

Workshop 2:
Creating a lesson to engage with science and religious or worldviews when exploring sustainability in an international learning community



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LASAR, CCCU
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**Please interact throughout the session
using Menti!**



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Dr. Aga Gordon – Research Fellow, Consortium Lead, Project Manager



Dr. Finley Lawson – Research Fellow, Schools and Outreach Lead



Dr. Caroline Thomas, Senior Lecturer



And YOU...



Workshop and community activity	Objectives
Workshop 2 – April 26 th 12:30 BST (16:30 PKT)	Collaborate to create a sustainability lesson plan – incorporating science and stewardship (religious worldviews)
	<ul style="list-style-type: none"> Add comments to the EI lesson plan Plan and deliver (if possible) a sustainability lesson Reflect and/or discuss with peers Discuss and feedback through the community BB
Workshop 3 – May 24 th 12:30 BST (16:30 PKT)	<ul style="list-style-type: none"> Reflections: inclusion of S & R in sustainability lesson planning Generate a new sustainability lesson plan (bring examples)
	<ul style="list-style-type: none"> Plan, deliver lesson and reflect on planning and/or delivery Discussion and feedback through the community BB
Workshop 4 – June 21 st 12:30 BST (16:30 PKT)	<ul style="list-style-type: none"> Overall feedback on sustainability lessons/lesson planning Co-create a practical ‘sustainability’ teacher resource guide Discussion and feedback on BB

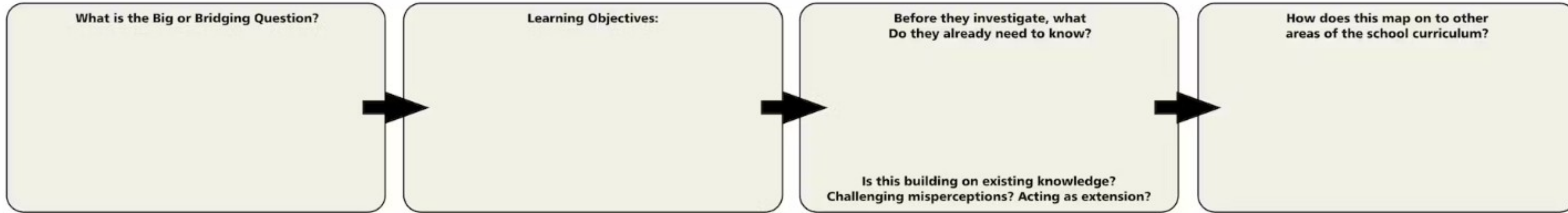


Thank you for uploading to Discussion 1
on the learning community Blackboard
examples of “Using and Adapting Existing Resources”

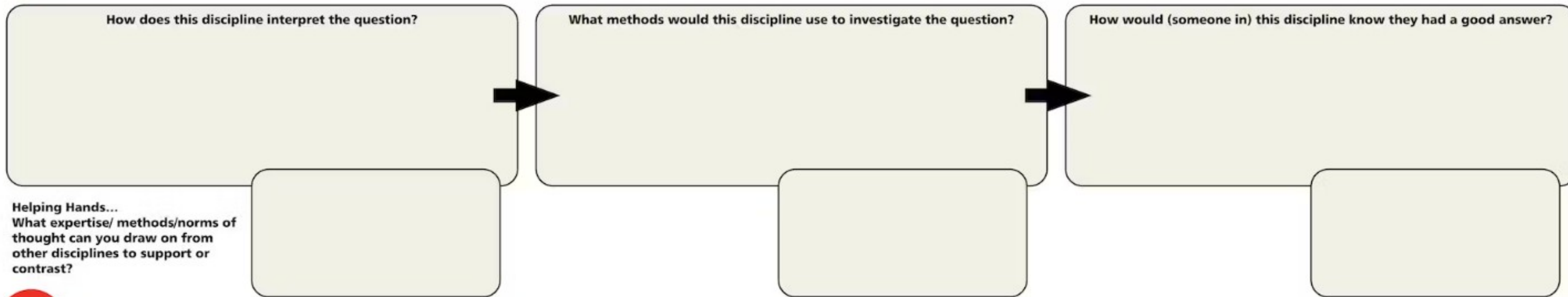
Over to you...



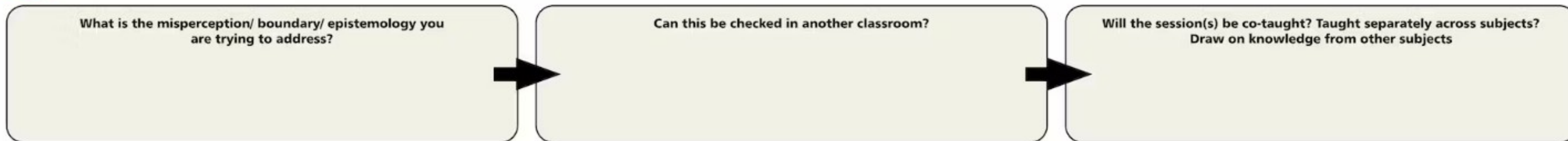
1 Building on Current Practice



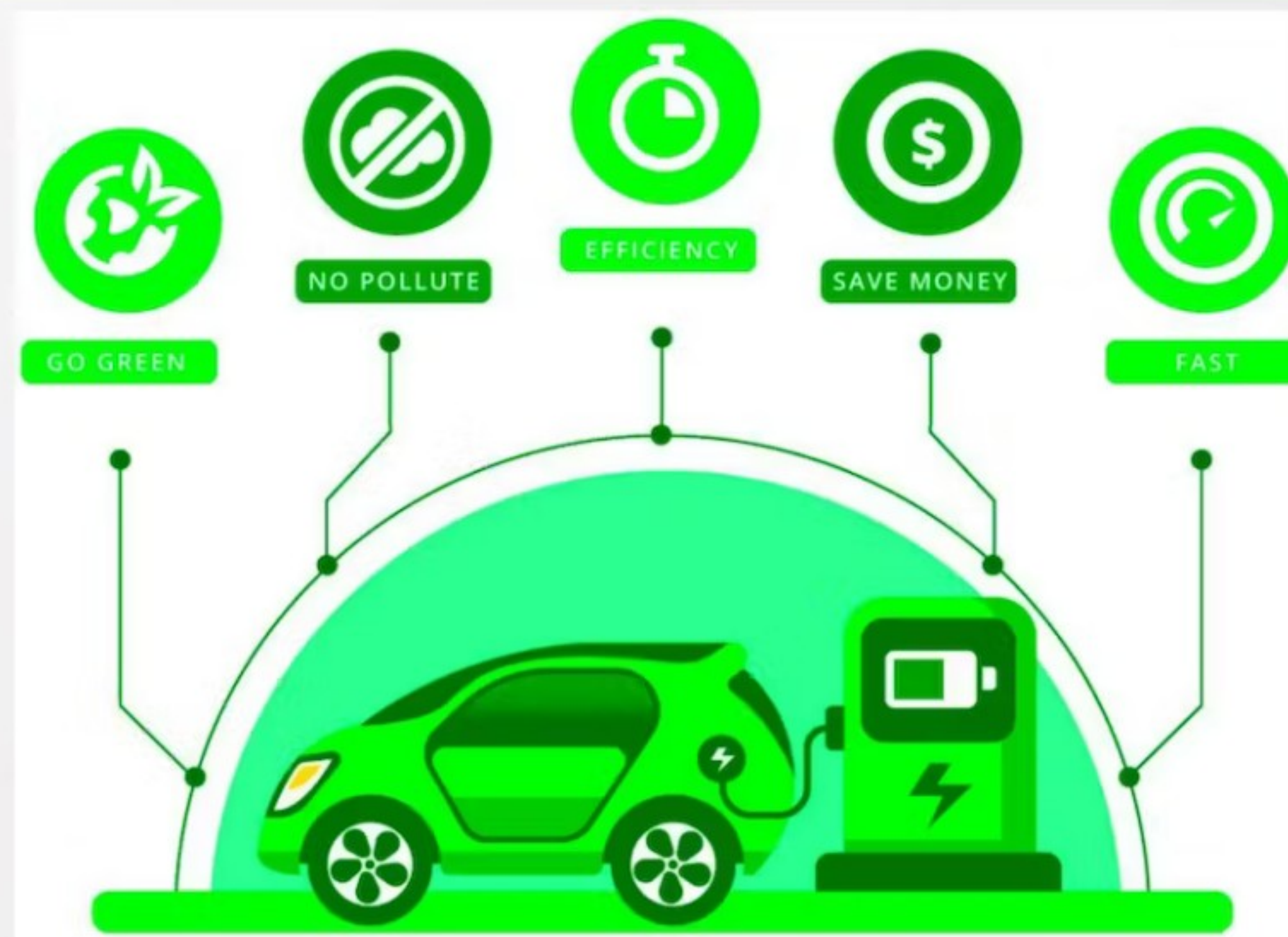
2 Developing Epistemic Insight: How can the students be supported to answer these three questions?



3 Building Permeable Classroom Walls: Forming links across the curriculum



What is the Big Question?



How 'Green' are electric cars?



Learning Objectives:

Before they investigate, what
Do they already need to know?

How does this map on to other
areas of the school curriculum?

Is this building on existing knowledge?
Challenging misperceptions? Acting as extension?



Geography around resource distribution
Science in terms of fuel production

Responsibility when mining resources

Geography. Location of resources

Lower emissions, energy efficiency, renewable energy, battery recycling, however, if the electricity comes from coal-fired power plants, the environmental benefits of electric cars may be reduced.

Learning objectives for stewardship (religious and world views)

Epistemic Insight

Before students (you work with) investigate, what do they already need to know?

How does this question map on to areas of the school curriculum?

11 Answers

There is the societal and economic issue which is very topical.

Science in terms of actual power production are we using renewables to create the electricity

Chemistry - bateries, electrolysis , disposal

Geography location of resources

Manufacturing,UseDisposal

Impact on environment

Batteries- electric it's in science Materials of the car - can we recycle Re - why should we change to electric carsAre they good for all countries

Re/sociology - what are the ethics around "enforcing" electric carsCan people afford to charge

Are people in poorer areas less likely to have off street parking?

How does this question map on to areas of the school curriculum?

11 Answers

Science use of sources what are they made of?
Sustainable materials? Can the batteries be recycled?
At the end of the car. Life are they harder to recycle?
How do they work? Why should we be changing

The Mackay Carbon Capture calculator , gov.com.

2: How can students be supported to answer three questions?

How does this discipline interpret the question?

What methods would this discipline use to investigate the question?

How would (someone in) this discipline know they had a good answer?



Looking at production methods

And also thinking about other sources of greenhouse gases not just CO₂ as many have a much longer "life"

What is the source for electricity renewable/fossil fuels

Testing "cleanness" how are we defining that emissions? Or production? Or disposal?

How would a religious, moral or ethical perspective interpret the question?

4 Answers

Can we make people use electric cars?

Beliefs about creation of the world and our roles in looking after the planet.
Notion of stewardship and guardianship

Are electric cars really sustainable?
There are many variables to be considered here

Do electric cars benefit areas where lithium is mined and where water is scarce?

What methods would science use to investigate the question?

6 Answers

Measuring co2 emissions in production process. Measuring co2 emissions over lifestyle

Length of life of an electric car/battery etc.. will they be like mobile phones and need to be replaced every 2 years

How are you producing electricity?

Efficiency tests for batteries

Reproductable experiment results

Reliable and tested data sets

What methods could a religious, moral, ethical perspective employ to investigate the question?

4 Answers

Impact on quality of life. Clean air?
Noise levels. Global versus local
perspective

Look after global resources.
Stewardship of planet holistically

Use of and fewer cars

Ethics and stewardship of CO2
emissions may overshadow questions of
sustainability of wider planetary
resources

How would a scientist know they had a good answer?

7

Answers

Applicability across various environments

Data comparisons

Investigation results replicable and tested by multiple sources

Reliability of data checked and proved by independent researchers

Data gathered first hand

Environmental Impact Assessment, field studies, Energy Efficiency Analysis and probably comparative analysis of of electric cars with that of other vehicles, such as gasoline or diesel cars, hybrid

Modelling results replicable and proven by experimental work

Epistemic Insight

How would a theologian/scholar of religion and ethics know they had a good answer?

7 Answers

Deals with value judgements

Bentham and utilitarianism?

Refers to ethical principals, may refer to stewardship over "evidence"

Values in religious texts of how to take care of the planet

Concern for the people

Justification of actions using religious texts

if strong values and beliefs in "Green" environment.

What is the misperception/ boundary/ epistemology you are trying to address?

Can this be checked in another classroom?

Will the session(s) be co-taught? Taught separately across subjects?
Draw on knowledge from other subjects



What is the misperception, you trying to address?

4

Answers

Is this purely a science question?

It may depend in which lesson the question is asked. Cross the subject boundaries

Be aware of other areas in the curriculum. How do we teach interdisciplinary? Enable children to enter a multidisciplinary space.

environmental benefits of electric cars are overstated, is that so?

Epistemic Insight

Can this be checked or explained in another discipline or classroom?

4 Answers

Is there opportunity to co-plan with colleagues?

Learning from other teachers.
Collaboration on the same topic of various teachers

opportunity of co-planning and co-teaching could be considered

Conversations between teachers of other disciplines

Will the session(s) be co-taught or taught across subjects?



What is the impact (if any) of the workshops on your understanding of the relationship between science and religion in the context of sustainability?

3 Answers

Excellent helpful dialogue.
Exploration of different ideas and perspectives

Forces me to think

our values and beliefs are actually behind our attitudes

Epistemic Insight

How has the workshops helped you plan lessons on sustainability that cross science and religion boundaries?

Epistemic Insight

What have you gained or learnt from being part of the learning community?

Epistemic Insight

How might our collaboration enable students to explore diverse perspectives on sustainability?

1. LASAR to upload EI lesson plan to the community on BB
2. Participants are invited to:
 - **Add comments to the EI lesson plan on BB**
 - **Plan and deliver (if possible) a sustainability lesson**
 - **Reflect and/or discuss with peers**
 - **Continue to discuss, feedback and share resources through the community BB**

We look forward to meeting up for the next workshop 24th May

