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Sustainability in the UK University Art & Design Curriculum: the Why and the How

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Abstract

Sustainability is about ensuring everyone's basic needs are being met and can continue to be met in the future. It has two main areas: the social and the environmental. Some include a third: economic. There is a requirement in the UK for universities to implement and promote sustainability, including in the curriculum. This paper concentrates on how this is affecting learning and teaching in art & design. Sustainability in the curriculum has been resisted by those who cling onto an essentialist, formalist curriculum. However, the majority have a broader view of the curriculum in line with changes which took place in the professional sphere from the 1960s. These changes forced artists and designers to consider such things as socio-cultural context. In the 1970s, this led to a gradual unfolding of a new curriculum, which has now become widespread. But even within this framework, teachers often find engaging with sustainability in their teaching to be challenging. It causes everyone to reassess their ways of working and living and even their fundamental beliefs and is sometimes considered an irrelevant initiative of management, or government. It can be seen as being in opposition to many of the practices of unfettered capitalism and neo-liberalism; more likely, it exposes some of the contradictions inherent in that ideology. But sustainability can also be considered a dogma in its own right, or even a set of uncomfortable truths people prefer to ignore. Some artists and designers embrace a social practice, but others prefer to indulge in a much more private way of working. Just as some universities wholeheartedly embrace sustainability while others do little more than play lip service to it, so some teachers are enthusiastic and others not. This paper discusses some of the ways sustainability has been introduced into the art & design curriculum, illustrated through case studies. It concludes that it works well if there is a faculty member who champions this way of working, but works best when embraced by most teachers and, in particular, students.

Keywords: Sustainability, Art & Design Curriculum, Higher Education

Introduction

There has long been a dichotomy in art, a choice between art for art's sake or art having some purpose or other beyond itself. The discourse within Modernism was dominated by the former, by the concept of the autonomous art object. If it had a connection to anything at all, it would be to the subjectivity and self-expression of the artist producing it. As Modernism gradually gave way to contemporary art from the 1960s, so this completely changed. Art was instead about issues beyond itself or even the art world context.

With a time lag, where art had gone, so art education followed and the art curriculum also started to concern itself not with the formal qualities of art or with self-expression, but with issues. Indeed, issues became the starting point of a work of art. At the same time, design education, which had been largely skills-based, made a decisive shift towards being about problem solving and in so doing also began to adopt a theme-based pedagogy. In recent years, amongst the themes and issues students have to grapple with within art & design departments of United Kingdom (UK) higher education institutions (HEIs) has been sustainability.

Although teaching an issues-based pedagogy was not a great problem in itself, for many teachers having those issues determined by others was. Any learning about sustainability is likely to fail unless those teaching it are

fully committed (Stables, 2009). Those studying art were used to selecting their own issue, while for design the issues could range widely. If design education has long trodden a path between design ethics and equipping students for the world of work, it has largely been the latter that has won out.

Sustainability asks difficult questions about use of materials, which many in art & design practice might find uncomfortable. Art & design often consists of making artefacts. This usually brings about waste. Students tend to have more of an eye to the cost of materials than to the environmental impact – and all too often the same goes for the institution. Where computers are used in place of, or as well as, making physical objects there is the consequent energy use. Those studying ceramics or glass will usually require a kiln heated to be between 800 and 1400 degrees. This could be done through burning wood, but very, very rarely is. Sustainable electricity could be used, but I don't know of a single UK HEI which has signed up to a sustainable tariff. Not all teachers have been ready to engage with these issues. There is no reason why textiles could not be more sustainable, but rarely is.

The priority for a university is student recruitment, retention and satisfaction. Sustainability is likely to come into the equation when there are clear and easy to recoup economic benefits, such as reducing heating bills or waste. Ensuring lights are switched off or rooms aren't heated through the night and at weekends are easier to achieve and the costs can be recouped very quickly. To this degree all universities will embrace sustainability as a way to save money. If this was all they were prepared to, this would be impossible because they are required by the Higher Education Funding Council (2016), to provide quantitative reports across a range of sustainability measures. Some move further along the road of sustainability with reluctance, while others are surging ahead. In the UK, further incentive comes from the fact that HEIs are rated and put in a league table according to how sustainable they supposed to be (People and Planet, 2016) and there are also Green Gown awards for those which are considered to be doing the most (EAUC, 2016).

More than incentives is the importance of there already being a champion in senior management. The same is true of sustainability in the curriculum: it needs to have someone or more than one person actively promoting it, albeit without being overzealous to the extent of putting students off the subject (Illeris, 2012). This doesn't always happen and the example given in this paper about sustainability in the curriculum are, at present, the exception, rather than the rule.

Definition

Each UK HEI will have its own definition of sustainability, but there are many similarities between them. They all include a distinction between environmental and social sustainability. Many also include economic sustainability, while a fourth dimension sometimes mentioned is the ethical.

Before the term sustainability was used, the common term was *education for sustainable development*. This dates back to the Stockholm United Nations (UN) conference on Human Environment of 1972 and, unsurprisingly, the emphasis was on the natural environment and the impact that human activities have on it. Therefore, it was combining the environmental concerns with a social dimension although the word 'development' could just as well be construed as referring to an economic dimension.

During the following decade there was a very influential report to the United Nations issued by the World Commission on Environment and Development in 1987, which defined sustainable development as follows:

'Humanity has the ability to make development sustainable to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs... sustainable development requires meeting the basic needs of all and extending to all the opportunity to fulfil their aspirations.' (p. 16)

This definition has resonated over the years, especially its implication that we should not be building our prosperity at the expense of that of future generations. In the environmental sphere, land that is so depleted it will fail to produce harvests for another century, the spread of polluted air and fresh and salt water, deforestation and climate change are all examples of how we are stealing from future generations. It is apparent that this is unfair and selfish and this adds a moral dimension. Sustainable development appeals to the best side of human nature. But for critics it can be construed as chiding, stressing negatives and underestimating the ingenuity of future generations to find a way out of the environmental legacy we bequeath them.

As educationalists, the definition by the United Nations Economic Commission for Europe (2016) is relevant, because it stresses the need for people to learn the requisite skills when it states that there is a need

...to equip people with knowledge of and skills in sustainable development, making them more competent and confident while at the same time increasing their opportunities for leading healthy and productive lifestyles in harmony with nature and with concern for social values, gender equity and cultural diversity. (p. 1)

Mention of living in harmony with nature shows one of several potential dangers, because it slips into Romantic notions which would be hard to defend. What is natural? Is disease not natural? Am I living in harmony with nature if I kill germs? It is all too easy for definitions to slide into sentimentality, even when coming from official bodies.

However, this definition also chimes with more recent ideas about sustainable development, in that it is clearly extending from environmental and economic concerns to the social realm. As this has happened, so 'sustainable development' has come to be replaced more and more by the term 'sustainability'. Even so, one often finds both being used and it was the former that was adopted by the Quality Assurance Agency for Higher Education and the Higher Education Academy (2014) when providing guidance to universities in the UK on introducing it into the curriculum. In the document it was defined as follows:

Education for sustainable development is the process of equipping students with the knowledge and understanding, skills and attributes needed to work and live in a way that safeguards environmental, social and economic wellbeing, both in the present and for future generations.

Education for sustainable development means working with students to encourage them to:

- consider what the concept of global citizenship means in the context of their own discipline and in their future professional and personal lives
- consider what the concept of environmental stewardship means in the context of their own discipline and in their future professional and personal lives
- think about issues of social justice, ethics and wellbeing, and how these relate to ecological and economic factors
- develop a future-facing outlook; learning to think about the consequences of actions, and how systems and societies can be adapted to ensure sustainable futures. (p. 5).

Hence, no matter what the discipline being studied, sustainable development has to be part of the curriculum. The report also introduces the term *sustainability literacy*, as expressing the desired outcomes of such programmes. This is no small matter. If one imagines taking on the following definition, which the Higher Education Funding Council (2016) obtained for the UK government and trying to implement it all, then one wonders how much time would be left for learning about anything else: 'living within environmental limits; ensuring a strong, healthy and just society; achieving a sustainable economy; using sound science responsibly; promoting good governance'. This also shows how *sustainable development* and *sustainability* are often used interchangeably. It is the latter that I'll use in this paper.

Sustainability in the curriculum

At my university, every course will have to show how it includes some teaching about sustainability, at the time when it is validated or revalidated. This approach puts the onus very much on the staff to find a way to do it, come what may and whether or not they want to. Some universities have attempted to introduce sustainability by inviting courses to bid for funds, with the hope that this will spread the practice. The advantage of this approach is that it is probable that people already interested in the topic will bid and it will give sustainability a kick start. The disadvantage is the opposite of this: that development money is going to those who need it least rather than to those who perhaps need it most: those who themselves know little about the topic. It could also be argued that this approach avoids having to do what is really required, that is to fund all courses. There is clearly a crying need for funding staff development in this area. Teachers will have been appointed due to of their art or design subject knowledge and not their knowledge of sustainability and nobody feels comfortable teaching about something of which they are not knowledgeable. However, university managers are trying to reduce costs and would be very unlikely to find funds for this.

There is also the question of fitting sustainability in the curriculum. The art & design curriculum has been constantly added to, whereas the hours to actually deliver it have been steadily reduced. The question is always: if this comes in: what goes out to make way? The answer is that instead of making sustainability a discrete topic, it has to be bolted on to what is already done. This is done in various ways, or stages, although

those doing it might not view it in this way. It begins with a single project and continues until it reaches the final stage of complete integration.

Single project and single issue

Much art & design learning takes place through a single project and this is one of the signature pedagogies of these disciplines. In art it is much more common for the students themselves to determine the kind of project it will be, whereas in design it will usually be devised by the teachers and often mirror practice in the industry in some way.

An example of a single project is to make and use a sawdust kiln used in ceramics, instead of the ubiquitous electric or gas kiln. Sawdust can easily be obtained from a timber yard and a layer is placed in a metal bin, followed by some ceramic works, followed by sawdust and so on. It is then lit from the top, usually using recycled paper, a lid is put on and it is left for a day and night to heat up (perhaps to 700 degrees) and then cool down. I've also known this to be combined with students going to a designated place and digging up the clay with which to make their ceramic artefacts. Although this can engage first year students, the results are no substitute for what can be produced in a hotter kiln and therefore is only really suitable for making sculptures or ornaments, rather than practical vessels. Although a fun project, it could also be argued it is a bit of a deviation from the key skills and knowledge needed for a career in ceramics.

Another example is making jewellery out of traceable materials. Many precious materials used in jewellery come from dubious, untraceable sources and could be obtained as a result of conflict, war or child labour. Certified metals and stones are therefore free from such associations. The very fact of asking students studying jewellery to obtain certified materials, as part of a project, raises awareness of the issue. Doing this only in one project does beg the question of why this doesn't happen for all projects. It also overlooks the fact that it is possible to obtain some recycled precious metals, such as silver. All the same, it does demonstrate how easy it can be to introduce sustainability to a jewellery course.

Many dyes used in textiles are bi-products of the petro-chemical industry and as such non-sustainable. For first year textiles students, a project was set whereby they went on a field trip into the countryside. Part of the day was spent gathering certain plants and part spent drawing them. Back at the university, they then boiled the vegetable matter they brought back to make a number of natural dyes. Like the sawdust kiln, this is fun, but doesn't produce the kind of colourfast dyes needed in industry, or by the public. A sustainable future is unlikely to be one where we simply turn the clock back. Instead, it will be necessary to employ technology and science to produce, for example, high quality, colourfast, vegetable dyes. Some manufacturers now produce such dyes and if the project opened the eyes of the students to this possibility, then it can be counted a success.

Another example is where design students were tasked with investigating the layout of supermarkets, both in stores themselves and how their merchandise was presented for online shoppers. Having made a thorough study of this, they then had to redesign the layout with sustainability being the over-riding principle. For example, promoting local food. The problem was that the more they looked into the issue, the more it became apparent that tweaking the layout wouldn't resolve problems of central distribution and the large distances that food is transported. The conclusion was that the whole structure of a supermarket would need to change.

The final single project example is from the second year of a graphic design course, where students were told to design packaging for expensive wrist watches made from recycled materials and which could then in turn be recycled. Because it was for the luxury good market, the packaging had to look expensive. To be recyclable, different materials couldn't be attached to one another, for example plastic to paper. The project raised student awareness of the waste involved in packaging and that this is certainly an area where less is more. They also learned that even recycling comes with a cost in terms of energy used both to transport and to recycle. If, in discussing this, students were almost talking themselves out of their chosen career, it can nevertheless be no bad thing that the next generation of designers have some knowledge and understanding of waste.

Single project: educating others

The next stage is giving students projects where they are required to educate others about sustainability. Biggs & Tang (2011) explain that the very best way to learn is to have to teach others about something. They report research which found that whereas passive learning results in about 20 percent of information being retained and 80 percent lost, when teaching about something this is reversed: 80 percent is retained and only 20 percent lost. This approach has been shown to not only be an effective way of fostering student learning about sustainability, but also improves engagement and motivation.

But there is more to it than that: it's also about learning how to communicate a message, without alienating those receiving it. This can easily be done. People don't take kindly to being told what they should or shouldn't do or warned of dire consequences if they don't change their ways. If the message can be a positive one, then it is much more likely to be heeded.

An example is a project on a photography course where students had to communicate about lawns. These are staples of UK public space, to be found in parks, on verges, along motorways, in gardens, sports fields and a variety of other public and private spaces. The problem is that to have these perfect carpets of mowed grass, copious amounts of herbicide have to be used. These are, to say the least, not the ideal surface for children, for pets to exercise or people to play games or sport. The herbicide is harmful to a range of animal wildlife. Moreover, it is a monoculture, usually of just one kind of rye grass. To make matters even worse, there is then

the large amounts of energy used in mowing these lawns and all too often vast quantities of precious water sprayed on them. Golf courses are amongst the very worst offenders.

Alternatives could include having a variety of kinds of grass, or even better, making such spaces full of wild flowers, as is the case in London's Olympic Park and along the verges of some of the UK's main motorways. These are not only more sustainable from an environmental point of view, but from a social point of view can give so much more pleasure, while not being a health risk. Therefore, the project asked the students to produce a suite of photographs which demonstrated the advantages of a bio-diverse lawn. This project is a classic case of learning through art, but no less a project where they learned about photography.

Another example is of a project for second year Illustration students, who were told to research an issue to do with sustainability and then work out how to effectively communicate this on a t-shirt. This project did succeed in fostering deep engagement with some issues of sustainability and the students rose to the challenge of creating effective design solutions. However, the fact that they used cheap t-shirts meant that the vehicle for the message (non-sustainable cotton t-shirts, produced by very cheap labour) was not sustainable. It can be all too easy to concentrate on one aspect of sustainability at the expense of another.

A third example is an MA graphics project where students had to use graphic means to communicate about water use. Water use happens in two ways. On the one hand it about supplying and consuming water in one's everyday life, both or personal use and also for industry and agriculture. This in itself isn't always sustainable, especially when artesian wells are drilled and ground water steadily used up. Rivers can contain large amounts of water but there can be disputes as countries upstream take out large amounts before it reaches other countries further downstream. Lakes can also be pumped almost dry.

On the other hand, there is an indirect use of water through imports, be it flowers from Saudi Arabia, vegetables from Kenya, fruit from Brazil or steel from China. In most cases this entails taking water in this indirect form from somewhere in the world where there is already a shortage to somewhere where there isn't. Like the photography project, students not only learned through, but also learned about effective ways to be able to communicate these quite complex issues.

Into society

In some projects, students take aspects of sustainability out of the university and into the social sphere. Students from my university hold regular repair café events, whereby people are invited to bring in objects which are broken and have them mended. It is self-evident that by extending the life of these items, fewer resources and raw materials will be required.

This is not an original idea: there are repair cafés in many other countries including Germany, Austria, The Netherlands, Belgium and France. However, final year illustration students at a Welsh university came up with

a novel idea: the Lost Skills Project. In the centre of the town where their university was located, they rented a space which hosted a skills exchange. This provided those with skills which are declining in society an opportunity to pass them on. This was embraced by many people. Skills such as crocheting, rug making, quilting and sign painting and writing were passed on. No less important was the opportunity the space and activities provided for people to get together socially (The Department of Illustration, 2010).

Another example, from Scotland, was a joint project for students from fine art and architecture courses. Working in small groups, they were first told they had to travel by public transport to the edge of the city where they would first observe and then create and carry out an intervention which would be of benefit to the community of this particular locality. All of these edge-of-city communities had deprivation, high unemployment and many of the attendant social problems. The fabric and open spaces were all neglected.

One of the groups concentrated on a bleak area of litter-strewn wasteland, which had been the victim of fly-tipping. For all its grimness, this was an open space and they noticed how it was used by dog walkers. They cleaned up the debris strewn over the land and then used some of it to create a shelter complete with seating. This not only provided protection from the elements, it also gave the land a focus point, where dog walkers could meet. Although built from debris, they ensured they produced a construction which was inviting and attractive.

Another group noticed how people were hanging around all day with nothing to do. They also observed the large number of supermarket trolleys which had been taken from stores and abandoned in parts of this urban wasteland. This gave them the idea of holding supermarket trolley races for the locals, whereby they would run as fast as they could, pushing one of these trolleys. This was enthusiastically taken up by the residents, either as participants or spectators. The students manufactured mini supermarket trolleys which they awarded as prizes. After the races had been held, they returned all the trolleys to the relevant supermarkets.

A third example was The Sleeping Bag Project, given to textiles students. At the end of pop festivals, it is customary for many of the festival goers to have a ritual burning of the tent and sleeping bag they brought along for the occasion. There are many reasons to find this reprehensible, including the toxic fumes from burning plastics and the sheer waste. The students were tasked with going to the festival site and trying to rescue these tents and sleeping bags before they were set alight.

Back in their university, the next stage of the project involved re-cycling these materials to produce a waterproof sleeping bag, which could be easily rolled up and put in another bag, so that it could be carried around. Each of them had to be unique and personalised through embroidery. When made, they were presented by the students to homeless people who sleep on the streets. The students learned about issues to do with waste in a consumer society and homelessness.

Integration

The ultimate stage in introducing sustainability is to integrate it thoroughly into the whole programme, in much the same way that computer-aided design is now integrated (Gürel, 2010). An example, is a fashion design course. Some might argue that sustainable fashion is a contradiction in terms, because the very fact of fashion and changing styles to make last year's clothes appear out of date goes against the very essence of what sustainability stands for. This hard-line approach can be over-earnest; sustainability should not be about taking the fun of life and body adornment and decoration are universal manifestations of people's humanity (Perlingieri, 2003). All the same, anything that reduces the waste and other environmental impacts of the fashion industry has to be welcomed.

Integration of sustainability has two main parts: materials and the supply chain. Materials contain a range of issues. The common use of mixed fabrics, for example cotton and polyester, renders recycling impossible. Cotton, which might seem like a natural option, is only so if it has been grown in a sustainable way, in other words is organic. Most cotton requires copious amounts of chemicals to be sprayed on it while being grown and needs large quantities of water, often in environments where water is in short supply. In the processing of textiles, yet more dangerous chemicals have to be used. This is especially the case for the 'washed look' on denim. Woollens also need chemicals to be used in its production, through sheep dips, as well as in its production.

Artificial fabrics need lots of energy to be produced. If viscose is at least made from wood pulp, while nylon, polyester and lycra are made out of petro-chemicals. On the other hand, they can sometimes be made out of recycled materials, such as plastic bottles. To what extent this might be sustainable is just the kind of issue students have to engage with on this course.

The biggest issue in the supply chain is the working conditions of these who manufacture the clothes. Often working in poor conditions and paid low wages, their rights are few. Whilst major fashion retailers claim to have policies and inspection regimes to prevent the worst of abuses, such as child labour, the working conditions are, to say the least, poor - as are the workers. Fashion cannot be sustainable if based on such exploitation.

The supply chain can also involve unnecessary transportation costs, as it chases the lowest costs. For example, wool grown in New Zealand can be shipped to China to be processed and then on to Bangladesh to be made into a garment. Following on from the supply chain, the final issue that has to be learned is ethical retail and marketing.

It should be stressed that because sustainability is integrated, it doesn't come at the expense of innovative design. Those who criticise this course for failing to equip students with the skills needed now in the fashion industry miss this point. These students are no less creative. Moreover, it can be argued that it is the duty of universities not to parrot the worst practices in fashion today, but instead to be agents of future change.

The other example of the integration of sustainability is from an architecture course. Some architects have been tackling issues around environmental sustainability since the 1960s and it would be impossible to study the subject now and not learn something about it. In the UK, this is certain to happen, first because architecture courses are accredited by the industry body and second because of government building regulations. All the same, in the present day, new buildings often fail on even the basic criteria of sustainability, meeting the minimum standards they can get away with.

Sustainable architecture considers energy use in two ways: the energy use of the building itself and the energy expended in producing and transporting building materials. With efficient insulation, the former need be minimal, with little need for heating, while in summer passive ventilation can keep it cool. Heating that is required can be obtained by pumping water a few metres underground and then using this with in-wall or underfloor heating. Even when buildings meet this first set of criteria, they can fall down on the second: energy required to produce and transport materials. For example, steel and concrete, two of the most common building materials, both require lots of energy in their production.

There can be other environmental impacts of materials, such as whether any timber used comes from sustainable forests and uses of chemicals. There has also been a lot of research into the impact of different materials on users of buildings which, unsurprisingly, points to the need to avoid noxious chemicals.

The social impacts of a building also need to be considered. This not only takes into account the needs of users of a building, but also of its impact on the broader society. Although cost can sometimes be a factor in all of these considerations, just as often it can be the mind-set. By integrating sustainability so those graduating will go out to practice with that mind-set.

Conclusion

Through these examples, I have illustrated ways in which sustainability has been introduced into the curriculum and how it can vary from a single project to full integration. Although not all faultless, they might still give the impression that this is much more widespread than it is. To the extent they are successful, it is because instead of preaching to students, the pedagogy enables students to find things out for themselves and it is only in this way that they are likely to take it on board (Beard & Wilson, 2006). If having just one teacher embracing sustainability is a good start, to become fully embedded it needs to be taken on by the whole faculty and by students.

The context in which it is learned is so full of contradictions that these run the risk of concealing sustainability. For example, staff coming to teach about sustainability might well drive to work. With their recruitment of large numbers of overseas students, universities bring a large amount of air travel, which is far from sustainable. This is just as true of international conferences which are common in the sector, when members of faculty fly to far flung places. If the overall social context is one where sustainability is very much on the margins, it is not so surprising to find it rarely in the vanguard in universities. How much universities can or should be agents of change is not one over which there is consensus (Shor, 1996). And even if they were, the change would have to start with managers and staff at the university. Just as everyone in society is positioned somewhere along a sustainability spectrum from *not at all* to *almost totally*, so too are universities. The problem is that far from being leading agents of change, they appear to be laggards, following far behind the corporate sector (Lozano, 2011). And corporations, like neo-liberalism (a dominant, political discourse) tend to cherry pick those elements of sustainability that suits them. Meanwhile, a dominant, right-wing press in the UK is hostile to almost all the precepts of sustainability, even to the extent of constantly reassuring the public that there is no such thing as global warming. The need for change is great, but the impetus is slow.

The urgency of the need for change means that far more courses need to move from single projects towards integrating sustainability. I see our present predicament as being akin to all being in a wooden ship surging full-steam ahead and with the boilers being fuelled with the very timber the vessel has been made of. It is clear this voyage isn't sustainable. Our duty is not only to make our students aware of this, but also enable them to find out about alternatives (UNESCO, 2014). If not, we will all be sunk.

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