Enacting Education for Sustainable Development (ESD) in Trinity: Misinformation related to Sustainable Development

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Background to the Module: Enacting ESD in Trinity

Trinity's '*Enacting Education for Sustainable Development in Trinity' Module,* collaboratively developed by six Academic interdisciplinary Trinity Fellows in ESD and four student ESD interns, is structured around five integrated cross disciplinary themes as follows:

1. Exploring a sustainable existence.

2. Systems complexity and future forecasting in sustainability.

3. Exploring worldviews, perceptions, and values on sustainable development.

4. Problem framing in sustainability: prevention, mitigation, and adaptation.

5. Misinformation related to sustainable development.

Curriculum for Enacting ESD in Trinity is grounded in UNESCO preferred pedagogies (learner-centred approach, action-oriented learning and fostering transformative learning (UNESCO, 2017:55), and learning outcomes therein target UNESCO Key competencies (UNESCO, 2017:10) for sustainability.

Curriculum for 'Enacting ESD in Trinity' is structured around five themes, also referred to as Blocks, each of which includes 2 hours of lectorials developed by ESD Fellows, and one two-hour interactive workshop. Each theme is aligned with at least two of the 'shortfall' dimensions in Raworth's (2014) doughnut economics. Scenarios and templates as were co-designed by Fellows and Interns, including artifacts for use during workshops, are available separately. Recommended teaching practice(s) for workshops, as aligned with UNESCO preferred pedagogies, were also included in curriculum for staff undertaking this module.

This Resource Guide aligns with the lectorials for Misinformation related to Sustainable Development. Three short videos provide key content related to the theme and this resource guide provides context and suggestions for integrating these resources to teaching practice that is learner-centred and action-oriented, and potentially integrates to curriculum to foster transformative learning (UNESCO, 2017:55).

Core references

- UNESCO (2017). Education for Sustainable Development Goals Learning Objectives.

- Raworth, Kate.
  - Doughnut economics: Seven ways to think like a 21stCentury economist. Penguin Random House. (2014).
  - TedTalk : A healthy economy should be designed to thrive, not grow. (2018).
  - Doughnut Economics Action Lab

Background: Misinformation related to Sustainable Development

This theme introduces the concepts of misinformation and disinformation, and explores how corporate disinformation campaigns can negatively impact sustainable development initiatives and democratic processes. Practical steps that enable learners to respond to misinformation, and activate meaningful change, are outlined.

Raworth's shortfall dimensions Education and Political Voice are aligned with the theme of misinformation related to sustainable development.

Video Resources are presented in three parts as follows:

- Part 1: Common Sources of, and Tactics Used to Hide, Misinformation
- Part 2: Identification of misinformation and differentiating between individual interests and the greater good
- Part 3: Practical, Political and Personal Spheres of Responses: Activating Change

Recommended reading to support educators using the video resources in their teaching practice:

- **Part 1:** Interview with Prof Joel Bakan, Author of 'The Corporation' (2004). [READ: 15 minute].

  Bakan's award-winning documentary film 'The Corporation' boldly challenged capitalism's single most important player, the corporation. Using a mix of news clips, music and perceptive analysis, this interview discusses the relationship between corporations and democracy.

- **Part 2**: *Dark PR: How Corporate Disinformation Undermines Our Health and the Environment (*Grant Ennis, 2023) is an invaluable tool for understanding the devious frames of disinformation that are used as part of a cross-industry playbook, how disinformation can undermine democracy and what we can do to respond through political organizing. Grant Ennis shares further insights on Dark PR the 'Active town' Podcast.

- **Part 3:** Climate and Society: Transforming the Future (Leinchenko and O'Brien, 2019), the 2nd edition of which was released in May 2024, provides a solid foundation for ESD in general and for the concepts related to transformation in particular. It is an accessible and very comprehensive read with excellent case examples. It suitable for learners at all levels.

- **Part 3:** Anxiety and Action - This handbook on political organising for systems change, developed by 'Healthy Trinity', introduces concepts such as Upstream advocacy and provides practical steps for those wanting to address eco-anxiety by engagement in positive action. [Short summary of the handbook is provided by Healthy Trinity's lead, Martina Mullins]

UNESCO ESD Preferred Pedagogical Approaches (UNESCO, 2017:55)

UNESCO recommends	UNESCO Description (UNESCO, 2017:55)	Examples of Learning theories* Teaching practices aligned with UN Preferred (Millwood, 2021:v7)
Learner-centered approach (LCA)	*"Learner-centred pedagogy sees students as autonomous learners and emphasizes the active development of knowledge rather than its mere transfer and/or passive learning experiences. The learners' prior knowledge as well as their experiences in the social context are the starting points for stimulating learning processes in which the learners construct their own knowledge base. Learner centred approaches require learners to reflect on their own knowledge and learning processes in order to manage and monitor them. Educators should stimulate and support those reflections. Learner-centred approaches change the role of an educator to one of being a facilitator of learning processes (instead of being an expert who only transfers structured knowledge) (Barth, 2015)."*	**Learning Theories - examples**: 1. Discovery learning 2. Individual Constructivism 3. Mastery learning 4. Instructivism **Teaching practices – examples**: 1. Guided Reflection/prompts (Gibbs, 1998) 2. Force choosing through ambiguity e.g. ranking options (Roche et al, 2017); comparison processes (Nicol, 2020). 3. Classroom assessment techniques (CATs) (Angelo & Cross, 1993). 4. Teacher transfers knowledge directly.
Action-oriented learning (AOL)	*In action-oriented learning, learners engage in action and reflect on their experiences in terms of the intended learning process and personal development. The experience might come from a project (in-service learning), an internship, the facilitation of a workshop, the implementation of a campaign, etc. Action-learning refers to Kolb's theory of the experiential learning cycle with the following stages: 1. Having a concrete experience, 2. Observing and reflecting, 3. Forming abstract concepts for generalization and 4. Applying them in new situations (Kolb, 1984). Action-learning increases knowledge acquisition, competency development and values clarification by linking abstract concepts to personal experience and the learner's life. The role of the educator is to create a learning environment that prompts learners' experiences and reflexive thought processes."*	**Learning Theories - examples**: 1. Social constructivism: (Ideally sequence peer interaction and debate after individual constructivism). 2. Experiential learning 3. Situated learning 4. Communities of practice **Teaching practices – examples**: 1. Rank less-than-ideal options individually, then require the small group to agree ranking of options. 2. Role-play/debate assigned perspectives 3. Problem framing 'real-world' issues. 4. Solutions focussed- from local to global: groups problem solve collaboratively.
(Fostering) Transformative learning (FTL) *Learning theories that foster transformative learning are proposed.*	*"Transformative learning can best be defined by its aims and principles, rather than by any concrete teaching or learning strategy. It aims at empowering learners to question and change the ways they see and think about the world in order to deepen their understanding of it (Slavich and Zimbardo, 2012; Mezirow, 2000). The educator is a facilitator who empowers and challenges learners to alter their worldviews. The related concept of transgressive learning (Lotz-Sisitka et al., 2015) goes one step further: It underlines that learning in ESD has to overcome the status quo and prepare the learner for disruptive thinking and the co-creation of new knowledge."*	**Learning Theories - examples**: 1. Critical pedagogy 2. Double-loop learning 3. Conversation theory 4. Connectivism **Teaching practices – examples**: 1. Connect knowledge to power/action. 2. Modify goals based on experience. 3. Co-construct knowledge through dialogue – learning as a social process. 4. Constructing and traversing networks.

Guidance for Educators using this resource for teaching [Part 1of 3]

Common Sources of, and Tactics Used to Hide, Misinformation

Slide Title (time)	Teaching Practice(s): options for: **IP:** in-person/in classroom teaching **SO:** synchronous online teaching	**UNESCO pedagogical approaches*** **LCA:** Learner-centred approach **AOL:** Action-Oriented Learning **FTL:** (Fostering) Transformative Learning
What is misinformation? (2:03)	Prompt learners to write down what they think of when they hear terms such as mis and dis-information. **IP:** use pen-and-paper if share and compare option to be used in-person. **SO:** use chat function - all post at one time. **IP/SO**: use polling tools.	**LCA:** Prompt individual reflection, critical thinking, and decision-making. **AOL:** Require learner to 'take a position'. Enable share-and-compare with peers. **FTL:** Peer debate and negotiation helps **e**xpand learner's range of perspectives.
Doughnut (Donut) Economics (6:06)	Development of learner's literacy of sustainable development, as a global view. Build learner's understanding of 'critical human depravations' / shortfalls fundamental to human life/existence.	**LCA:** Support knowledge acquisition and increase literacy in ESD concepts. **AOL:** Prompt deeper consideration of responsible citizenship and political voice. **FTL:** Expand range of perspectives in ESD.
Interview with Prof Joel Bakan: (7:42) Option for prework /learners review this in advance.	Professor Joel Bakan (2020) interview: Bakan states we should e.g. 'Myth-bust' and '*see ourselves as political actors'*. Prompt learners to reflect on/ share their reflections on questions: *So how do we do these things and where do we start?*	**LCA:** Prompt individual reflection. Require learner to 'take a position'. **AOL:** Option to begin to collaborate with peers towards specific/ defined action(s). **FTL:** Enables learners to see themselves as potential 'agents of change'.
Selective Attention test. (10:02)	Instruction: count the number of times the ball is passed amongst team wearing white. Prompt learners to write down **(IP)** /enter in chat function (**SO**) & share their number.	**LCA:** Confirm that 'selective attention' is real, and likely to apply to themselves. **AOL:** Recognise own bias. Compare with peers. Re-evaluate sources of information.
Merchants of doubt (13:21)	Prompt learner reflection with the question *What relevance does the tobacco playbook have for sustainable development*?	**LCA:** Prompt reflection on their beliefs and values, and sources of information. **AOL:** Consider relevance of the tobacco playbook to sustainable development.
The big oil playbook (14:39)	Use the three questions to prompt learner reflection. ***What did they know? When did they know it? What did they do about it?*** Learners could engage in peer discussion, then share summaries to the larger group.	**LCA:** Prompts reflection on their beliefs and values about big oil in current times. **AOL:** Debate relevance of the big oil playbook to sustainable development. **FTL:** Explain why playbooks are wrong. Develop skills to confront climate change.

*Table is aligned with Milwood's Learning Theories Map: UNESCO ESD Preferred Pedagogical Approaches.

Guidance for Educators using this resource for teaching [Part 2of 3]

Identification of misinformation and differentiating between individual interests and the greater good.

Slide Title (time)	Teaching Practice(s): options for: **IP:** in-person/in classroom teaching **SO:** synchronous online teaching	**UNESCO pedagogical approaches*** **LCA:** Learner-centred approach **AOL:** Action-Oriented Learning **FTL:** (Fostering) Transformative Learning
Cross industry playbook (Ennis, 2023) (2.09)	Teachers/educators could include prework /activities that familiarise learners with Ennis's (2023) nine devious frames/tactics. Scenario review in teaching sessions can support contextualization to their discipline	**LCA:** Support knowledge acquisition and understanding of the nine devious frames. **AOL:** Develop learner's ability to apply Ennis's frames to real world messaging. **FTL:** Peers' comparators expand ability to critique messaging in the public domain.
Examples from COVID-19 (6.27)	Ask learners what they remember as examples from COVID-19. **IP:** use pen-and-paper if share and compare option to be used in-person. **SO:** use chat function - all post at one time. **IP/SO**: use polling tools.	**LCA:** Prompt individual reflection, critical thinking, and decision-making. **AOL:** Require learner to 'take a position'. Enable share-and-compare with peers. **FTL:** Peers' comparators expand ability to learn from shared experience(s).
Quiz time: Name that frame! (7.42 – 20.02)	Learners are supported as they identify tactics that hide misinformation. **Slide 1: (10.32):** **Denialism** *emphasize uncertainty and reposition scientific fact as theory.* **Slide 2: (12:38):** **normalization** (its normal), **& post-denialism** *(what's bad is good for us)* **Slide 3: (16.05):** **silver boomerangs** *(solutions cancel negatives)*, **magic** *(false dawns)* & **post denial** **Slide 4: (17:29):** **victim blaming** *(it's not our fault, its your fault – 'carbon footprint' / lifestyle choices).* **Slide 5: (20.01):** **normalization** *(it's not bad it's normal)* **& Magic** *(solutions unlikely to materialize).*	**LCA:** Support knowledge acquisition and increase literacy in misinformation tactics. **AOL:** Develop ability to recognize and describe misinformation tactics, thereby supporting active citizenship and the ability to advocate for change. **FTL:** Expand learners' range of perspectives related to enacting sustainable development by learning from the past to actively intervene in present challenges to climate change initiatives. Build competencies to support engagement in upstream advocacy.
How do we activate change?	Begin by asking learners *why it is important to be able to 'Name that Frame'*? Having summarized Bakan's activist approach to e.g. Myth-busting' and seeing *'ourselves as political actors'*, prompt learners to reflect individually, then share their reflections on questions: ***So how do we do these things and where do we start?***	**LCA:** Support knowledge acquisition and understanding of why it is important to be able to apply the nine devious frames. **AOL:** Develop learner's ability to actively counteract real world misinformation. **FTL:** Peers' comparators expand range of perspectives and ability to critique messaging in the public domain. 'Where do we start?' stimulates action to follow.

*Table is aligned with Milwood's Learning Theories Map: UNESCO ESD Preferred Pedagogical Approaches.

Guidance for Educators using this resource for teaching [Part 3of 3]

Practical, Political and Personal Spheres of responses: activating change.

Slide Title (time)	Teaching Practice(s): options for: **IP:** in-person/in classroom teaching **SO:** synchronous online teaching	**UNESCO pedagogical approaches*** **LCA:** Learner-centred approach **AOL:** Action-Oriented Learning **FTL:** (Fostering) Transformative Learning
Not too late – Rebecca Solnit (3.24)	Core aim is to encourage cultivation of hope & belief that what we do matters. **Prompt question: What can I do?** Changing stories – Solnit's messaging.	**LCA:** Prompt individual reflection on what they can do – in a positive light. **AOL:** Require learner to 'take a position' and/or make a specific plan of action. **FTL:** Potential to increase agency.
What transformations are needed (4.24)	Different Framings imply different solutions - Technological approaches - critical approaches (*e.g. Political, social, and economic transformation address root causes*) - Inter and trans-disciplinary approaches	**LCA:** Support knowledge acquisition. increase literacy linked to transformation. **AOL:** Prompt deeper consideration of range of approaches that might be taken. **FTL:** Expand range of perspectives in ESD.
Three spheres of transformation [Leichenko and O'Brien] **(5.42 to 18:10)**	Prompts (discipline-specific?) for each of the three spheres. Individual, then group. **Practical sphere: (9.18)** **The Political sphere: (10.57)** **The Personal sphere: (13:42)** **Examples (flying & diet): (16:30)** **Prompt to complete own template 18:10** **IP:** use pen-and-paper if share and compare option to be used in-person. **SO:** use chat function - all post at one time. **IP/SO**: use polling tools. **IP/SO:** Discuss.	**LCA:** Prompt individual reflection on three spheres, and link between individual and collective activism/ citizenship. **AOL:** Learner completion of the template empowers them to visualize own position and prepare to make SMART plans. **FTL:** Expand learner's agency/sense of empowerment as to what they can do individually and collectively. Link systems thinking to multi-stakeholder approaches.
Making transformation happen (22:42)	Introduce upstream Advocacy and how to Set SMART upstream goals. Emphasize importance of build alliance(s). Resolve grey areas & don't avoid conflict. Engage with government structures.	**LCA:** Support knowledge acquisition and understanding the aim of transformation. **AOL:** Develop learner's ability to apply SMART goals to upstream advocacy. **FTL:** Help build self-belief & agency.
Michaela Loach – It's not that radical (23:57)	Motivational messaging: build a can-do-attitude. Finish believing they have agency. • Transformation is possible. • Transformation happens at various levels. • Transformation is happening. • Transformation needs all of us.	**LCA:** Support knowledge acquisition and understanding of transformation. **AOL:** Develop learner's ability to engage in, and support, transformative events. **FTL:** Empower learners to engage in active citizenship, individually and collectively, in pursuit of transformation to solve climate change and biodiversity loss for all on the planet.

*Table is aligned with Milwood's Learning Theories Map: UNESCO ESD Preferred Pedagogical Approaches.

References and Recommended Resources

UNESCO Preferred Pedagogical Approaches (UNESCO, 2017:55)

Barth, M. 2015. Implementing sustainability in higher education: learning in an age of transformation. London, Routledge.

Kolb, D. A. 1984. Experiential Learning: Experience as the Source of Learning and Development. Englewood Cliffs, N.J., Prentice-Hall

Lotz-Sisitka, H.; Wals, A. E.; Kronlid, D. & McGarry, D. 2015. Transformative, transgressive social learning: rethinking higher education pedagogy in times of systemic global dysfunction. Current Opinion in Environmental Sustainability, Vol. 16, pp. 73–80.

Mezirow, J. 2000. Learning as transformation: critical perspectives on a theory in progress. San Francisco, Jossey-Bass.

Slavich, G. M. and Zimbardo, P. G. 2012. Transformational Teaching: Theoretical Underpinnings. Basic Principles, and Core Methods. Educational Psychology Review, Vol. 24, No. 4, pp. 569–608

ESD Teaching Practice(s)

Angelo, T.A. & Cross, P.K. (1993). *Classroom Assessment Techniques* and Davis, B.G. *Tools for Teaching.*

Gibbs, G. (1998). Learning by doing. A Guide to Teaching and Learning Methods. Oxford: Further Education Unit, Oxford Polytechnic.

Mezirow, J. & Taylor, E. (Eds) (2009). Transformative Learning in Practice: Insights from Community, Workplace, and Higher Education. Jossey-Bass.

Nicol, D. (2020). The power of internal feedback: exploiting natural comparison processes. *Assessment & Evaluation in Higher Education*, *46*(5), 756–778.

Roche, C.; Thoma, S.J.; Grimes, T. & Radomski, M. (2017). Promoting peer debate in pursuit of moral reasoning competencies development: Spotlight on educational intervention design. Innovations in Pharmacy. 8(2).

Enacting Education for Sustainable Development: recommendations as general resources.

Centre for Sustainable Healthcare (UK Charity) e.g. Four principles of sustainable healthcare.

Climate Migrants – an Introduction (ESRI): Rising seas, Extreme Heat, Water Woes & Climate and Conflict.

Doughnut Economics Action Lab : e.g. A safe space for humanity.

Stockholm Resilience Centre : e.g. Planetary Boundaries.

United Nations Framework Convention Climate Change (UNFCCC).

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Further Information:

For further links and resources, please visit the Centre for Academic Practice's ESD Hub.