Being bad to do good: using reverse psychology to embed Life Cycle Thinking and knowledge of Sustainable Development Goals in design and engineering curricula

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LSBU
20,000+ students
6 Schools

1892 - original aim
'to promote the industrial skill, general knowledge, health and well-being of young men and women'

1920 - first institution in UK to admit women to an engineering course
Ending the Depression Through Planned Obsolescence
Bernard London, 1932

Design should create ‘the desire to own something a little newer and a little better, a little sooner than necessary’
Brooks Stevens, 1954
There are professions more harmful than industrial design, but only a few

Victor Papanek - 1923-1998

Ephemeralisation - doing more with less

Richard Buckminster Fuller - 1896-1983
Sustainable engineering and design at LSBU – early examples
Yr1 inclusive sustainable garden

Yr 2 reducing waste from hospitality industry
Yr 4 Major Design Projects – sustainable technology & human centred design

A rather simplistic colour scheme which echoes the styling of the ‘British Red Cross’. White is still the predominant colour due to the need to print the instructions of use (section 7.3) on the back of the device. Plus, it also leaves space for the company’s backer’s & own branding to be printed directly onto the outer casing.

Very much like (above) the ‘British Red Cross’ design, the UNHCR - Wash_box offers ample room for further information on colour alteration. Despite this blue colour being printed directly onto the design, that’s not to say it cannot be changed during manufacturing to take more of a holistic approach to a disaster.

A personal favourite of all the available colour schemes, the ‘Oxfam’ Wash_box offers the same colour layout as the previous two designs, but the green generally suits the eco-friendly sustainable approach this project is taking towards providing human aid to disaster relief victims.
21st C behaviours and challenges to education about and for sustainability
21stC behaviours and challenges to education *about* and *for* sustainability

Education – modularisation / tick box culture
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Eco fatigue – too much and confusing information
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Eco anxiety – fear of climatic and environmental catastrophe
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**Eco apathy / learned helplessness**

- Compounded by internet – e.g. youtube algorithms – recommend more of the same / unbalanced information
A handy wallet card listing the six sustainability principles on one side with those for risk on the other, is available from: info@engc.org.uk
Need alternative strategy - education *about* and *for* sustainability
generating, memorable, makes impact, is enjoyable, empowering
Need alternative strategy - education about and for sustainability

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Need alternative strategy - education about and for sustainability engaging, memorable, makes impact, is enjoyable, empowering

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Assignment: inter-disciplinary (EPD / PD) groups of 4 / 3 day project

Design your future – your city, your choice……

Develop an UNSUSTAINABLE design concept in response to a specific theme - food, water, transport, travel, energy production, buildings, resource use, health, leisure
Design your future – your city, your choice.... unsustainable design concepts
Reverse psychology – effect and effectiveness

<table>
<thead>
<tr>
<th>Module results / year</th>
<th>Sample size</th>
<th>Mean in bold + Std Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>17/18</td>
<td>41</td>
<td>55.6 + 12.6</td>
</tr>
<tr>
<td>18/19</td>
<td>35</td>
<td>59.4 + 11.5</td>
</tr>
<tr>
<td>19/20</td>
<td>41</td>
<td>58.0 + 12.0</td>
</tr>
</tbody>
</table>

Not significant – need to further analyse results to account for individual differences in ability across year groups – but results suggest a trend

Why? students had to consider what is good in order to achieve opposite
  can’t paraphrase - need to process information more deeply –
  produces longer lasting memory and better understanding of topic

IQ is often cited as major predictor of learning success

Motivation is also predictor of learning success and fun increases motivation

Anecdotal – students said ‘assignment was really good fun’

Recommendations and future work – it works for students – lets try it in industry!


Columbia Journalism Review “Green Fatigue” and “Eco Anxiety” The press switches from environmental exigency to exhaustion https://archives.cjr.org/the_observatory/green_fatigue_and_eco_anxiety.php


Thank you for listening

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