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Webster, Ken and Vare, Paul ORCID logoORCID: https://orcid.org/0000-0003-3182-9105 (2012) Balancing the whole: a dialogue around a frameworks-based education programme. In: Learning for Sustainability in Times of Accelerating Change. Wageningen Academic Publishers, Wageningen, NL, pp. 395-409. ISBN 978-90-8686-203-0

EPrint URI: https://eprints.glos.ac.uk/id/eprint/7211

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Balancing the Whole:
A dialogue around a frameworks-based education programme

Ken Webster, Ellen MacArthur Foundation
Paul Vare, South West Learning for Sustainability Coalition

Abstract

This chapter comprises a dialogue rather than a formal narrative. Ken Webster of the Ellen MacArthur Foundation (the Foundation) invites Paul Vare of the South West Learning for Sustainability Coalition to critique the Foundation's education resources that introduce the concept of a 'circular economy', which is based on insights from natural systems.

The dialogue introduces two complementary concepts of education for sustainable development (ESD); these are: *ESD 1*, representing learning that promotes the adoption of 'positive' behaviours and *ESD 2* that builds learners' capacity to think critically about (and beyond) expert knowledge.

Vare suggests the Foundation's approach is predominantly ESD 1 because it *promotes* the circular economy rather than encouraging students to think around, even against, the concept. He also highlights the importance of exploring the social implications of system re-design.

In response Webster highlights the way that metaphor-based frameworks dominate how we think and learn. This results in increasing self-knowledge, critical insights into how others think and how frameworks are used to manipulate debate. This resonates with ESD 2 but is not yet prominent in the Foundation's materials. In fact, resources emphasising the role of worldviews and mental frameworks *are* being prepared for the Foundation website.

Introduction

The Ellen MacArthur Foundation (referred to throughout this chapter as 'the Foundation') aims to facilitate society's movement towards a 'circular economy' – a model based on the re-use of resources rather than current linear production models that take resources, make things and dump waste. After its first year of operation, in which the Foundation developed a range of educational resources, the Foundation's Head of Learning, Ken Webster, invited Paul Vare of the South West Learning for Sustainability Coalition to engage in a dialogue about the Foundation's approach. This chapter comprises an abridged version of that dialogue.

Dear Ken (1)

Having explored the education pages of the Foundation website (www.ellenmacarthurfoundation.org), let me start by saying I like your approach because it is:

- positive, upbeat and doesn't provide a 'guilt trip'
- focused, in terms of age range and subject area
- underpinned by a clearly articulated framework ('the circular economy') based on natural systems

More specifically, the film clips of your competition among student teams (called 'Project Re-design') highlight:

- effective pedagogy, such as learning through dialogue and team-working
- space for emergent qualities, i.e. students are encouraged to come up with something new rather than 'follow the steps'
- big picture thinking, going beyond the tired 'what you can do' messages

As you know, I believe that education for sustainable development (ESD) requires two complementary approaches, which I call ESD 1 and ESD 2 (Vare & Scott 2007; 2008), and I have viewed the Foundation's materials through this lens.

Firstly, let me clarify these labels:

> *ESD 1 – learning for sustainable development.* This includes awareness-raising around 'positive' behaviours where needs are clearly identified and agreed, e.g. there are few arguments against loft insulation so why not promote it?
>
> *ESD 2 – learning as sustainable development*. This aims to build capacity to think critically about – and beyond – what experts tell us, exploring the contradictions inherent in trying to do the 'right' thing thus helping us negotiate an unknowable future.

Learning outcomes of ESD 1 are often pre-determined whereas ESD 2 outcomes are emergent in character – we cannot determine what they will be based on the ESD 1 building blocks.

Critically, these are *complementary* approaches; neither should be applied without the other. If we don't plan for this double-sided relationship, it will happen anyway because students will think critically for themselves whether we like it or not (Rickinson *et al*, 2009). Sadly, untutored critical thinking is often unrelated to lesson content and thus overlooked, even punished – a learning opportunity squandered.

The Website

At first glance, the Foundation's approach seems predominantly ESD 1 because it *promotes* a self-evidently beneficial framework, the circular economy – a 'closed loop' production model based on nature where waste is designed out of the system. ESD 2 is present, particularly in the Project Re-design workshops but the Foundation's *raison d'etre* appears to be selling the circular economy/closed-loop concept. I see nothing wrong in sharing this important idea but it's clearly a preferred 'solution'.

In the Foundation's introductory films, Ellen MacArthur says she wants to take us on a journey – a learning journey for her and colleagues towards this systemic 'circular economy' solution. Sharing your insights is valuable but this was *your* journey. The students are asked to *follow* by working within a circular economy framework. Despite exhortations to 're-think' and 're-design', nowhere are students asked to re-think the circular model. Heavens, they'd probably create something less sustainable. But surely that's the kind of risk that helped those who inspired the Foundation to formulate their own radical ideas.

I see two related dangers here. Firstly, teaching about complex issues and possible solutions should also involve a critique of those alternatives – thinking *around* them, not just *with* them. Secondly, if young people don't critique such ideas themselves, they may lack the capability to tackle the naysayers.

It took one negative article about William MacDonough's apparent greed in registering the related term 'cradle to cradle' (Sacks 2008) for cynical bloggers to retort:

> *'Wether* (sic) *it is the New Age or Green movements, they're all the same.'*

Any critical reader will see that attacking the perceived failings of a single personality should not undermine the concept, but if we haven't critiqued the concept fully, if the idea has only come to us through 'expert' voices, then we may lack the arguments to counter unforeseen challenges from beyond the classroom.

Your website provides a wide range of materials to introduce/promote 'closed-loop thinking' but it's only in your more discursive documents where you explain how the circular economy:

> *'…has a clear place in what we teach: even if it is to ask 'if not this then what?''*

It's that ESD 2 question, *'if not this then what?'* that isn't clearly visible among the teaching resources. Of course it may be difficult to critique an idea that is itself being presented in counterpoint to more familiar production models, especially for students who are trained for factual recall examinations – but all the more reason to give it a try.

We might, for example, stimulate critique (possibly launching spin-off projects) with questions such as:

- Why do you think many businesses don't use closed-loop thinking today?
- It takes energy to produce work; is it really possible to live in a world without waste?
- In the shift towards a circular economy, who might loose out?
- Is a 'cradle-to-cradle' torture chamber better than a conventionally built one?

These can be addressed with good science or clear logic but the latter questions raise the issue of values. You will have heard the criticism that the Foundation's presentation of the

circular economy doesn't necessarily reflect 'sustainability values'. If, for example, a closed loop solution serves to perpetuate or exacerbate massive inequality among people, is it really sustainable?

To illustrate the importance of values we might highlight the example of Huangbaiyu, northeast China, where a failure to listen to local people, suggesting a lack of respect for their values and perspectives, contributed to the demise of a 'cradle-to-cradle' eco-city project (May, 2008). Discussing such difficulties might involve a wider range of curriculum areas than you intend but this could be supported by resources from other organisations thereby making their programmes more complementary than is normally the case. It would also enable you to maintain your clear focus; after all, the great challenge in any ESD programme is defining boundaries around what you will and will not cover.

In Conclusion
Critiquing the circular economy (ESD 2) as well as promoting it (ESD 1) provides scope to involve students with different skills and interests across the curriculum. While the ESD 1 material gives a vision of a more sustainable economy, a stronger ESD 2 approach would help develop more resilient students. I'm sure the Foundation would wish to encourage both.

Paul

Dear Paul (1)
Thanks for your kind words and thoughtful commentary on our work, which I summarise as being supportive except for a perceived deficit on the side of exploring values and critical thinking (ESD 2). Towards the end you acknowledge that 'The great challenge in any ESD programme is defining boundaries around what you will and will not cover.'

I agree, and have felt for many years that ESD programmes have singularly failed in this regard. It has serious consequences. Because notions of sustainability encompass economic, social and environmental strands, it is easy to make a case for including whatever big issue is the focus of the day. Nobody seems against sustainable development in liberal circles and it can be re-potted endlessly, as with the astonishing claim that in schools it could be summarised as a care agenda (DCSF 2008). That was a masterpiece of framing which made it impossible to resist (who is against caring?) and militated against getting usable boundaries on sustainability apart from the sense that it was probably down to individuals and communities to act appropriately to express 'caring' (classic ESD 1 of course) through 'actions'. ESD as a way of offering a critique was 'cared to death'. Critiques don't sound very caring after all!

Whilst claiming to be inclusive through a wide, vague agenda, and about values – ESD does highlight inequities and absurd resource use practices – it is then stuck. Sensing that something is wrong is one thing, but having no frameworks through which to explore or compare solutions is most unhelpful. By default it is left with a 'business as usual but greener and fairer' intention. As a result ESD presents a laundry list of disparate, complex and

intractable issues; something about which individuals 'should take action'. In my mind's eye I see students blinking at the enormity of the responsibility headed their way. Incoming! Duck and cover.

This potential for bewilderment or cynicism only grows by assuming that there is an endless mix of values out there – so ESD settles for gathering opinion and that's the end point. However, there is often a hidden agenda – variations on the same 'top twenty' list of acceptable behaviours to promote a more sustainable world/school/town. These are rarely up for serious debate. I have had some strong responses from professional development exercises that question the appropriateness of recycling – usually along the line that it is 'better than nothing.' ESD speak with forked tongue kimosabi[1]

The Foundation has sought to avoid this by being open about its assumptions and defined in its focus. Interested parties can grasp what we are about, use our tools for re-thinking and re-design, or decide that what we have collated is not for them.

In presenting to the South West Coalition and elsewhere, I have offered this summary (below). Let's see if it helps us decide whether this amounts to an ESD 1 focus or whether it is a coherent framework for thinking about long term relationships between resource flows, human society and environment. Let's see whether it's harmful to define its limits. In a grown up way, let's imagine it's like a knife and fork, a useful way of approaching the meal, yet recognising that it is something that could be dealt with using the right hand, chopsticks or whatever. In the spirit of that analogy, is it liberating to have access to these refined eating tools or protocols rather than nothing, or worse, pretending that the question is open when the 'answer' is, for example, something acceptable to an eco-socialist or conservative perspective masquerading as a right-minded, rational, end point?

This brings us to frameworks again because up front the Foundation has said that it accepts the argument by Lakoff and Johnson (1999) that all thinking uses frameworks. All choices depend on the frameworks we use, furthermore these frameworks are mostly unconscious and not infinitely varied; the commonality comes from the use of shared metaphors and groups of metaphors in humans which are based on our physicality. In this model of how we think there is no meaningful learning without its framework or context, which removes the objection about the need to recognise and use frameworks at all.

Below are the Foundation's working assumptions, we call them 'inputs' and before anyone, not you of course Paul, runs away with them and says 'look they have *principles*, they're telling us what to think, and do' I will use the Groucho Marx riposte, 'These are my principles. If you don't like them I have others!' More seriously, the physicist, David Bohm (who was also convinced that we understand the world through metaphor-based worldviews) was fond of saying that to advance our thinking we need to play with ideas. Play is often associated with childishness or falseness but we can also 'play true', we can hold an idea and apply it, savour it, leave it to one side and move on.

[1] Tonto of course, the indigenous voice in the Lone Ranger ☺

‘If not this [model] then what?’ is a valid suggestion. It emphasises a frameworks assumption. In the Foundation, part of our boundary is to contrast the overwhelming dominance of the worldview of our times with one other; an evolution from it. Both are modern, based on science and accept the desirability of an industrialised world. We stop there. We don’t attend to others. Perhaps our website should include a playful disclaimer – a reminder not to get hung up on an idea, however serious it appears:

> *Other frameworks exist, please check with your supplier. Terms and conditions apply. Feelings of uncomfortableness may result from the notion of a circular economy not fitting your existing framework, or those of your friends and family. This is OK. These ideas are supplied as a public service, without obligation to either party*.

The Foundation Inputs are:

1. Lakoff’s ‘embodied realism’ – *we think via frames* and deep frames are based on metaphor. ‘Worldview’ matters

2. Recognising *most real world systems are non-linear* (full of feedback). So understanding the ‘rules’ of the non-linear is key. However, most thinking remains partial and linear by habit

3. Using *insights from* non linear systems (especially *living systems*) as *a jumping off point for modelling economic systems* – in common with ‘cradle to cradle’, ‘biomimicry’, ‘blue economy’ – (relates back to 1 & 2)

4. *Resource constraints* are assumed to be both *real, imminent and game changing* – a linear economy will become largely unsupportable

5. The overall notion (relates to 3) is that the *economy could be rethought and redesigned to be restorative* and increase well-being. Not ‘do less harm’ but ‘do good things’. More opportunity – jobs , income, profits, social welfare. But how?

6. The *educational focus is on ‘systems and citizenship*’ not ‘me and consumerism’ It questions guilt if disabling, re-contextualises personal responsibility and prompts interesting questions around consumption, population, ‘recycling’ – critical and creative thinking

7. *Learning* is assumed to be *an iterative non-linear process*, preferably developed between teacher and learner which explores worldviews (context) process and content continually

8. Discusses the key role of optimising systems, including energy and materials cascades, the tension between efficiency and resilience (i.e. not maximising component and short run *efficiency* but “*Whole Systems Design*”)

9. Other system inputs include discussion around *prices as messages ‘telling the truth’ the role of money at interest and money as debt*

10. *Reflections on* above (1-7) for *the notion of schooling itself* (as a classic example of a linear, partial model shaped by an earlier industrial model)

This list allows me to highlight (*in italics*) some of the potential ESD 1 notions – the required knowledge or understanding about a circular economy, or at least its basis. Much of it could be argued to be straightforward science, maths and economics already waiting to be revealed to the curious. It's corralled in a particular way but it's not rocket science.

What I find at the Foundation and I assume you found it too Paul, is a coherent framework and various exemplifications for thinking about a circular economy as opposed to a linear one (in the scientific era – not earlier societies). It is one framework for how the economy might work long term. It suggests that re-thinking and re-designing, using insights from living systems, is possible.

What you won't find in the Foundation is any list of particular behaviours for students, other than that they are educated and willing to contribute to the obligations of citizenship in a democracy – and to think creatively and critically. Even then it's hands-off. We are not a membership organisation; there is no campaigning for bottle banks; local food is not assumed to be better, nor vegetarianism or not having personal transport, or an iPad…

We have tools and exercises and offer a try-out framework. In short we make no attempt whatever to make 'better people'. We have an educational commitment to open up the world to students as best we can. Compared to the bulk of ESD with its behavioural change focus we are decidedly not in an ESD 1 space at all.

But what about values and social outcomes? You pose some teaser questions but your serious point is perhaps here:

> *'If… a closed loop solution serves to perpetuate or exacerbate massive inequality among people, is it really sustainable?'*

The troubles here for me are manifold: firstly you mentioned the notion of 'sustainability values'. What are they? There is suspicion in some quarters that you can't 'do sustainability' without certain values, principally being in favour of increased equality – at least reduced inequality – especially for populations in the South.

This undermines talk of people making up their own minds about different frameworks, of having different values, if we are to assume that it has to have a leftish outcome to be sustainable. Secondly it may be the system conditions in a linear economy, its 'rules of the game', that enabled such inequality to grow over time.

What do the basic characteristics of a circular economy entail? (The notion of systems having 'entailment' is important). Would it be likely, or indeed possible to 'perpetuate or increase …massive inequality' in a circular economy? Personally I sense that it would not. It would have quite the opposite effect – but that perception should not enter the Foundation's approach. We wish to share and promote, in the sense of 'make available', a

framework that might work as a tool for escaping the *thinkjam* that's occurring around the existing model. This leads to my last point: the thorny question of buying time.

Without addressing resource and energy flows and making them benign, if not restorative, the social debate is moot. A system that might work long-term gives time to sort out the politics through, presumably, a democratic process. How much easier is it to do the politics based on a hopeful set of resource and energy relationships rather than fighting over the remnants of the world?

In conclusion
I feel the Foundation is enabling critical and creative thinking by offering a coherent toolkit of ideas with which to interrogate the present and model the future. We are very open about it. Some of that toolkit is knowledge, which can be seen as ESD1, but we are not after behavioural ESD 1 as it is commonly operated. I agree with Datschefski (biothinking.com), we must dislodge 'the widely held misconception that sustainability is optional, or that it is some kind of moral behaviour that requires unilateral individual sacrifice in favour of the environment.' The revelation: 'It's the system stupid.'

Just as the map is not the territory, the model we promote is not more than an aid to thinking; all thinking requires models, all abstract thinking is metaphorical; we are after this thinking more than anything, to open the world and to see it anew, as Marcel Proust said:

> *'The real voyage of discovery consists, not in seeking new landscapes but in having new eyes.'*

This goes hand in glove with Robert Lynd's injunction that:

> *'Knowledge is power only if man knows what facts not to bother with.'*

Both of these are manifestations of what you call ESD 2.
Ken

Dear Ken (2)
Your work highlights an interesting ESD dilemma: how and where to identify and follow connections while keeping issues manageable. The Foundation is careful to focus on the circular economy and avoid slippery terms such as 'sustainable development' (SD). Your approach forces us to be clear about what we are saying. Your science-based argument for a circular economy adds urgency to an understanding of mental frameworks. This combination of *direction* and *tools* exemplifies ESD 1 and 2.

However, your claim that, 'without addressing the resource and energy flows… …the social debate is moot' could be inverted with equal validity. Attending to resource flows will be of little consequence to most of humanity if we don't *simultaneously* address issues of access and equity. Solving problems in one sphere without heed to the implications elsewhere is unlikely to provide a lasting solution.

This is where you tell me 'the troubles… are manifold' as we may be inflicting our values on others. But gross inequality is as sure a recipe for system collapse as biodiversity loss; such concerns are not the preserve of a given value position. We could for example (a) share Oxfam's moral outrage; (b) adopt the 1980 Brandt Commission argument for (economic) inter-dependence or (c) seek to assist the laggards in a linear 'development race' as understood by President Truman (and the British Empire before), making 'them' more like 'us'. It's not always about adopting a 'leftist agenda'.

Green revolution?

The notion of a circular economy strikes me as a technical fix, albeit based on an ecologically sustainable mental framework. This gives me an uncomfortable feeling even as I enjoy the clarity and positivity of the Foundation's materials.

Such positivity brings to mind the Green Revolution that aimed to increase agricultural output in the developing world. Constraints seemed 'real, imminent and game changing' (to borrow your words) and the 'solution' involved re-designing the rural production model in a science-led manner. Productivity soared as high-yielding crop varieties were nurtured, with all the necessary inputs to support them. What could go wrong?

It went seriously wrong. Focusing on the production model did not alleviate hunger because it failed to address the concentrated distribution of economic power, especially access to land and purchasing power. Despite new technologies the system remained stacked in favour of the rich.

Technically this is by no means a close analogy with a circular economy but the point is, *you can't take the social side for granted*. You suggest that a circular economy would *probably* be fairer – but how do you know?

Despite earlier setbacks, large corporations now promise a Second Green Revolution justified, in terms of buying time but shouldn't we *take the time* to reflect on the social implications of re-design? I have visions of gated communities devising ever more ingenious ways to circulate the world's resources while bludgeoning an impoverished majority into the dirt for eating all the biodiversity…

My intention is not to over-extend your focus but to suggest that a systemic approach would at least acknowledge the issue of access to sustainable technology and its benefits. Addressing *how* we move towards a non-linear economy is as important as arguing *why* we should do so.

Although this is a political rather than technical issue, it's important to ESD for two reasons:

1. We should not lull young people into a false sense of security, believing it's simply a matter of finding the right technical fix – or mental framework.

2. We don't want students to feel caught in the headlights, frozen by the enormity of the challenges facing them – they need at least a sense that, as citizens, they have

the means to change things (with the circular economy providing a promising direction).

Without widespread support, is there any immediate prospect that governments will strive to re-design our economies rather than simply optimise for better returns on investment?

I'm not suggesting that hoards of 15 year-olds should re-structure the economy but by thinking through these issues they can begin to see how things work around here and learn important lessons including not taking things people say at face value. Offering a vision of what's possible without examining some of the roadblocks – and exploring strategies to overcome them – could leave young people cynical and nursing thwarted aspirations.

It's this lack of cross-examination of the circular economy that prompted my earlier list of questions. They were designed to encourage students to think through, even against, the circular economy concept. I'm sure the concept would withstand such scrutiny and that, as a result, students would have internalised the concept and be more proactive in using it.

Thinking systemically

A systemic approach allows us to focus on one issue while bearing other concerns in mind and the best way to grasp the nature of systemic change is to attempt it. This doesn't mean the Foundation should cover the whole curriculum immediately but a whole school approach would help to ensure that different elements at work in the system (rules, roles, curriculum, etc.) don't contradict the fundamental message. If this sounds too ESD 1, a critical understanding of how we learn, including mental frameworks, should balance this. What I have yet to find on the Foundation website is the student material, including for example, 'The Basics' slide set, on mental models.

To conclude, we're told (e.g. by Hogg & Shah, 2010) that young people want to 'do good' (*not* to be confused with 'being good' or 'doing as they're told'). 'Good' is not an absolute quality but we begin to reify meanings by the things we say or omit. We might agree that 'good' equals eco-effective or restorative. Of course we also want positive change to be 'for good' in the sense of being long-lasting. ESD, if we remove the label, is education that addresses the inter-relatedness of social justice, ecological integrity *and* economic viability. We may focus on one or two of those aspects but we should be aware that one without the others cannot last; it won't be good *for good*.

We may yet fail to turn things around in our generation but like you, I'd rather be part of those having a go at it than stand frozen in the headlights.
Paul

Dear Paul (2)

To summarise your concerns. You think we have drawn the boundaries too close; too far away from the social dimension and have, as a result, left us in this space:

> '…your notion of a circular economy strikes me as a benign technical fix, albeit based on an ecologically sustainable mental framework.'

You then try and draw an analogy with the Green Revolution – but that doesn't work. The Green Revolution exemplified the same old linear model based on capital substituting for labour and absolutely not based on insights from living systems or understanding non-linear systems. It was revved up Enlightenment 1.0.

Having a different sense of how the world works is a big deal, though I am less happy with it being described as an 'ecologically sustainable mental framework' when it's easier to say that it reflects the basics of, but is not the same as, systems thinking. It's based in the physics, as all scientific worldviews must be.

I discussed with a couple of *bone fide* economists the broader point you make about my timid suggestion that a circular economy was *probably* fairer – i.e. re-adjusted the relationship between labour and capital/energy and it seems that this is very much the case; it *inherently* requires many more people. Whether this translates into *fairer* is a political question, but if we allow that a circular economy can be restorative to social and natural capital, that it ups the value of local exchange and decentralised operations, then it looks to have a few more handholds for equity than an economy built on reducing labour at every stage and globalising simultaneously.

You are keen to make the case however, and I agree here to begin with:

"…sustainability is a political issue rather than a technical one…:

1. We should not lull young people into a false sense of security…
2. Equally we don't want students to feel caught in the headlights...

Mental models are key here; they possess us, they are largely unconscious, instinctive responses but they are changeable, and the roots of change are through recognising (if Lakoff is your flavour in cognitive scientists) that our thinking is based on groups of reinforcing metaphors which give this sort of effect:

> *World as machine*: markets as arbiter – competition as just – the winner as natural/ normally dominant – losers as weak.
>
> *World as metabolism:* dominated by a different set of associated metaphors – inherently reflects different social outcomes, e.g. a forest system reveals there is competition and cooperation therefore survival of the fittest means by those best-fitted to the system – not winner takes all.

So let's give the role of worldview more credence. Change here has huge though often subliminal consequences. *Context*, not *part*, is emphasised. Social is a context. It is a worldview or mental model around connection and flow and that is not exclusive but inclusive. It's all about internalising costs, prices revealing real costs. Hence while it is still politics and any system can be gamed, the basic metaphor grouping is big on empathy because that is context.

Balance: I am sure that you will be pleased with the programme as it unfolds, and this is the problem of an intervention after just a year, most of the materials are in development: it takes time. One of our priorities is around the systems thinking core, which emphasizes the role of changing worldviews and frameworks for thinking and is much more reflective.

Your conclusion is about ESD, and I am happy to say that the Foundation contributes most to ESD by its bounded exploration of frameworks for thinking, specifically the shift from world as machine to world as metabolism, but it is more economic model than it is ESD in your terms Paul – but my heavens that IS useful in these days, when we do appear to be frozen in the headlights. We are doing good work but of course not all the work. Your conclusion that education needs to address the inter-relatedness of social justice, ecological integrity *and* economics in order to "be a good *for good*" seems reasonable except that as a systems thinker you will know, deep down, that we don't know what will last, only that change is ceaseless.
Ken

Epilogue

Ken
Since we last wrote Prof Bill Scott has commented that, if economics comes into ESD at all it 'usually comes to the party dressed as politics, and then is often just a caricature that's positive (usually socialist), or negative (usually neo-liberal), according to taste.' He goes on: 'if education actually did set out to explore 'the inter-relatedness of social justice [and] ecological integrity through economics', then we might be getting somewhere.' (Scott pers. comm.) This highlights the particular value in your programme bringing questions about the nature of our economy to the fore – without the caricatures that Scott highlights.

On reflection, when discussing 'your' programme, and the balance of ESD 1 and 2, I think we've been in danger of talking at cross-purposes.

- When discussing your (the Foundation's) materials, I see an ESD 1 approach that unashamedly promotes the circular economy – which isn't a criticism, it's why sponsors support the Foundation after all

- When discussing your (Ken's) approach I see an ESD 2 focus on the nature of mental frameworks applied to proposal for a circular economy

Combining these approaches is critical - you can't have one (context) without the other (generic tools/processes of engagement). In achieving this balance, we can promote preferred models while providing learners with mental tools that can help them to re-design systems themselves.

This seems like a tough call but it's what ESD 1 and 2 demands. I'm sure you and the Foundation can pull it off and I look forward to sharing your example with others.

Paul

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