

Sustainability Learning Lab (SLL)

Enhancing Geographical Inquiry in the Field and Classrooms



Research Highlights

- **Experiential learning laboratory** that actively engages Geography students and teachers
- Provides curriculum resources such as **fieldwork sites** equipped with sensors, data portal, lesson packages and more
- **High student engagement** using geospatial data for inquiry

RESEARCH BACKGROUND

In an increasingly complex world, societies are presented with multiple challenges that are affecting sustainability and sustainable development. To address these challenges, there is a need for an institutional environment which will enable and welcome diverse thinking processes to create multidisciplinary solutions.

RESEARCH PURPOSE

- The SLL is an **experiential learning laboratory in Geography**. A primary objective of SLL is to foster knowledge around sustainability by actively engaging students and teachers through sustainability education, research & fieldwork and community participation.
- The SLL adopts Shulman's (2005) view of **signature pedagogies**, and moves away from generic teaching strategies towards a reconceptualisation of pedagogy as a means to understand and practise disciplinary ways of thinking.
- While the SLL is maintained and supported by faculty at NIE, the intention is to foster a **productive and vibrant partnership and interaction** amongst teachers, students, schools and local agencies.

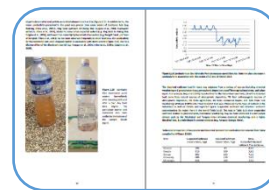
FEATURES OF THE SLL



Fieldwork site(s)
With environmental sensors



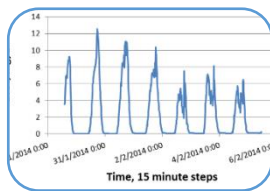
One-stop web portal
sll.hsse.nie.edu.sg



Teaching & user guides



Lesson packages



Interactive data portal



Videos

PRELIMINARY FINDINGS

- **High student engagement** while using geospatial data for inquiry; students had greater awareness of contextual influences in making sense of data.
- Perception of **support from school leadership** in supporting geographical investigations (GI) is crucial.
- Teachers highlight the need for **more teacher training workshops** on data analysis.
- Teachers are quite **reluctant to rely on classroom Internet connections**. In response to this, SLL was developed to allow teachers to download raw data and graphed data – prior to lessons.
- Teachers find the vision of the **one-stop SLL portal** appealing. This is because, currently, they need to search different websites to look for relevant teaching materials in Singapore’s context.



WHAT’S NEXT?

1. Development of a **water quality app** to provide geo-tagged, spatial mapping capabilities to support GI
2. Testing alternative **water sampling equipment** that are cost-effective and can provide time series data across a range of sites
3. Refining the **Talk Moves framework** around multimodal data in geography, with accompanying videos and curriculum materials (through collaboration with ELIS)
4. Proposed development of **two additional modules**
 - Weather and climate
 - Urban liveability

FOR MORE INFORMATION

Contact A/P Kim Irvine at kim.irvine@nie.edu.sg or Dr Tricia Seow at tricia.seow@nie.edu.sg.



Explore the SLL website now!
Scan code or visit sll.hsse.nie.edu.sg.

The SLL is part of the project “Developing, Implementing & Researching Signature Programmes in the Humanities: The Historian’s Lab & The Sustainability Learning Lab”

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