

SUSTAINABILITY ACROSS THE CURRICULUM: THE HONG KONG CONTEXT

SUMMARY REPORT

March 2019

HKUST Sustainability Education Community



SUMMARY

Sustainability Across the Curriculum: The Hong Kong Context was a one-day interactive workshop on 25 January 2019 intended for Hong Kong educators and researchers currently teaching sustainability across the curriculum. Through a series of hands-on activities, participants explored sustainability-related skills and competencies and shared ideas for teaching and learning.

The overarching goal of the workshop was to explore how to dissect the broad topic of sustainability and make it accessible and understandable for students in a way that influences their attitudes and behaviors toward sustainability.

Through a series of short presentations, lively discussions, group activities, and reflection, the workshop revealed 'sustainability character development' as a valuable crosscutting approach to overcoming the complexity of achieving consensus in defining, understanding, and teaching sustainability.

The sustainability character is defined by a holistic collection of competencies, skills, and values. To facilitate this character development requires education to transcend beyond the traditional knowledge domain and adopt pedagogical approaches that encourage students to empathize and engage with real world issues. Lastly, this requires a commitment from educators to develop these competencies and feel empowered to talk about, and engage with, sustainability issues.

We look forward to sharing these findings with you.

HKUST Sustainability Education Community

INTRODUCTION

Sustainability Across the Curriculum was a gathering of participants teaching, researching, or working in Hong Kong educational institutions. Participants came from diverse disciplinary backgrounds and varied in sustainability education experience - 16% of attendees were self-proclaimed experts, while the remaining 84% were looking for new ways to teach sustainability and to understand how it's applied in different disciplines.

The workshop progressed through the following 4 key stages of discussion and sought to explore how to teach sustainability across the curriculum, specifically within the Hong Kong context.

1

DIVERSITY OF THOUGHT

Why is sustainability unique and difficult to define?

2

COMPETENCIES

What kinds of skills & competencies are needed to understand sustainability?

3

DELIVERY

How might we teach sustainability education?

4

ASSESSMENT

How might we assess and evaluate sustainability values?

"We have different models and different frameworks in whatever our different background happens to be. We want students to learn these models so that at the end of their time with us that they will make decisions differently than they would have otherwise made."

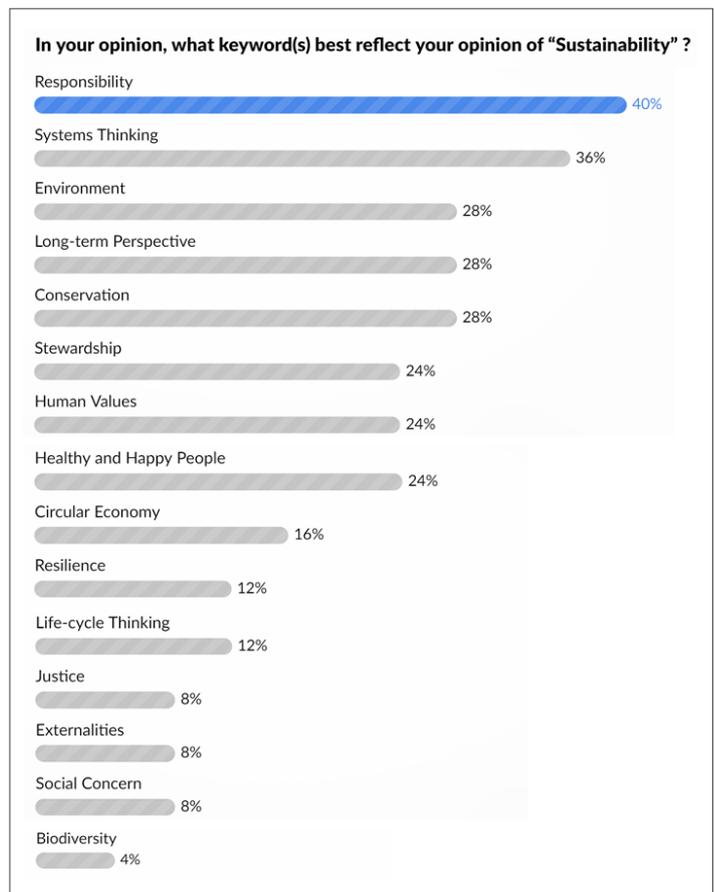
I. DIVERSITY OF THOUGHT

Why is sustainability unique and difficult to define?

Sustainability is inherently interdisciplinary and covers a broad range of concepts – it means so many things to different people, both educators and students – thus, making it difficult to explain and teach. The participants agreed that there is no one keyword that captures sustainability and is relevant to all disciplines. Sustainability can be best defined by a *suite* of terms that help encapsulate a multitude of ideas, and each of these terms build off one another to create a holistic definition of sustainability.

The difficulty in defining sustainability can also be attributed to our culture and language. These influence our interpretation of specific terminology, as do our *core values* - the way we define and communicate sustainability must speak to these core values.

While this seems to be a challenge for elucidating the concept of sustainability to students, it also provides an opportunity to redefine sustainability as a mindset that can be built and exercised over time based on experiences and a connection to core values.



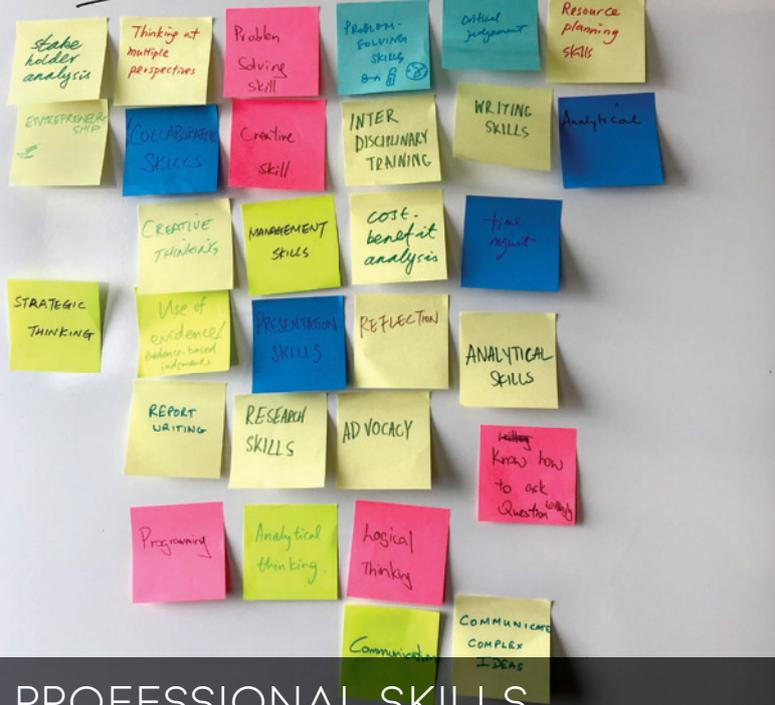
2. COMPETENCIES

What kinds of skills and competencies are needed to understand sustainability?

If we accept that sustainability can be rooted in core values, then sustainability education requires a values- and competencies-based approach that enables development of the 'sustainability character' in addition to knowledge transmission. There was consensus that the key competencies and qualities identified on the following page are necessary for well-rounded sustainability character development. Although some qualities were repeatedly mentioned and considered essential sustainability competencies (e.g. empathy, critical thinking), these qualities remain interconnected. Holism is essential to sustainable character development.

It's important to note that these competencies are relevant to both students and instructors. Educators need to invest in their own sustainability character development in order to feel empowered to equip students with skills and competencies for sustainability.

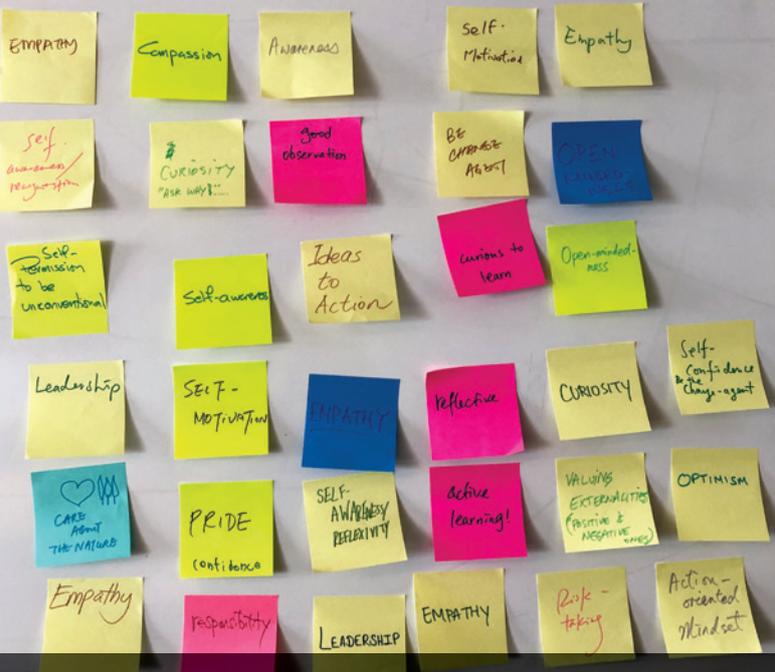




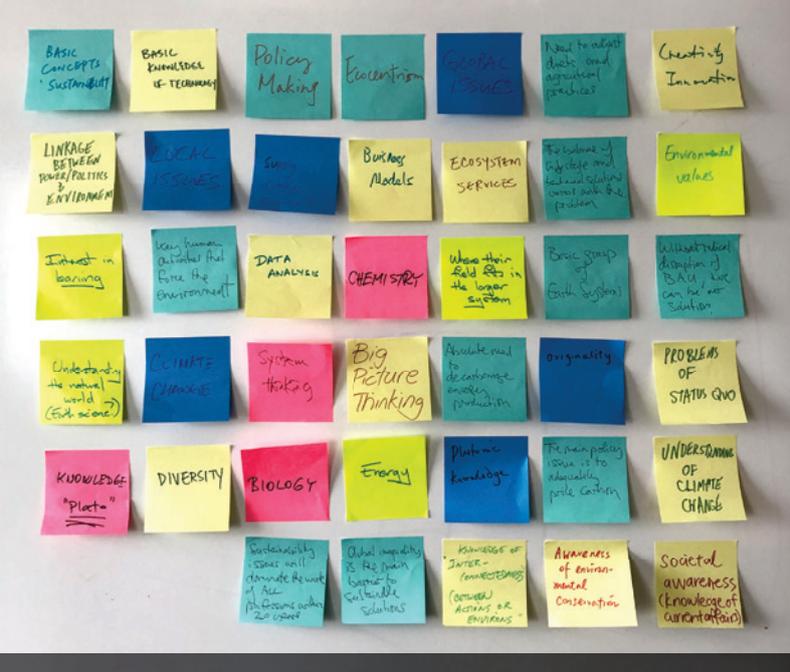
PROFESSIONAL SKILLS



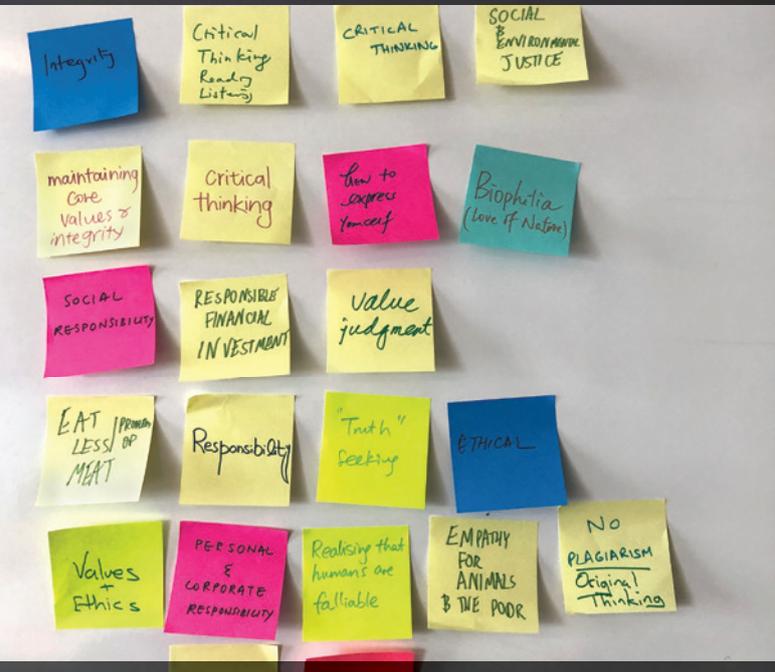
ENGAGEMENT & SOCIAL SKILLS



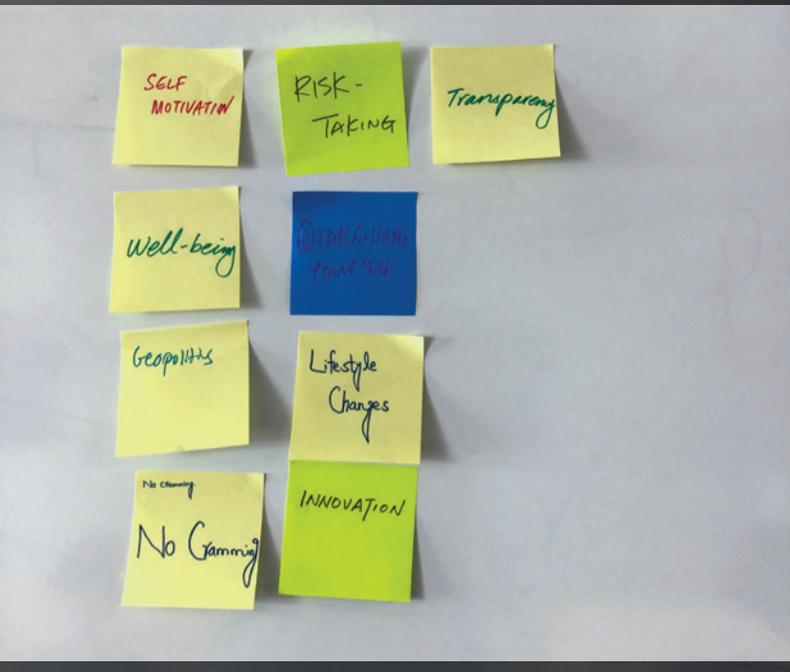
CHARACTER DEVELOPMENT



KNOWLEDGE



VALUES & ETHICS



OTHER STUFF

3. DELIVERY

How might we teach sustainability education?

Based on our understanding that sustainability education should transcend knowledge transmission, a guiding question for this section is 'how might we equip students with skills and competencies for sustainability?'

It was recognized that traditional, didactic education is not enough to equip students with sustainability competencies or may conflict with sustainability character development. A competencies-based approach to education relies on pedagogies that enable hands-on engagement with experiences driving the learning outcomes. Integration of activities such as role play, scenario setting, and simulations can help foster appreciation, empathy, and internalization of sustainability values. Afterwards, reflection upon the activities and outcomes will help students draw connections between their learning experience, cognitive/academic knowledge and affective skill training.

Another consideration is where we deliver sustainability education - utilization of the university campus for experiential learning and transforming physical learning environments can enhance the development of sustainability competencies.

Looking forward, we should also consider how career choices and future challenges influence curriculum design. Educators ought to map backwards from sustainability challenges and industry demands to effectively equip students with the necessary skills and competencies to meet future needs.

“Experiences matter – getting students to ‘do’ things, don’t just learn. We’ve got to get them thinking, acting, doing.”



“We have to create more space for students to learn about sustainability and at the same time we have to take their attitude and other psychological factors [into account] when designing sustainability education.”

4. ASSESSMENT

How might we assess and evaluate sustainability values?

Organizations (such as Sulitest) have tried assessing sustainability literacy using the traditional formats we use to test levels of knowledge and understanding. However, these tests have been unsuccessful because they're driven by specific content that may seem trivial or changes regularly, and the content is often geographically specific. Competency-based sustainability education requires not only a transformation in pedagogy, but also in assessment models that measure to what extent we're influencing student values and behaviors.

When asked how to evaluate students' actions rather than their words, participants agreed that a qualitative approach may work better than a quantitative approach. Focus groups, personal interviews, longitudinal assessment such as a multi-year portfolio, pre and post assessment, or student self-evaluation are all options for assessing the depth of integration of sustainability concepts. A key challenge with the suggested reflective assessments is addressing the high cost and time investment. One potentially scalable solution is a case study mapped to a multiple-choice test which asks students to react to different scenarios, similar to a 'choose your own adventure' assessment. This would be conducted as a pre and post assessment - the pre assessment would provide a benchmark for measuring the degree of change and adoption of sustainability competencies. However, multiple choice tests present their own challenge of encouraging students to answer honestly versus 'gaming' the assessment.

The question of assessment and whether students are translating academic training into action remains a key area for investigation. Metrics and indicators for success are difficult to define and require further discussion in order to gain general consensus about how we assess and evaluate sustainability values.

"This is not something you can do by inventing a questionnaire... so you're looking at smaller samples with more intention, perhaps extended interviews...and you could ask students for some sort of self-evaluation to evaluate their own readiness"

CONCLUSION

The interdisciplinary, cross-cutting characteristic of sustainability makes it difficult to define, and hence, difficult to teach. Adopting a values- and competencies-based approach to sustainability education helps overcome this challenge, and facilitates holistic character development of our students.

Prioritizing active learning pedagogies is necessary for ensuring development of sustainability competencies, especially through activities that encourage empathy and internalization of sustainability values. Additionally, curriculum redesign needs to be partnered with a transition in assessment models towards qualitative and reflective activities.

Sustainability education requires a multi-pronged approach:

- Updating curriculum to cater to students' needs and contemporary issues;
- Transformation of the physical learning environment to foster skill acquisition;
- Designing qualitative learning assessments that measure sustainability character development; and,
- Improving student transitions between higher education and the labor market.

Areas for further exploration (at a future workshop) include:

- Detailed exploration of specific skills and competencies for development of lesson plans that can help build and embed those skills.
- Consideration of how to develop important, yet intangible attributes such as empathy, appreciation, and respect in the context of understanding sustainability.
- Deeper analysis of assessment models and frameworks.



This workshop was organized and facilitated by the HKUST Sustainability Education Community. For more information, or to participate in future activities, please contact secommunity@ust.hk or find HKUST Sustainability at green.ust.hk.

