

Research in Context (ADAD5003)

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Question Answered: Question 4

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Outline a current environmental, political, or social issue that requires redesign. Explain how you will solve this issue over the duration of your future design career.

Underline the tools and approaches will you use and discuss how and why.

Choose one question and write 2500 words.

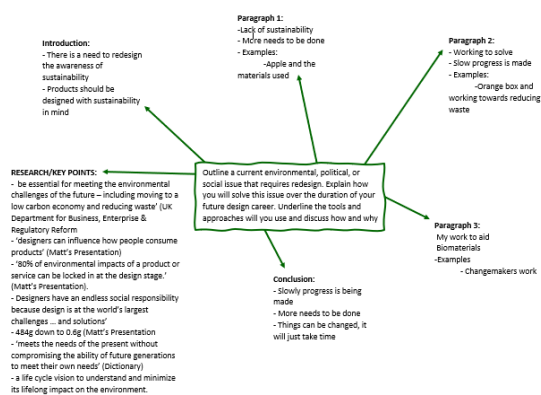


Figure 1: Mind map to aid with my essay plan

As Fuad-Luke says in *The Eco-Design Handbook* 'the power of designers is catalytic' (p.15). Designers can have great power and influence over a great number of issues, especially ones which relate directly to their area of study and expertise. As a designer, many of the products that are being created are constantly being innovated and developed, in order to create the next best version of a product or design, which has less of an impact on the environment.

In the world at this moment, there are many issues that designers need to redesign. However, one of the biggest and most current environmental issue that requires redesign is sustainability, in particular, sustainability in the use of materials and also the way that the products are able to be disposed of at the end of their life. This is because, despite there being an awareness of sustainability, and action being taken to help improve this, there is a lot more that need to be done still.

There are a few companies which are completely sustainable, or are moving towards being completely sustainable, such as Steelcase with their design of the Think Chair. Steelcase as a

company are doing their bit to ensure that they are minimizing their impact on the environment.

These companies are a big part off my inspiration as a designer, as they are making sure that they minimize the environmental impact. In addition, the designers are slowly making the move towards sustainability, but this needs to be accelerated in order to be 'meeting the environmental challenges of the future – including moving to a low carbon economy and reducing waste' (UK Department for Business, Enterprise & Regulatory Reform, 2019). This shows that sustainability needs to be addressed more than it already is being addressed, with a greater focus on the way the products are designed, created, and also disposed of.

Throughout my design carer, I will ensue that I have a greater awareness about the impact of my designs, and ensure that I am aware of the materials that I am using and the waste and the potential sustainability issues that could exist. Over the course of my design career, I will attempt to solve the issue of sustainability, and also ensure that all of my designs are aware of sustainability and do my best to make sure that all designs that I create have a minimal environmental impact. However, this is not always going to be fully possible, due to that fact that there is a lot of innovation in terms of sustainability. Throughout the development and manufacture of my designs, I will make sure that I am taking care to manage the environmental impacts and sustainability of the products. In completing this, I will be able to ensure that all my products have the minimal impact and can be as sustainable as possible. This will allow me to be continually aware of the impacts and sustainability of my products.

There is often a lack of sustainability in large companies as there are many more variables in the creation and manufacture of these products. This is due to fact that many of the products rely on specific properties of these products, which are often dictated by the company, rather than individual designers. An example of this is Apple and the chemicals they have used for their products. There has been a lot of criticism for their choice of chemicals too. This is most recently seen in the evidence that there were the use of 'the solvents n-hexane and benzene' (The Gardian,2014). These solvents are used in the manufacture of the iPhones, in order to clean the screens during manufacture, and ensure that the final product is clean. This use of these chemicals is not sustainable, as sustainability is defined as 'meets the needs of the present without

compromising the ability of future generations to meet their own needs' (Colins Dictionary). This use of chemicals is unsustainable as these chemicals have been shown to have negative effects on the workers involved, including in some extreme cases 'severe lung damage' or 'blistering and superficial burns' (Public Health and England, 2017). This shows that the key role of the designers is to not only consider the impacts on their environments, but to also to consider the impact that their product designs and specifications will have. This will change in the next 10 years as I imagine that designers will be facing much more pressure to be aware of the impacts of their designs. This will be as a result of an increased awareness of the environmental damages that are occurring as a result of material consumption and use.

Designers may also move to solve this issue without pressure from society, as 'designers tackle 'ill-defined' problems' (Cross, N,1982), and so may naturally gravitate to solve the issue of the environmental impacts of the design process that they are creating. There is also a need for 'designers to recognise not only the environmental impact of their design over time, but also the social and ethical impact' (Fuad-Luke, A., 2009, p11). Apple and their designers have shown that they may not always be aware of their impacts, as it has been seen that they have used harmful and toxic chemicals in the manufacture of their products. However, this may also show that the designers are aware of their impact and have little or no influence over the choices that are made in terms of their materials and treatments that are applied to them.

This has shown that more needs to be done in order to fully redesign sustainability, as it will not only require changes from both individual designers, but also the larger companies that employ designers and have more of a say over their designs and the materials that they will be using. In my design career I will career, I will solve this issue by making sure that as a designer I have as much of a say on my designs as designer and throughout my career.

There are some small steps being made towards trying to redesign sustainability, but there is still a lot more that needs to be done. Despite this, sustainability is already in the process of being redesigned and solved, in particular environmental sustainability. This can be seen in the fact that there are some companies, and also designers who are working to make their products much more sustainable, and to reduce their environmental impact, which has demonstrated an awareness of

the need for greater sustainability.

This is seen through the company of Steelcase, who have designed an office chair known as the 'Think Chair', which demonstrates 'integration of environmental criteria in purchasing policies' (Fuad-Luke, A., 2009, p14). This is because their products are being designed to reduce waste and be recyclable. This has shown that designers are aware of the impacts that their products can have on the environment and sustainability. The Think Chair is designed to be 'easily disassembled with common hand tools' (Steelcase, 2016) this then makes the chair easily recycled. In addition, there has been testing of the materials chemistry, in order to develop 'a life cycle vision to understand and minimize its lifelong impact on the environment' (Steelcase, 2016), this means that the full life cycle has been considered and all aspects of sustainability have been considered for the product, which means that a more successful redesign can occur with the closest attempt to a redesign for sustainability.

This design idea is completed in order to ensure that society is moving towards being more sustainable, without necessarily making it completely obvious to the end consumer that they are being influenced into a more sustainable approach; as some consumers may be against being directed towards a sustainable approach. Furthermore, the Think Chairs have been designed with the future in mind, as 44% is made from recycled materials, and 99% of the chair can be recycled at the end of its life (Steelcase, undated). This means that even when the chair has reached the end of its life, it can be repurposed and recycled in order to minimise the impact.

These chairs show that there is an awareness of the need to redesign for sustainability as Steelcase (the company which create the Think Chair), have clearly considered the impacts that their products will have and have made every effort to ensure that there is a minimal effect on the environment, and have also ensured there is an 'integration of environmental criteria into purchasing policies' (Fuad-Luke, A., 2009, p14), ensuring that the designs are able to be more sustainable than a regular office chair. This process of becoming more aware of and designing for an environmental impact, is something that I will have to adapt into my design career as I progress, this is because sustainability is not only an issue I should be aware of during my career, but also something that I should be aware of during my design career.

As said in The Eco-Design Handbook, 'the power of designers is catalytic' (Fuad-Luke, A., 2009, p.15), this means that as a designer I have a great amount of power and influence in the way that I work and create products. I am able to use this throughout my design career in order to redesign and change people's attitudes towards sustainability. I am able to change attitudes through an awareness of materials and production when I am designing product. Furthermore, I am also able to use a greater number of biomaterials and more natural materials; both of which means that I will be reducing the waste I create, and also creating a greater focus on sustainability. This use of biomaterial will also help me to create a greater awareness of environmental sustainability.

Biomaterials are one of the best ways that I am able to solve and redesign sustainability awareness. This is because biomaterials are 'materials made from abundant sources of natural ingredients, like agricultural waste' (Materiom, 2018). These biomaterials provide me with a way to help solve the issue of sustainability, as this will reduce the amount of waste that is being produced, as biomaterials are able to be made out of anything left over, especially food and workshop waste. In addition, these biomaterials are something that I am able to create myself, and so can be even more sustainable as I am not reliant on other people to supply materials. I am using more biomaterials in my design as they are an easy way for me to be more sustainable when I am modelling and designing products. Furthermore, using biomaterials allows me to have more freedom, I can control the various properties of the materials, which allows for great versatility for modelling.

I can also use my knowledge of biomaterials, in order to help redesign other people's attitudes towards sustainability. Biomaterials can help me to achieve this as they make use of left over waste that may otherwise be discarded. This can also be done as I am able to encourage people to think about the impacts of their design, and also the waste generated. This can help encourage people to think about sustainability as they are forced to think about the 'environmental impact of the design over time' (Fuad-Luke, A., 2009, p11). Through thinking about their impacts, I can aim to encourage a redesign of environmental sustainability, as both the designers and consumers will have an increased awareness and focus on biomaterials.

This development of biomaterials over the course of my design career, will also allow for a redesign and rethink about sustainability; from not only myself, but also other people I may be able to influence in my career, either other designers or possible consumers of my products or clients that I will be working with. This is because the repurposing and reusing of materials will allow me to

improve my environmental impact in a positive way. I will also be able to help change other people's mindsets as I will be able to show different ways to approach sustainability.

'A double responsibility falls on ... manufactures and designers' (Fuad-Luke, A., 2009, p18), this statement has never been truer when it comes to environmental sustainability. It is an issue that requires a redesign and has been undergoing this redesign for some time. This redesign can only occur with a lot of work from both the designers and manufacturers, but clients and consumers also have a role to play in this as well, though in a much lesser extent. Slowly progress is being made, but a lot more needs to be done in order to ensure that there is a greater awareness of sustainability, particularly environmental sustainability, but there is still a lot more that can be done to improve this.

Slow progress is being made; however, some companies are not doing all that they can to ensure that can to allow for greater sustainability. This is particularly seen through the material choices and the treatment that have been used. These chemicals which have been used are unsustainable, as they have caused great damage to the environment. This impact doesn't help with the redesign of sustainability, as these chemicals being used seem to go completely against the idea of promoting sustainability.

Despite all the problems that are being created by Apple, some companies are successfully working on the redesign of sustainability. Steelcase have shown that it is possible to redesign to be more sustainable. Furthermore, a redesign for sustainability had been successful as 99% of the chair can be recycled at the end of its life' (Steelcase, undated). This has shown both the designers and consumers that it is possible to redesign products in order to be more sustainable and to create better designs which have greater environmental sustainability.

The greatest change in all of this comes for the growing area of biomaterials. This field is rapidly growing and is growing in sustainability. It is predicted to have a growth rate 'CAGR of 15.97% from 2020 to 2027' (Grand View Research, 2020). This change is helping to create a redesign of sustainability, as the biomaterials are often generated from waste or spare materials, and so are helping to reduce the waste and are causing more efficient and careful use of materials.

Overall, redesign is required for environmental sustainability, and many companies are making slow

progress towards making greater sustainability. Some companies such as Steelcase are doing more to redesign sustainability, compared to other companies (such as Apple) which are making slower progress. More needs to be done in order to fully redesign the issue of environmental sustainability, however, these things will need some time in order to fully redesign environmental sustainability. Slow progress is being made, but there are many more developments that need to occur before there can be a full sustainability redesign. I believe that there will be more developments in the future both in manufacture but also in terms of materials, as designers and manufacturers work together in order to create more sustainable products and processes.

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