**XIX International Conference of the**

**Society for Human Ecology**

# Title: Sustainability, emergence and the graduate attribute of global citizenship

**Slide 1: Title Slide**

We’ve been engaged in a conversation for the past two years, that began when we set out to write a text book chapter for first year university students on Sustainability.

During our conversation we realised we were seeking a way of understanding sustainability that could act as a guide for human actions at all scales; a conceptualisation that could be really useful in helping us decide upon how to act in general. We found that our reasoning led us towards an understanding that was increasingly framed around the relationships between actor and act, and progressively moved away from understanding in terms of boundary definitions and the measurements of outcomes.

Emergence theory provided the framework we were seeking, and a way of thinking about sustainability that focuses upon the spaces of interactions between entities.

This is the view of sustainability we are going to present here, and apply in considering the role of universities in shaping a sustainable future. We recognise that in many circumstances, and for many problems, this emergence approach will not be the most useful, and note that it is an addition to the field, not an alternative.

**Slide 2: Systems and Emergence**

The conceptualisation we’re presenting here draws upon systems and emergence theory. We find a systems approach helpful because it is able to recognise the active role of the observer in a system, and the significance of their location as either within or outside of the system. It also is able to account for the possible blindness of an observer, to aspects of the system.

We also draw upon these key elements of emergence theory: that interactions between local actors in a complex system may come to follow a simple rule or rules. These actions may result in patterns ([Johnson, 2001](#_ENREF_14)) that can only be detected by observing from a scale of greater generalisation. And further, that pattern emerges from local actions without the direction of a leader.

So, applying this approach to sustainability, we’re looking for three key elements; certain simple rules at the micro level; certain types of observation at the macro level, and certain forms of feedback between these scales.

So what do we think an emergent conceptualisation of sustainability looks like?

**Slide 3: Sustainability as an emergent property**

**The emergent quality of a system that results from the responsive interplay between the nourishing actions of individuals (bottom-up) and feedback about the persistence and nourishment of the interrelationships between elements of the supporting environment and ultimately the global system (top-down observations and macro/micro feedback).**

**Slide 4 – sustainability as an emergent property**

At the micro level, nourishing action can be described as the simple rule that individuals would need to follow for sustainability to potentially emerge. Nourishing involves active effort to support the other in relationships. In terms of the implications of this for human action in general, to foster the emergence of sustainability, where it is desired, we would interact in ways that support the continuation or improvement of the other in each relationship we are involved with.

Given the unpredictable nature of emergence, being actively involved in relationships may or may not lead to sustainability. Without monitoring occuring at a macro scale, and feedback from the macro to the micro scale, decisions about how effective the nourishing relationship at the micro level is will be lacking a broader perspective and may be completely misdirected because the extent of the system is not understood.

We think this conception is useful for three key reasons: it indicates the kinds of relationships individual humans and human groups need to be engaged in at the micro level; it provides a guide for the monitoring functions that might be needed at a macro level to recognise emergent patterns; and most importantly, it places emphasis upon the relationship between the two scales.

Now let’s consider the role of universities in fostering the emergence of sustainability from the space between the scales.

**Slide 4: Universities role in shaping the future**

As we’re sure you are all aware, universities play a profoundly important role in shaping the paradigms and values of the future. The choices academics and insitutions make about curriculum content, texts and subject offerings provide a basis for the values and perspectives of future leaders. Not only do these choices impact through their influence upon university students, but they have a domino effect downwards through the K-12 school curriculum, both because schools are inevitably preparing students for university entry, and through the training of teachers.

Recently universtities have been actively trying to define the skills and values they claim to provide to their graduates through specifying their graduate attributes.

**Slide 5: Graduate attributes**

Bosanquet et al (2010) describe four conceptualisations of the purpose of graduate attributes from a broad literature review.

The most common is one of job readiness; that universities are providing attributes they believe will be most useful to their graduates in the job climate of the immediate future.

We focus on the fourth purpose is acting in the common good. When universities describe high level attributes for their graduates, they are recognising the real role they play in shaping the world of the future.

To not recognise this role would seem irresponsible, but recognising it, and developing policy around the vision, positions the university in a bold leadership role in defining the values that will shape the future minds, and decision making parameters of the future world.

We are going to look at a specific higer level graduate attribute, global citizenship, which both of our universities, and 26 other Australian universities claim to develop in their graduates to investigate how well it can operate as a mechanism for universities to support the emergence of sustainaibility.

Because they are clearly defined, and because processes for incorporating them into curriculum are being developed and documented, graduate attributes such as Global Citizenship can now begin to provide a methodological lever to evaluate how effectively, and in what ways universities are shaping the values of the future.

**Slide 8: Global citizenship**

In this case, we are considering sustainability as the emergent phenomena to watch out for at the macro scale that might emerge from the universities decision to incorporate and embed the global citizenship graduate attribute.

The Univiersity of Melbourne defines its global citizenship graduate attribute like this:

Active global citizens:

* + accept social and civic responsibilities
	+ be advocates for improving the sustainability of the environment
	+ have a broad global understanding, with a high regard for human rights, equity and ethics

We have made the first steps in a research project to trace the impact of the University of Melbourne’s global citizenship graduate attribute in engendering sustainability to emerge. (the second dot point)

**Slide 9: How subject teaches to global citizenship**

Helena teaches

Undergrad core subject of 400 students

**Slide 10: Methodology**

* Pre/post Questionnaire with 6 questions relating to global citizenship, students completed in first and last week of semester
* Students asked to self-report meaning of ‘global citizenship’ and the characteristics they associate with the attribute.
* Excluded questionnaires that did not have a match (missing either pre or post) – final sample size 81
* Reviewed these to get a sense of the range of views
* Identified themes in the meaning students attribute
* Extent that changed their understanding

**Slide 11: Prelim data**

Question 1 was ‘What does it mean to you to be a ‘global citizen’?’ and question 6 was ‘List the characteristics that you believe make a global citizen’.

Across both questions four dominant trends were identified.

The most common trend was a change in focus to a different scale. Some students expanded the scale to think bigger, but more common was a move to thinking in terms of local actions and their impact on the global. Most of the students who made this change were already thinking globally at the start of the semester, and changed to consider that the local scale is equally or more important.

Second most common was adding or increasing an ethical element, for example a student whose response to question one at the start of the semester was: ‘Having an understanding about different cultures in the world’ at the end of the semester wrote ‘Having an understanding of many different cultures and systems in the world and respecting all of them’.

The third most common trend was that students added the need to be actively engaged. These students used words like ‘aware’ or ‘conscious’ at tehstart of semester, and words like ‘involvement’ or ‘action’ at the end.

The fourth trend was towards taking greater responsibility.

* Pilot data is suggesting that greater than 50% of students’ views, attitudes towards global citizenship and the components it represents are shifting through taking this first year core subject at U of Melbourne.
* Uncertain whether those who completed both are a representative sample of the 400 students in the subject. It could be that they are the most keen students, and the data is skewed. Some change is occurring, but we’re unsure of the proportion.
* the trends suggest that students’ attitudes are changing towards being more aligned with the way of interrelating that we are suggesting may foster sustainability - towards engaging in nourishing relationships. Students are focussing more on their responsibility to take an active role in engaging ethically at the local level while realising that feedback about the global is needed to inform their actions.

**[For question time**

Other students

A few individual students had responses that were different on the whole. One became more abstract and broader. Another had an increased sense of being positive and aware. A third specifically added advocacy. Another identified the need to be a critical thinker by the end of the semester, while a different student changed their view of the characteristics of a global citizen from a need to obey to having global awareness.

Neutral students

Of those students who completed both surveys, 25 did not change their understanding of global citizenship in question 1, and 20 did not change their understanding of the characteristics of global citizenship in question 6. Of these, there were only 6 students that remained neutral for both question 1 and question 6.

Negative change students

There were six students whose understanding of global citizenship appeared to regress in Q1 and two in Q6. There was no overlap between these two groups of students. Students who regressed started the semester acknowledging a range of ideas related to global citizenship, such as recognizing the need for respect, that individuals have impacts on the planet, and an awareness of global issues. By the end of the semester these students described global citizenship as only requiring awareness, connections, and a sense of being part of the economy, society and the environment. ]

**Slide 12: Research design**

Our aim in the coming semesters is to explore the question:

* Is the global citizenship attribute a way of creating a more sustainable future?

To do this we will:

* Find subjects that are aiming to develop global citizenship as part of their curriculum
* Trial a range of methods - similar surveys, and other methods to determine changes occurring for students; Using students’ assessment work on the topic of sustainability

And we hope to take a

* Long term look – what happens to these students once they’ve moved into society (5, 10, 20, 30 years time)
* We’re interested in developing a framework for assessing whether, when, and how graduate attributes like global citizenship are being developed at Australian and perhaps International Universities.
* We’d love to talk more with those who are interested in this area, so please come and find us during the conference.

**Slide 13: Acknowledgements**