

Design for need



D3.2

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Introduction

The aim of this essay is to discover if modern designers can use their skills to address true need, if so, how can they do this and do they have to design physical objects in order to do this?

This essay is about designing for needs and problem solving, the reason for this essay is down to observations of design that seems unnecessary and questioning of whether this way of designing is inevitable to design graduates.

It will be investigated how can design be more meaningful and what affect meaningful design has on the designer and design organisations?

There will be a section to explain what is meant by problems and need and how these can be difficult to define. There will be case studies to show the difference in outcome depending on the intentions of the designer, case studies of products designed for need and also systems designed for need.

“Much recent design has satisfied on evanescent wants and desires, while the genuine needs of man have often been neglected.”

(Papanek, 2009)

What is meant by problems and needs?

As mentioned in the introduction, this essay discusses problems and needs and how design can address these.

The words, problem and need are subjective and the definitions quite vague therefore it is important to clarify what is meant.

The dictionary definition of a problem is “a matter or situation regarded as unwelcome or harmful and needing to be dealt with and overcome” with problem solving defined as “the process of finding solutions to difficult or complex issues” (Oxford Dictionaries, n.d)

Equally need is defined as “A motivating force that compels action for its satisfaction.” (Business Dictionary, n.d)

These definitions are open to interpretation in terms of what is deemed to be unwelcome or difficult or what is classed as satisfaction and this will vary depending on the interpreter’s personal views and background.

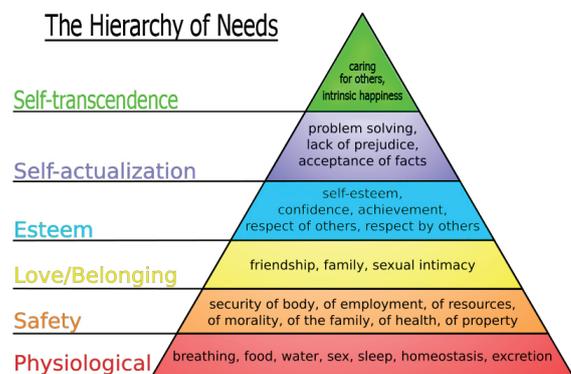
Wolfgang Jonas questions the idea of what a problem is by comparing a design problem to a mathematical problem which, once solved, the solution becomes the generally accepted way of addressing the problem and the problem disappears because it can simply be solved. (Jonas, 1993) Design problems and Mathematical problems obviously do not work in the same way; for the same reason that no two design problems are exactly the same as each other; no two design solution can be exactly the same.

There could be a set way of defining a brief and addressing the problems but there will not be a set ‘fix all’ solution, for this reason each situation should be assessed on its own attributes.

In this essay a problem will be defined as a situation which has arisen from the user’s needs not being

met, in the same way, problem solving will be defined as enabling the user to meet their needs.

Maslow’s hierarchy of needs highlights the variety of what can be called needs, these range from basic human needs that are needed to live, to psychological needs such as social and intellectual. This essay is about humanitarian design, designing from the bottom of the pyramid, up, i.e. designing for the most basic human needs first.



What is the issue?

In 1971 Victor Papanek wrote *Design for the real world* in which he says “Much recent design has satisfied on evanescent wants and desires, while the genuine needs of man have often been neglected.” (Papanek, 2009) This quote is still relevant today if not more so as all over the world, people’s basic human needs are not being met while a few others are entertained by unnecessary gadgetry or what Papanek calls toys for adults.

Wolfgang Jonas questions why the world’s issues are not being addressed when he says that “People design permanently but problems do not disappear, do not even become smaller.” (Jonas, 1993) Although these problems have not disappeared, they are becoming smaller. The issues are being addressed but on a comparatively small scale when compared to the amount of mass produced design churned out for developed countries.

Jonas mentions that rather than designing new solutions for old problems, a lot of current design is about finding problems to fit new solutions. (Jonas, 1993) Even though designers have the power to change and improve the world, the majority of designers spend their time designing unnecessary items, it is for this reason that there is frustration with some designers as to what design means.

Design is often seen as just being a way to make things attractive and to create novelty items. Papanek gives the car as an example of this. When the car was first designed it was intended as a means of transporting people and goods; it is now designed to be more of a status symbol with the novelty of high speed making the whole idea dangerous. (Papanek, 2009) The emphasis in this case is put on aesthetics and novelty with a disregard to safety and responsibility so it is not surprising then that design is often perceived as being about making things look nice rather than being a profession that can improve lives.

As stated in *Design For The Other 90%*, most design is aimed at just 10% of the population, the wealthiest 10% of people, the consumers who already

have everything they need; the remaining 90% are underserved with their basic human needs not being met. (Smithsonian Institution, 2007)

Needs are described as being finite as opposed to wants which are infinite. (Business Dictionary, n.d) and it appears that now the developed world has everything they need, design now mainly caters for wants. This has caused many people in developed countries to take it for granted that their needs are being fulfilled and the line between want and need have been confused.

Designing for the underserved is often avoided as it is thought of as not being as profitable in monetary terms and many designers prefer to focus on designing items for income rather than long term outcomes meaning that social sustainability is often a forgotten area.

This essay is not suggesting that the design made for its aesthetics or design made for consumption should not be made, just that it is surprising how many designers concentrate on this area when there are major issues to be addressed.

Emily Pilloton talks about designing for need and questions that design should mean more than creating more useless junk. (Pilloton, 2009) She discusses how she feels unable to design items that create mindless consumerism and the success and support of her projects has shown her that she is not alone in thinking this way. (Pilloton, 2009)

Philippe Starck has recently started to question the purpose of his previous designs, he said that everything that he have designed is absolutely unnecessary (Leberecht, 2008) and he is looking to create a new path for himself He says that humans have too much stuff and only need love and intelligence; (Leberecht, 2008) while the statement of only needing love and intelligence is going a bit too far it is interesting to see that a designer who could be described as a decoration designer is questioning the need for such design.

Design intentions

Although needs and problems cannot be defined precisely, there are four main categories that design fits into, in this essay they are known as Decoration design, User-focused decoration design, Small problem solving and Meaningful problem solving.

These categories are separated by the intention that they have been designed with, rather than the material or method used to create it.

The first type, known as decoration design, is unapologetically ornamental with little or no supposed functionality. Philippe Starck's Juicy Salif is a great example of Decoration design. This type of creation is primarily created for the designers own amusement as a form of self expression and while they have value as art pieces they are questionable as design pieces as they are not made to be functional. Papanek says that "no longer does the artist, craftsman , or in some cases the designer operate with the good of the consumer in mind, rather many creative statements have become highly individualistic, auto therapeutic, little comments by the artist to himself" (Papanek, 2009)



Another type of design, known as User focused decoration design, is also a form of self expression but with functionality also in mind. Curio's Bunny chair is a good example of this. They say that their furniture is "not merely an art piece for display but can be touched and used by everyone." (Curio, 2013) The chair is designed as a functional art piece and although it is an attractive chair, it is not radically different to many other chairs available and does not appear to be addressing any issues other than providing an attractive place to sit.



Small problem solving is what Wolfgang Jonas describes by saying "Here is the solution, what was the problem?" He says that many new designs claim that they are created to solve problems but that the problems are new "invented" problems. (Jonas, 1993) A good example of small problem solving is the Zero bottle. The bottle is designed so that the user can spin the bottle around their finger, forcing the contents of the bottle to the cap; solving the problem of wasted products that can't be squeezed out. It may be solving a problem but the problem is negligible.

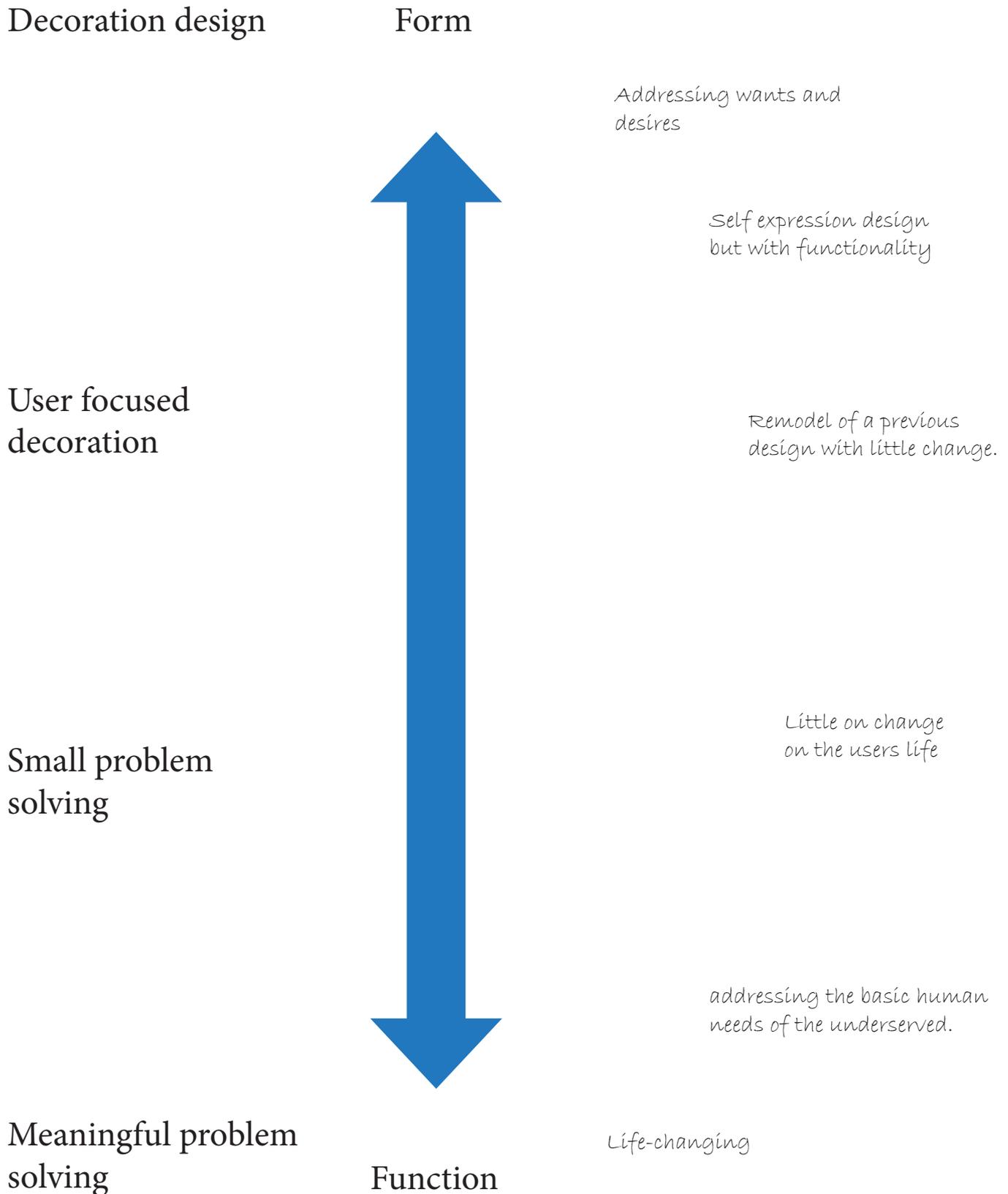


With meaningful problem solving, the user's needs are put first, the design is created to address a problem that is either not being addressed or the current design is not working. The firefly incubator is designed to cure babies of jaundice. Exposing the skin to blue light is not a new idea and similar designs were already being used but the firefly is different in that it is only possible to put on baby in the basket, thereby ensuring that the child is receiving the optimum amount of light, the light shines from above and below in case the baby is covered with a blanket and finally the electronics are sealed to prevent bugs getting in and breaking it. (Design That Matters, n.d) This type of design is intended to changes lives.



Sliding scale

The designer's intention is more accurately shown as a sliding scale from Artistic, sculptural, Decoration design through to Functional, life changing, and Meaningful design.



What are the problems?

Design for need and problem solving is often thought of as something for developing countries and although this can often be the case, there are needs and problems in developed countries too. There seems to be a trend in designers travelling abroad when designing for need but the best place to make a change could be nearer to home. Papanek talks about the issues in developed countries and sees that there is room for improvements in many areas. (Papanek, 2009) also if a designer understands the culture and can see issues first hand they will be better equipped to solve the problems.

Poverty, health issues, domestic abuse, violence, education, safety, shelter, and problems associated with the ageing population are all issues found in both developed and developing countries. These issues, when shown in detail span many different areas. For example healthcare can relate to physical disability, mental health, disease etc with each of these able to be broken down further to find many specific problems.

One example of a healthcare issue is the lack of help for patients with mental health problems. Poor mental health is the largest cause of disability in the UK” (Lamb, 2013)

Even though this is such a huge problem affecting many people, services have been reduced. There has been a reduction in the number of beds available to mental health patients meaning that many people are being turned away, this is compounded by the fact that there has also been an increase in the number of people seeking help. (Buchanan, 2013) Without the correct help and care, patients with severe issues may go on to harm themselves or others.

In the case of poverty, Anne chick talks about design for development and says that, in terms of designing for people in poverty the important thing to remember is not a countries wealth in comparison to another but rather the divide of wealth within a county. (Chick and Micklethwaite, 2011)

A family of four in the UK, living on less than £15,000 a year are considered poor and will often have to decide if their money should go towards food or heating. (Save The Children, n.d)

£15,000 a year for four people equates to approximately £10 each per day to live on, in comparison, people in India are considered poor if they have less than 30 pence to live on each day. (Choudhury, 2013) It may seem like the poor people in the UK are in a better situation than the poor people in India but once the price of everyday items is taken into consideration this is not the case. An individual’s relative wealth compared to their surroundings can have a profound effect on their well-being.

Children in poor families are less likely than their better off classmates to get good qualifications (Save the children, n.d.) This will, in turn, have a knock on effect in the rest of their lives and with a lack of education and grades they will be more likely to end up in lower paid jobs, possibly repeating the poverty cycle again if they go on to have children and bring them up in a poor household.

Designing for need is about designing for the underserved to improve their lives, and enable them to be self-reliant. When products are designed as a means to address need, it is not specifically that product that is needed but rather what the product enables the user to achieve.

Case studies - Designing for need

Arnold J. Toynbee said that “The Twentieth Century will be chiefly remembered by future generations not as an era of political conflicts or technical inventions, but as an age in which human society dared to think of the welfare of the whole human race as a practical objective.” (Mau, 2010)

Some organisations that are designing for the welfare of people are Knightsbridge Furniture, Denvers Road Home and Renfrew group.

Knightsbridge Furniture in Bradford, West Yorkshire designs for issues such as mental health, healthcare furniture, and residential furniture.

Their furniture designed for mental health patients has many features in order to keep the patient safe. On a recent trip to Knightsbridge Furniture the tour guide discussed how their Challenging environments furniture is designed so that the user cannot hide in it, cannot remove parts and cannot injure themselves. The seating is reinforced, all screws and staples are hidden so it cannot be dismantled and the furniture can be made heavier so that it cannot be thrown. (Knightsbridge, 2013)

Although the furniture has many safety features it looks very similar to any other bedroom furniture and that, really is the purpose.

Furniture that prevents the user injuring themselves or others means that they do not need as much supervision and therefore can have more privacy. This will make life better for the patient whilst giving staff and family peace of mind.



Design for mental health
Knightsbridge Furniture

Denvers Road Home re-designed parking meters to help bring in funds for the homeless

The design was inspired by studies that showed that of the 4.5 million dollars given to the homeless in Denver in one year, ninety-nine percent went towards drugs and alcohol.

The idea for this design was to create a way that ensured that the money given to the homeless is used to help the homeless with the goal of ending homelessness altogether.

The designers re-designed old, out of use parking meters and turned them into donation points for people to donate loose change to help the homeless.

Since installation, Denver has seen a small reduction in the number of homeless people. (Pilloton, 2009)



Design for poverty
Denver's Road Home

The NHS asked Renfrew Group to design a wheelchair specifically for children and teenagers.

Renfrew decided to make the design modular so that it can be adapted to different users and grow as the child grows, meaning that they don't need to purchase a new wheelchair after a few years.

Renfrew's designs are based heavily around the user's opinions and feedback from testing. They spoke to the wheelchair users and their families to see how the design could not just be functional but could actually improve the user's life. One of the primary concerns for the wheelchair users is the ability to have the same eye level as those not in a wheelchair, this has been achieved by designing the chair so that the seat can move up and down easily. To make sure that the chair is stable when the height is adjusted, the wheels move outwards. When great stability is not needed, the wheels move in close to the body of the chair making it easier to manoeuvre for the user. (Renfrew Group, n.d)



Design for disability
Renfrew Group

Criticisms

When designing for need a lot of the main issues and criticisms arise when designers design for other countries with many problems occurring from oversights caused by cultural differences. As Anne chick points out “Even when a western designer travels, he takes his western mindset with him.” (Chick and Micklethwaite, 2011)

Nicholas Negroponte had the idea to make a cheap laptop for children in developing countries to empower children through education. The scheme was called One laptop per child.

The design and idea was criticized for its technology not being appropriate and was accused of exporting western ideals rather than researching what was actually wanted and needed.

The design failed as it was designed from the top down and without involving the users at an earlier stage (Nussbaum, 2007) meaning that the smaller details of the problem with education in developing countries was not looked into in enough detail and by the time the users were asked for feedback, the idea of a laptop was already decided. (Nussbaum, 2007)

The design was made with good intentions but was not designed well; design for need needs to heavily involve the user and as with any design, if it is going to be radically different to anything done before it will be under the spotlight.



Design for empowerment through education
One Laptop Per Child

Design that Matters wanted to design to address the issue that worldwide, four million babies die before their first birthday, most of them are in less developed countries. (Timothy Presterio: Design for people, not awards, 2012)

The solution to keeping these babies alive is simply to keep them warm for a few days but there are issues with regular incubators. The problem is that in developing countries incubators end up being discarded because they no longer work and the people whose job it is to fix the equipment don't have the tools or knowledge to do this.

Design that Matters realised that cars in developing countries are regularly maintained and repaired so the idea was to design an incubator that could be maintained and repaired as easily as a car; therefore if you know how to repair a car you will be able to repair the incubator. (Timothy Presterio: Design for people, not awards, 2012)

The design was named the number one invention of 2010 by Time magazine but problems arose because they hadn't considered how to manufacture and distribute the product meaning that the design was never used. (Timothy Presterio: Design for people, not awards, 2012)

The criticisms came from Tim Presterio himself as he felt this was exactly the opposite of what he wanted to design. He wanted to make something that would have a positive impact on lives but instead it was more of a concept, praised for its ingenuity but not actually put in to use.



Design for medical conditions
Design That Matters

The Hippo roller was designed to help people in Africa to carry more water easily as there are health problems associated with carrying heavy water containers and their journey to get water took a long time. The idea was simply a large plastic barrel with a handle so that the container can be rolled instead of carried.

While the designed worked well there were issues with the production quality and deterioration of materials. The production of the roller was not efficient with many of them not made well enough to be used and the water tight seals were degrading after a few years. When these issues with the design were noticed, the roller was redesigned to be more durable and it was also made in such a way that it could be transported cheaper. (Walker, 2009)



Design for water
Project H design

The designs made by Knightsbridge Furniture, Denvers road home, Renfrew group and Project H have made huge differences in people's lives showing that design for need can work.

Designs that don't work as well cannot be easily dismissed either, for example the One Laptop Per Child idea caused other laptop designers and manufacturers make a cheaper version of their laptops, with Novatium, an Indian company managing to make a basic PC for around eighty dollars. (The Economist, 2008) The One Laptop project raised awareness and got people redesigning, thinking and talking about the issues with education and the appropriateness of western intervention.

Although not all designs will work perfectly the fact that designers are designing to improve people's lives is a good thing. With any new design there are likely to be aspects that can be improved upon, and with each iteration the design grows into something more suitable.

There will always be criticisms with any design and it is better to design something that will make a change, regardless of how small the change. Emily Pilloton says that "great design is where you're continually critical of the really important things, and in that situation, design is never done. Especially with design for impact: You have to keep improving it." (Walker, 2009)

Any omissions/cutbacks may be down to the designer having to make compromises in one way or

another to make the item affordable, practical and safe for all types of user. It may also be that because of the nature of the problems in less developed countries there is a sense of urgency to design something quickly to help the situation. Difficult decision will have to be made, such as, should a design be released for use even though it may not work perfectly or should further testing be done, thereby delaying the help needed?

The criticisms made of the designs could be pretty similar if they were made in the UK, design not made with manufacture or distribution in mind could be rejected in the same way, design made without the users input would be equally inadequate. It seems that as long as the user is involved in the design process and the area the product is being designed for is understood, whether that is by designing from home, for home or by spending a sufficient amount of time away from home, that design for need can, and does work.

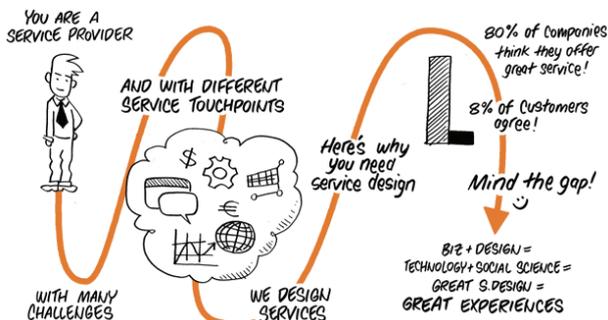
Can problems only be solved by products?

When a designer limits themselves to one aspect of design the outcomes itself will be limited, therefore the best way to design for need is to be open and design holistically so as to not dismiss what the user truly needs. By not having pre-conceived ideas of what the outcome may be, the focus is on solving a problem rather than designing a new product.

Instead of designing products, another way to solve problems through design is to design a process. This type of design goes under a few different names such as service, system, and organisation design, the difference in name is usually dependant on who the user and beneficiary is and while different companies and designers may think of this type of design in slightly different ways, the basic idea is still the same.

A system can either be designed in conjunction with a product in order to make sure that the user gets the most out of the product or it can be designed on its own to work with the people and artefacts encountered in the process. Service design is about designing experiences and quality interactions for the user and customer. Sometimes, nothing physical or rather, nothing new in a physical way is designed but what is designed is the way that the user interacts with existing objects.

Service design is about changing and re-designing the way in which things are done.



Service or system design can be used to make something more sustainable by changing the way a product is used or disposed, for example a buy back system could be set up to reward users who bring back their bottles so that they can be recycled. It can be used to make certain tasks easier and less stressful for workers and customers.

Crampton-Smith talks about her experience of good service “I realised that one of the good things about a well designed service is that it flows easily and you always know what’s happening and you know, you’re not surprised, you’re not anxious.” (Crampton-Smith, n.d)

Good service puts users at ease making them happier and more likely to return to the same company or organisation again. (Aaltonen, 2010)

When designers design both products and services that go hand in hand it is seen as a holistic approach but for a designer to design just a service is a controversial idea.

In a survey of final year students of the BA hons Design course at Leeds Metropolitan University, ten percent don’t consider service design to be something that a designer would have the skills for and thirty percent think that service designers are not really designers at all. (Hunter, 2013)

This view is understandable considering that traditionally design is about designing and creating tangible items but this rigid classification is slowly changing. The definition of what is considered design is changing so that it is no longer just about creating objects but how the user interacts with object at various point, design is becoming thought of as being more about applying design skills and design thinking (Brown, 2009)

What do these designers do?

Service design is not new but the idea of someone trained in design specifically designing services is new.

Service design traditionally is either not designed and just happens or it is designed by the workers or managers within the company. This can result in a fractured system where each department has their own way of working.

(Løvlie, Polaine & Reason, 2013)

The idea of designing holistically and designing the best solution for a problem whether the solution may be a product or a service is what the design council calls transformation design. With transformation design the focus is on creating a fundamental change, it is about applying creative ideas to any area to solve a problem. (Chick and Micklethwaite, 2011) It is problem solving design as oppose to object design.

Many design companies are given a brief by the client but with transformation design the designers assess a situation and work with the client or user to redefine what the problem actually is before writing the brief. (Design Council, n.d. c) for example, a client could present a brief for the designer to design a piece of furniture for a waiting room that will make the user feel more relaxed, when in fact, uncomplicated patient information, clearer signage and a well designed system may be more beneficial.

Of course a designer can challenge a given brief where appropriate but if they are not actively engaged before the brief writing stage and therefore have not researched the issue the most appropriate outcome may not be found.

A transformational designer could help the client to work out what the problem is and come up with ideas on how to make improvements, they could redesign products and spaces to improve how the customers interacts with them and they could design websites or advertising material to sell a service (Design Council, n.d. c.)

The designers will research and gather information in the same way as any other designer; the difference is in how they test ideas. As they are not designing a physical item that can be tested in the conventional way, they create visuals and models and role play different situations to see if one way would work better than another.

On one project, The Design Council started by creating visuals of all of the people and organisations involved and how and where they would come together at certain points of the process; they created characters based on the potential users and role played situations to see how the system works. They researched the users and healthcare workers and got feedback from the them throughout the design process. (Design Council, n.d. b.)

With the focus on designing for the user the design process involves collaborating with the user to find a solution to a problem. Renfrew say that their chair for life was a case where the user knew what they wanted and the designers and engineers found a way to make it happen. (Renfrew, 2013)

Case studies - service/system design

The Bank of America came to Ideo to design something that would entice customers to open an account with them. Ideo designed a way that customers could easily save money when using their bank card for purchases. The idea is that every transaction made is rounded up to the nearest pound and the difference is automatically put into a savings account. (Ideo, n.d. a.) for example if the user paid \$9.20, \$10.00 would be debited from their account with the \$0.80 transferred to savings. This may only seem like a tiny amount but over time it would add up. Since this idea was implemented, the Bank has opened over half a million new accounts, helping individual users save hundreds or even thousands of dollars each year. (Ideo, n.d. a.)



Design for poverty
Ideo

The meals on wheels scheme is run all over the UK.

The service provides hot meals to people in their own homes who, for whatever reason, are unable to cook for themselves.

The food is prepared and then delivered by van to people in need.

The idea behind this scheme is not purely about delivering food but also so that the customers have contact with someone everyday and the person delivering the food can make sure that the customer is well. (Royal Voluntary Service, n.d) The scheme enables the elderly and infirm to stay in their own home meaning that they can keep their independence.



Design for health and wellbeing
Meals on wheels

Ideo worked on re-designing the process of how nurses hand over their notes at the end of a shift to another nurse just starting her shift. By observing the nurses they found that each one had her own way of doing this.

Ideo made prototypes and acted out scenarios to find a solution and their final design was an implementation of new procedures and software for the nurses to enter their notes and information.

The re-design resulted in a faster and more accurate service for the staff and the patients (Ideo, n.d. b.)



Design for healthcare
Ideo

How does designing for need affect the designer?

Finances

Papanek says that “The economic, psychological, spiritual, social, technological, and intellectual needs of a human being are usually more difficult and less profitable to satisfy than the carefully engineered and manipulated “wants” inculcated by fad and fashion.” (Papanek, 2009) This is still true as many companies that design for need are charities, non-profit organisations or consultancies and professionals that either have to raise funds in order to pay for a project or work pro-bono.

Some organisations such as Project H ask for donations, fund raise and use the website Kickstarter to pay for their projects. Others like the shoe company Toms raise funds by selling to consumers that can afford to pay and using the profit to make and send items to developing countries. Using consumerism to fund humanitarian work seems to be a good way to ensure that money is raised.

There are some companies designing for social sustainability that are funded by organisations such as the NHS, like in the case of the C4L wheelchair designed by Renfrew (Renfrew Group, 2013), or partially government funded as in the case of the re-designed parking meters to collect donations for the homeless designed by Denvers Road Home. (Denvers Road Home, n.d)

The Design Council get donations and funding and also charge for their services. (Design Council, 2013) Designers working at the Design council, along with designers from Ideo, do pro-bono work, meaning that they work for little or no money. It is good that they can do this but it is not always a practical option for others.

Open source design

It should also be noted that if designers truly want to design with the user’s welfare as the top priority, ideas and solutions should be shared. Papanek believes that delaying life-changing designs while waiting for patents and copyrights is unjust (Papanek, 2009) It really depends on the design and the designers circumstances because if a designer shares their findings and solutions without patent or copyright protection it could be very difficult for the

designer to design as a full time job, especially if their ideas are commercialised by others. Papanek does talk about designers giving 10% of their time towards designing for need (Papanek, 2009) and this is possibly the only option if designers are not earning any money from their work. For this reason, while open source should be a consideration, copyrights and patents cannot be dismissed.

Co-design

The idea of having a designer with a perfect vision of the end product is being replaced by co-design. This is where the designer collaborates with the client and where the lines of designer and client are blurred. (Mau, 2010) With co-design, the user and designer are equals, making it seem as though everyone is a designer and the job of a designer is becoming redundant.

Skills

“Existing professional designers need to recognize that their existing skill-set may not be adequate for these new challenges.” (Chick and Micklethwaite, 2011)

From the questionnaire taken by the design students, twenty percent of those questioned said that their main focus was on designing to help people but they wanted to do this by designing functional/problem solving designs rather than life-changing design. (Hunter, 2013) It does raise the question why they didn’t want to design life-changing design when the student’s main aim is to help people. It may be that design students do not feel as though they have the skills and knowledge to tackle real issues.

Service/system design

Designers who want to design services may find it difficult because it is not yet a widely recognised area of design. It may be that service designers have to find jobs in unusual and non design areas in order for them to input new systems and services. For example designer, Ian Crawford decided to work for a company that puts up shelves, that way he was able to change the service that the company provided from the inside. (Downs, n.d)

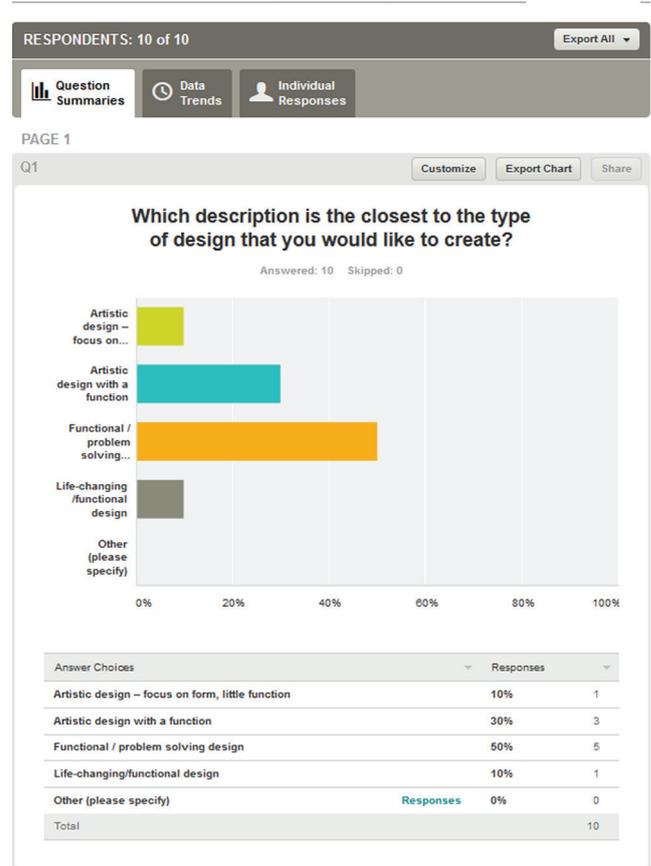
Conclusion

Although designers may study different aspects of design they do have a variety of skills in common. A good designer can work on a brief to better define what is actually needed by the client and/or user. A good designer can question existing ideas and will not to dismiss unusual ideas but instead take the positive aspects from an idea to create a viable design. They will make models in order to test ideas; rather than assuming that certain ideas will work and will look at how things are actually used rather than how they expect them to be used. Designers are also trained to visually communicate their ideas with clarity to make it quick and easy to understand.

The skills that a good designer has can be applied to many different areas, including designing for need and problem solving. The Design Council say they believe that design can be used to solve difficult problems and can be used to improve lives (Design Council, n.d. a.) but Anne Chick believes that as designers encounter new challenges such as designing for social sustainability they may be missing some abilities. (Chick and Micklethwaite, 2011)

From the recent questionnaire it seems like many of the students are simply not interested in designing to change people's lives as only 10% of design students questioned said that they wanted to create life changing designs. (Hunter, 2013) It is hard to say whether this is because they are not aware of the issues, they are just not interested in designing in this way or they don't think they have the skills.

While it may be true that designers don't have every skill desired to design for all aspect of need, these skills are not be fundamental to being able to design in general and could always be learned if needed; also, as there are many different areas of design it is inevitable that some skills will have to be learned or at least refreshed depending on the employer or brief, regardless of the area that the designer is designing for. Similarly, the scope of problems and therefore, problem solving is so large that it is not possible to be an expert in every area.



It should be remember that a designer is not someone who has all of the answers but rather someone who can think creatively and find innovative ways of problem solving. Designers have their own talents and skills but they are also capable of collaborating with others to create a well thought out and well executed solution.

With co-design it may seem that non-designers are designing their own solutions, for example, when Renfrew designed their c4l wheelchair they said that the user told them what they wanted and Renfrew just designed what the user asked for (Renfrew, 2013) but it is not quite as simple as that.

Although the users told them that they wanted to have the same eye level as those around them, Renfrew had designers and engineers to figure out the heights required and how the wheelchair could actually work. (Renfrew, 2013)

The designer's role is to find innovative solutions to problems and know how to implement them. It may be the case that the user knows what problems they have and what outcomes they require but it is down to the designer to make suggestions of how to fix the problems and work out how certain outcomes can be achieved. So while the user and designer are both experts in their own areas, the user being an expert of their situation and problems and the designer an expert in the design process each is needed for their knowledge and experience, meaning that the designer's role is not redundant.

It seems that designing for need in general is more complicated as there is much more to consider and this is especially true when designing systems. The designer needs to have excellent communication skills because they cannot simply present a physical model to the client of user.

Regarding the issue of fund raising, designers are trained to find new and innovative ways of doing things which is why they are ideal people to take on this challenge. Designing for need may not be straightforward but designers such as Emily Pilloton have shown that with enough enthusiasm and careful thought and planning it can be possible.

The alternative would be to nothing but as Tim brown says ““You can't win the lottery if you don't buy a ticket.” (Brown, n.d)

Design council website - design thinking

It is clear that much thought, research and user interaction is needed to design in this way and but providing this is done, designers can design for need and even the smallest of changes can make a huge difference to someone's life.

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Knightsbridge Furniture

On the 21st of March 2013 I visited Knightsbridge Furniture in Bradford as part of the Students Industrial tour 2013 sponsored by Willis and Gambier.

I was shown the process from research and designing the furniture through to the production and told that the furniture is made from sustainable materials and is built to be hard wearing and long lasting.

in the research and design rooms We were told about how some of the furniture for healthcare environments is designed so that the screws are hidden to prevent user from taking the furniture apart and causing damage to the room, themselves or other people. This is just one of the features of their designs in their challenging environments range.



Student designers questionnaire

