Ten Ingredients to embed Education for Sustainable Development in Taught Courses

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DMU Teaching and Learning Conference
11th September 2019
A new challenge?
Aim: Make it Easier to Make This Reality

“We will equip students and staff with an understanding of the challenges of sustainability and sustainable development, and will approach learning, teaching and assessment mindful of the opportunities to contribute locally and globally to the public good and environmental futures as well as of our impact on a resource-limited world.”

DMU University Learning Teaching and Assessment Strategy, 2018
Background

- **ESD Forum**
  - 30+ staff across the University
  - Academics, DSU, Sustainability team
- **ESD Academic Innovation Project in 2018/19**
  - Support six programmes to embed ESD
  - “Tell us what we need to do!”
  - See conference Poster
AIM: To enable and inspire students, staff and DMU’s wider community to collectively learn about and act on sustainable development and the SDGs, inspiring action now and in the future, professionally and through active citizenship

OUTCOMES:

1. **Knowledge**: Awareness and understanding of the SDGs and sustainable development, applying these to disciplines, professions and citizenship.

2. **Competencies**: Ability to act for sustainable development, through ways of thinking and collaborative working, through citizenship and professionally.

3. **Transformative Learning**: Challenge unsustainable paradigms, critically reflect on experience and develop a personal commitment to sustainability.

4. **Taking Action**: Enable individuals and teams to act to support sustainable development and prevent unsustainable practices, at DMU and in the community.
Examples from Practice

• Dr Ros Lishman  
  – Politics in Action

• Dr Claire Lerpiniere  
  – Sustainability and Textile Design

DMU case studies from https://esdg.our.dmu.ac.uk
Reverse Engineering Products – Teaching Design with the SDGs
‘The Story of a Garment’

The briefing

• Explore an existing product, and consider how you could innovate through the design process

• Work backwards from the completed garment, to the initial inspiration, to design something innovative and sustainable

• Identify your own interests and priorities in relation to the UN Sustainable Development Goals
Seminars to support creative problem-solving

- Garment life cycle
- Sustainability and ethical issues in fibre, textile and garment production
- Global and local supply chains from fibre to consumer
- Emotional connection
- Durability and longevity
- Textile design training and analytical skills
Step 1: Production and manufacturing

Where was the product manufactured?

- Can you tell from the label or can find the producer/retailer online?
- What can you find out about the textile industry in the country of origin?
- Can you identify any benefits/problems within the manufacturing location?
Step 1: Production and manufacturing

*Why were the materials selected?*

- Was it for functional purposes?
- Have they been selected because they are cheap or luxurious?
- Were the materials selected for decorative purposes? Are they practical, will the materials last?
- What fibres / yarns / trims could have been used instead? Are the materials sustainable? Are they ethically sourced?
Student Project:
Step 1 Production and Manufacturing

ZARA

- Woven fabric with a traditional tartan design, blend of:
  - 69% polyester
  - 29% viscose
  - 2% elastane
  - Made in Portugal
Student Project: The fabric

The exact suppliers for polyester, viscose and elastane fabric or trims used to manufacture the dress are not disclosed.

Zara scored 36% on the 2017 Fashion Transparency Index.

Fig 1: Fabric processing at an Inditex supplier in Portugal.
Student Project: Why this dress?

- I first fell in love with the traditional and timeless grey tartan design and the feel of the fabric.

- It has a bit of a Balenciaga inspiration, that I love, in its design with the puffy cascade sleeves, a unique tailoring in my wardrobe.

- It feels and wears very comfortably and it has a heavy weight and luxurious feel.

- It has a timeless design.

- It was on SALE! £19.99. Original price, £59.99
Step 3: Concept Board

From the brief

- If you were to redesign the product, what would you do? What would happen if you used completely different materials?
- Are there any particular issues that need resolving, to make it a better garment, more sustainable, or part of the circular economy?
- How could you extend the life of the garment, so it doesn’t become ‘fast fashion’ and discarded after 7 wears?

Include: fabric swatches, images, colour, texture, detailing, fastenings, functional elements, decorative elements, ideas, and imagination
Student Project: Redesign Concept Board

I would add pockets and use Newlife Yarn to create the Tartan Weave, instead of the current fabric which is:

- Polyester (disperse dyes) – retains its shape and resists wrinkles
- Viscose (direct dyes) – it gives a soft and smooth finish
- Elastane (acid dyes) – gives the woven fabric a permanent elasticity
- The fabric blend is not widely or easily recyclable.

End of lifecycle:
The dress could be upcycled, as it has an abundance of fabric for a potential redesign, or recycled, if using Newlife Yarn.
Politics in Action

• **Module:** 15 credit, year long, compulsory/optional for UG f/t politics /IR and joints
• **Students:** approx. 80
• **Groups:** 3 workshops decided by timetabling (approx. 20-30 students in each)
• **Teams/projects:** consultation with course reps - preference for self-selecting teams with self-selecting team leader, 1 project per workshop
• **Staffing:** Module leader, guest lecturers, DMUlocal
• **Timetable:** Term 1: weekly 2 hour workshops; Term 2: fortnightly 2 hour workshops; Fortnightly self-directed learning – 1 hour.

#DMUlocal

SRO Module Leader

Tues Project

Weds Project

Thurs Project

Student Project leader

Student Project leader

Student Project leader
UN SDGs: workshop activities

- **Week 1**: questionnaire to students included question about UN SDGs
- **Week 3**: critical discussion and activities on UN SDGs
- **Weeks 5-7**: groups of approx. 5 students scoped an idea for a local project based on UN SDGs
- **Week 8**: students presented outline project proposal and voted on preferred project(s); gained greater awareness of local relevance of UN SDGs
- **Week 21**: NUS Teach-In: pledge and review of knowledge/understanding on UN SDGs gained on module

- Reflective activities also in weeks 15, 23, 25
Module assessment

**Personal reflection**
- Students choose 1 assignment type
- 100% of module mark
- Deadline: end of term 2
- Need to submit some text / references to Turnitin - all types
- Multimedia files submitted to Turnitin or DMUReplay

**Assessment Criteria**
1. **Local politics in action (20%)**: engagement with the concept of politics in action and the application of the UN SDGs at a local level
2. **Skills development (50%)**
3. **Communication (20%)**
4. **Academic skills (10%)**

- Written ‘digital’ report/essay 2,500 words
- Recorded Presentation 8 slides/15 mins voiceover
- Podcast & script 15 mins
- Video & script 15 mins
- Poster A1
UN SDGs: areas of interest & motivation

**Action and politics**

- activism
- belonging to a political party
- community development
- community engagement
- direct action
- individual and collective action
- influencing policy and politics to transform public decision-making
- large-scale campaign advocacy
- legal rights education
- local and global action
- neighbourhood organising
- online campaigns
- political lobbying
- public engagement

Data source: Week 1 Questionnaire to students
Projects

Zero Waste
• Raising awareness about waste reduction
• Poster, leaflet, video, debate event, social media
• SDGs 12 & 14
• [https://twitter.com/zerowastedmu](https://twitter.com/zerowastedmu)
• [https://www.instagram.com/zerowastedmu/](https://www.instagram.com/zerowastedmu/)
• [https://www.youtube.com/watch?v=ugjVIFs8hE&feature=youtu.be](https://www.youtube.com/watch?v=ugjVIFs8hE&feature=youtu.be)

Access to Hygiene
• Raising awareness, collecting and distributing personal hygiene donations
• Leaflet, poster, collection box, collection days (Asda), donation drop off
• SGDs 3 & 6
• [https://twitter.com/accesstohygiene](https://twitter.com/accesstohygiene)
• [https://www.instagram.com/accesstohygiene/](https://www.instagram.com/accesstohygiene/)
• [https://www.facebook.com/Accessstohygiene/](https://www.facebook.com/Accessstohygiene/)

Plates for Playoff
• Fundraising event, buying food donations, volunteering at foodbank
• Poster, connection with DMUSport, volunteering at foodbank
• SDGs 2 & 3
Knowledge, skills & experience gained on the projects by students

<table>
<thead>
<tr>
<th>Zero Waste</th>
<th>Access to Hygiene</th>
<th>Plates for Playoff</th>
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</thead>
<tbody>
<tr>
<td>Creating leaflets and posters</td>
<td>Collecting and distributing donations</td>
<td>Creating a poster</td>
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<tr>
<td>Engaging with local Friends of the Earth group</td>
<td>Creating a DSU society</td>
<td><strong>Gaining awareness about food poverty</strong></td>
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<tr>
<td><strong>Gaining knowledge about waste reduction</strong></td>
<td>Gaining volunteering hours</td>
<td><strong>Gaining knowledge about food banks</strong></td>
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<td>Managing social media</td>
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<td>Organising a rota</td>
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<tr>
<td>Marketing and communications</td>
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<td>Planning an event</td>
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<tr>
<td>Planning &amp; organising an event</td>
<td></td>
<td>Working in teams</td>
</tr>
<tr>
<td><strong>Raising awareness about reducing waste</strong></td>
<td><strong>Raising awareness about hygiene and homelessness</strong></td>
<td>Working with #DMUlocal</td>
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<td>Working in teams</td>
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<td>Working with Manor House</td>
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<td>Working with DMU staff</td>
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<td>Working with The Y/Dawn Project</td>
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Politics in Action: ESD outcomes

• **Knowledge**: many students had little/no awareness and understanding before module; developed critical engagement and reflection; feeds into other modules and engagement activities; 100% (n=40) of students in wk 21 confirmed module had contributed to their understanding and knowledge of UN SDGs

• **Competencies**: organisation of the module enables students to develop collaborative thinking and working – linked to employability/graduate skills (QAA Politics & IR Subject Benchmark); gained volunteering hours

• **Transformative learning**: many examples where involvement in module and projects has changed behaviour and commitment to sustainability

• **Taking action**: focus of the module is to raise awareness of relevance and application of UN SDGs at a local level and to facilitate local action; emphasis on practice (rather than theory – which the students appreciate); students proud of achievements
Ten Ingredients: a starting point for ESD

• A thinking tool to frame conversation:
  – “Ten Steps towards Education for the SDGs” – one sheet of A4/A3
  – Ten potential actions rated (0 not done; ½ partially; 1 strongly)
  – Leads to identification of good practice and enhancements

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<td>2</td>
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<td>3</td>
<td>Key concepts of sustainable development are introduced</td>
</tr>
<tr>
<td>4</td>
<td>The SDGs are addressed in class, either implicitly (½) or explicitly (by name, 1)</td>
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<tr>
<td>5</td>
<td>Key course concepts are put in a wider social, historical or ecological context</td>
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<td>6</td>
<td>Ethics and values are linked to the subject matter in the course</td>
</tr>
<tr>
<td>7</td>
<td>The course minimises resource use and negative social/environmental impacts</td>
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<td>8</td>
<td>Students are able to take real-world action for sustainable development</td>
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<td>The course challenges unsustainable ‘business as usual’ ways of thinking</td>
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<td>SDGs or sustainable development are in learning outcomes and assessment</td>
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Give it a go for a course you know

0 =not done; ½ = partially; 1 = done strongly

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https://esdg.our.dmu.ac.uk/teaching-resources/pilot-toolkits/
Accessible Initial Steps

• Participate in the **NUS SDG Teach-in**
  – One week, national event, February 17-21 2020
  – Or a session in UN Week (October 21-25 2019)
• Use SDGs as a **topic or context** for assessments or in-class activities
  – E.g. Social Enterprise; Electronic Engineering
• **Share** your existing practice
  – Complete the case study template on [https://esdg.our.dmu.ac.uk](https://esdg.our.dmu.ac.uk)
• **Engage** colleagues and students
  – Discuss links to sustainability; complete the template
Further Resources

- Case Studies
- Introductions to ESD and the SDGs
- Posted on [https://esdg.our.dmu.ac.uk](https://esdg.our.dmu.ac.uk)
Further Thinking Tools

- **SDGs and Competencies**
  - See [https://esdg.our.dmu.ac.uk](https://esdg.our.dmu.ac.uk)

### Linking SDGs to Taught Courses: Worksheet

The UN Sustainable Development Goals (SDGs) are a major area of focus at De Montfort University across all of the university’s activities.

DMU aims to embed Education for the Sustainable Development Goals (ESDG) across all of its taught programmes. One aspect of this is linking curricula to the SDGs where appropriate. For other aspects, such as developing students’ competencies to act on sustainable development, see here.

The SDGs can be viewed at several levels of detail:

- The overall purpose of Sustainable Development, to meet “the needs of the present without compromising the ability of future generations to meet their own needs” (Brundtland, 1987)
- The 17 specific goals, such as eliminating poverty (SDG#1) or reducing inequalities (SDG#10)
- Specific measurable Targets (x169) and Indicators (x232) associated with the goals (see UN, 2018)

This tool aims to enable structured engagement with the question of how to embed the SDGs in taught courses via some short questions and a template for noting answers. Before trying out the tool, it is worthwhile to familiarise yourself with the SDGs, and Education for the Sustainable Development Goals.

This tool is a pilot resource developed by DMU’s Education for Sustainable Development Forum, as part of a project to enable programmes to enhance linkages to sustainable development. Feedback and suggested improvements to the tool are welcome – please email sustainability@dmu.ac.uk.

### Sustainability Competencies: Thinking Tool

“Competencies in Sustainability” complement the UN Sustainable Development Goals (SDGs) as a core way of thinking how a taught course can contribute to Sustainable Development. They enable a focus on how course participants develop the competencies that can play a key role in action for sustainable development. They are also useful as a trigger for reflection for teaching staff regarding their own competences in relation to sustainability.

For a short overview of the competencies concept, see [Redman (2018)](image:Redman (2018)) (2-page summary) [Wiak (2016)](image:Redman (2018)) (6-page summary), or for a lengthier rationale and discussion, see [Wiak et al. (2011)](image:Redman (2018)).

![Image: Redman (2018)](image:Redman (2018))

Q1: How are Sustainability Competencies currently embedded in the course?

Consider strengths and weaknesses linked to: Intended Learning Outcomes; Course Materials; Learning Activities; Assessment.

<table>
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<th>OVERALL</th>
<th>Systems Thinking</th>
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<tbody>
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<td>Futures Thinking</td>
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- 1 - No Poverty
- 2 - Zero Hunger
- 3 - Good Health and Wellbeing
- 4 - Quality Education
- 5 - Gender Equality
- 6 - Responsible Consumption and Production
- 7 - Affordable and Clean Energy
- 8 - Decent Work and Economic Growth
- 9 - Industry, Innovation and Infrastructure
- 10 - Reduced Inequalities
- 11 - Sustainable Cities and Communities
- 12 - Sustainable Cities and Communities
- 13 - Responsible Consumption and Production
- 14 - Health and Wellbeing
- 15 - Education
- 16 - Gender Equality
- 17 - Peace and Justice
- 18 - Partnerships for the Goals
Summary

• Embedding Education for Sustainable Development is about developing **knowledge, skills and attributes** to make a difference on sustainable development issues

• Most courses are **doing this already** to some degree

• The Ten Ingredients help to identify **existing strengths** and potential areas for enhancement

• **Find out more**: [https://esdg.our.dmu.ac.uk](https://esdg.our.dmu.ac.uk)

• **Get involved** in the DMU ESD Forum (email: areeves@dmu.ac.uk)