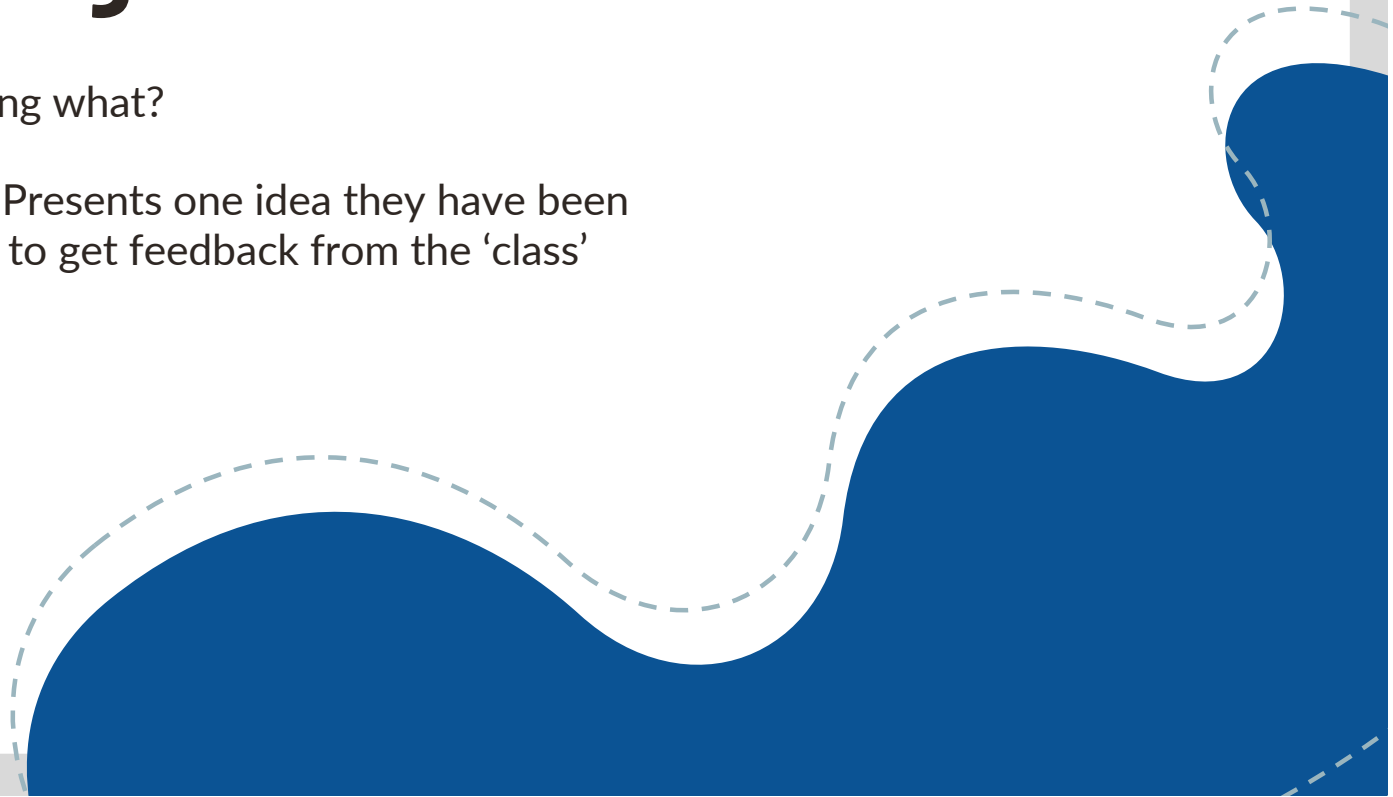
- Worksheet Completion:
 - Reflection Question:
 - Group Discussion:
-

04

Sharing Practices?

Who is doing what?

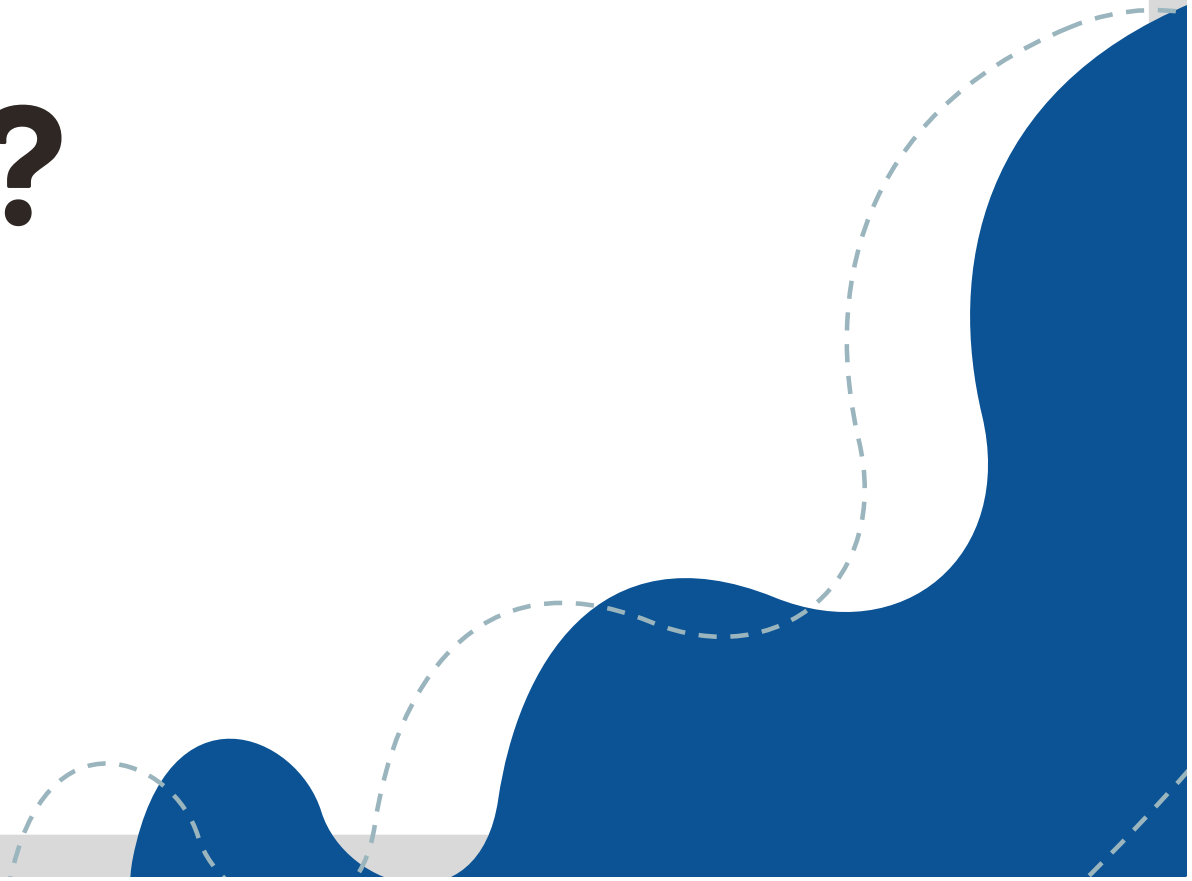
Each Table Presents one idea they have been working on to get feedback from the 'class'





Conclusion

Questions?



Thanks!

Do you have any questions?

office@sailtraininginternational.org

+44 23 9258 6367

<https://sailtraininginternational.org>

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