

Advocacy for Design Education: Shifting from Traditional Design Paradigms to Human-centred Social Design

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Abstract: This study examines the gradual evolution from traditional design paradigms to today's socially orientated design in the field of traditional design education. Traditional types of design exist in numerous industries, such as architecture, interior, apparel, and graphic design. However, much of the past design paradigm has been practically orientated. In contrast, the design industry and its processes are slowly becoming more socially relevant. After all, the advancement of society requires a greater consideration of the needs of the user. Therefore, there is a huge challenge in the transition to social design. From the perspective of design education, the most fundamental problem can be solved by implanting the traditional concept of design education into the concept of human-centred design. This study not only provides an in-depth theoretical and case study for the transformation of design education but also provides an outlook on the trend of this path in future research on human-centred social design education. This research supports the development of more creative and socially responsible designers in the future.

Keywords: Design education, Human-centred, User-centred, Social design, Interdisciplinary.

1. Introduction

Design education has always existed in the traditional design paradigm conducted [7]. From the old days of functional design with a focus on the economic base, it has slowly changed to the user's needs for designing the shape of the product [8]. Until now with the change of social times, design has gradually become tightly connected to society, making it integrated into a wider range of social issues and interpersonal relationships. However, the creation of today's problems can be explored in four ways:

Firstly, in terms of technological development, traditional design may have focused more on technology and the use of tools. Back during the Industrial Revolution, most people at the time were in a depressed economic condition due to the effects of World War One. However, the most urgent thing at that time was to satisfy people's immediate needs, so during the modernist design period in the 1930s, most of the designs were economically orientated, and the designers were designing things in a minimalist form. Mies van der Rohe, one of the most famous modern designers of that period, advocated minimalist design and emphasised that simple design brings more enjoyment to people [8]. In contrast, technology nowadays exists mostly in the close connection between computers and graphic symbols. The use of tools is becoming more convenient and the interaction between humans and machines is more important; there is a constant search for ways to bring convenience to people.

Secondly, in terms of social complexity, there are many complexities in society, not only in terms of ideological factors. And the problems that people are facing nowadays are a kind of no-small challenge from big to small. People are gradually realising that without the haven of society, it is nothing similar to 'running naked' [21]. However, countless studies have shown that social creativity has been used through education and poverty alleviation to achieve social cohesion and iteratively update the model of green consumption [5].

Again, in terms of user needs, which are constantly changing as society evolves, anything designed is defined by a relationship of supply and demand with people. However, this supply and demand relationship first originated with the British royal family in the 1860s when there was an extremely famous private ceramics company, Wedgwood. Its main focus was to take orders from the Royal Crafts Board to create the most exquisite porcelain in the world. Especially in 1963, the production of opalescent ceramics, later known as the "Queen" brand ceramics title. Since this ceramic fire, Wedgwood company has ordered more and more, and according to the different needs of consumers, the formation of product diversification design. For example, black stoneware, ashes porcelain, and jasper porcelain. A variety of different styles and styles of ceramics followed. This is all an effect of pure supply and demand [8]. Nowadays, successful design is not just about the strengths of the design itself, but also about the need to collect a large amount of data about the user to satisfy the user's needs and to achieve the result of the design [10].

Lastly, in terms of shifting educational paradigms, the philosophy of design education has not changed much as it has evolved. Many educators have begun to explore new models for teaching design. This is because the traditional design model is flawed in terms of cultivating students with a sense of social responsibility and innovative thinking. Therefore, design education should pay more attention to human-centred ideology. The earliest design education comes from the design curriculum system created by Bauhaus in Germany - basic course, theory course, special topics (product, graphic design), and engineering structure course (related to architectural design). Its lectures were taught in a two-track model - formal tutors and technical tutors. This shows that the traditional originator of the design was also singularly extremely concerned with specialised subjects. And adhere to the principle of the unity of art and technology, although the emphasis is on people, rather than just purely for the sake of product design and design, from the perspective of society

nowadays, the lack of diversity of knowledge. Looking at the majority of teaching schools nowadays, the form of content is still extremely similar, and there is no major difference from the traditional education model [3]. However, nowadays we are approaching design to present green sustainability.

Therefore, design nowadays is more focused on the environment we live in, emphasising that design should be user-centred at all times and adhere to green principles [2].

2. Literature References

2.1. Critique of Traditional Design Patterns

In traditional design education, I would put its limitations in roughly four areas.

Firstly, the lack of innovation training. Design needs to be responsive to the needs of the times to move forward. Traditional design, whether before the industrial revolution, or after the industrial revolution only focuses on the economy of the modern design period, or the industrial revolution after the economic recovery. And even more so in the post-modernist period after the Industrial Revolution. The changes in design are constantly moving forward with the times. What has remained constant, however, is that at the heart of design is the ability to innovate. In the history described by Raizman [8], traditional design has evolved from elaborate design forms to modern minimalist design forms, to humanistic design patterns, and finally to the use of large amounts of user data to support the design of how to meet today's trends. It can be seen that the evolution of design has been slowly towards the direction of user-centred development. Therefore, we can learn the solid basic skills of traditional design and combine them with the pace of the times to carry out design innovation to the end.

Secondly, traditional design puts too much attention on the shaping of art, so the discipline is too monotonous, which leads to the relative limitation of the knowledge chain of this kind of students, and will not produce a large association. As a result, a large number of students graduated from the school and were socially unable to adapt to the needs of the industry at the time [13]. On the contrary, design in the past two years has been slowly trending towards interdisciplinary knowledge, which means that it is trying to compensate for the shortcomings of traditional design. For example, the process of design and social entrepreneurship, where a great deal of social complexity and diversity exists to be able to link the chain of knowledge of design [14]. Therefore, it is not only the specialisation aspect that is crucial but also the branching out of knowledge content in more fields that we should constantly expand to be able to take the path of design wider.

Furthermore, most of the designers lack attention to social issues, as designers in the past concentrated on technology and aesthetics, thus neglecting the understanding of social responsibility [2]. For example, from the point of view of the partially sighted, design for this group is one of the most important issues in the social category. Cases of design for the handicapped and disadvantaged groups are also common. Research has shown that in the process of designing a signposting system for a particular partially sighted user, Yuan [11] argues that it is only when a range of needs of partially sighted people are met, with an understanding of inclusive design for the target user, that the final design will be able to last for a long time. The final design will be able to be in demand for a long time.

Finally, traditional design tends to ignore the feelings and needs of users, resulting in some products being impractical to sell. For example, in the post-World War I Ford car design, the earliest Model T's ever-changing shape won people's short-lived love at that time, but finally led to the car's discontinuation. This shows that sustainable design is what lasts. The product should be designed to meet the essential needs of the people, rather than temporary tastes and hobbies. For example, in a traditional industrial project, a builder encountered a bottleneck in developing a new project. Research found that it was related to the wood products used and they realised that the product was something that needed to be built on the user's experience to be visible.

So they tried their best to find the design work that has empathy with the product and develop the product that best suits the user's needs [12].

2.2. Human-centred social design concepts

Human-centred design is to place the essential needs of the user in the entire design process and principles, reflecting the importance of the expectations and experience of the target user. On the one hand, this concept originated from Papanek [17], who proposed that design should be based on nine-tenths of the people, as opposed to useless design; and opposed to designers' pursuit of short-lived stylised design. He emphasised that all designs should take into account the needs of people and should establish the truest connection with them. On the other hand, Papanek's [16] idea of linking social equality, sustainability of people's existence and the problems of relatively backward countries. This conception of design does not only cover one field but all design professions. Its main purpose is to adapt to the needs of society as a whole and to create a more humane design. In addition to this, human-centred design constantly emphasises a sense of responsibility towards society and takes into account the impact of the design on the environment and the people or things around it. The focus is to create something more valuable to society [18]. The design needs to be sustainable in the long term, not only in terms of the aesthetics on the surface but also in terms of the content that resonates with the target user and other environmental considerations such as greenness in many types of design. This includes inclusive design, which ensures that the design meets the needs of disadvantaged groups, including users of different cultural backgrounds, ages and genders.

In terms of the link between design and society, the discipline of design has solved a lot of substantial problems for the social issues that we face today. Moreover, human-centred design has been proposed for a long time, and perhaps most designers have been too vague about its content, resulting in the proliferation of content that has made the concept of human-centred design so popular in society [15]. Many interpretations in academia go hand in hand with practice; many design leaders address the concept of human-centredness in their final understanding of their work. So a successful work must be the end product of continuous development in the context of society as a whole, subject to numerous obstacles and explorations.

2.3. Case studies of design directions for people

From the perspective of Papanek's [2] design for people, there are three main areas to examine.

Firstly, it is to be seen in terms of the responsibility of design, where designers need to consider designing for the

masses, rather than the few [9]. Not only do they need to consider the ethical aspects of people, but also their safety. For example, the most significant feature of Kenya Hara's signage system for the Japanese Maternity Hospital is that the signs themselves are made of cloth. On the one hand, it conveys the feeling of being a soft space in terms of sensation. It gives psychological comfort to most of the patients in the hospital. On the other hand, in terms of environmental awareness, the signs are designed with white cotton fabric, the pedestal part of the sign is fixed on the wall, and the room number and reminder messages are screens printed on white cotton fabric, which can be taken off and dismantled for washing. In addition, the fabric gives a soft feeling of space, and the white cotton cloth, which is not resistant to dirt, conveys the message of reverse thinking to ensure the hospital will be clean [19].

Secondly, in terms of the social value of the design, most of the designs are designed around the scope of the disadvantaged groups because the works designed in this direction will give back a certain value to society. For example, a research design developed maps that can be explored and constructed by visually impaired people, which combines the use of sound and touch together. They can help the blind find their way around by using a map made of small, round, raised magnetic plates, and use the sense of touch to fill in the gaps in visual information, which is a good demonstration of humane design. On the contrary, this kind of design also has some limitations, that is, I can't update the content of the map, so a targeted development was done – an interactive map, that is, a participatory design method was used. So it incorporates a voice system and a tactile approach to assist with wayfinding. Therefore, design nowadays places more emphasis on human-computer interaction, which is also a form of inclusive design [20].

Lastly, in terms of green sustainability of design, humane and green design should be referred to the famous Japanese design guru, Shigeru Itami, who believed that as an architect, he should fulfil his social responsibility as a designer while designing beautiful works. He emphasises the use of cutting-edge materials and technologies to enhance the structure of paper. As a result, he is known for his ability to use the cheapest and most fragile materials. The paper architectural works he has made maintain the overall structural stability. They are also able to withstand high-level earthquakes. For example, after the 2011 Japan earthquake, Shigeru Itami built 1,800 paper intervals in more than 50 shelters, which not only met the basic physical needs of the victims but also gave more privacy to the suffering families. In addition, the paper structures he designed were not only easy to install and construct but also low-cost. He believes that it is the responsibility of designers to rebuild after a disaster [21]. Therefore, all the examples of design for people are meant to illustrate the importance of humane design and the future trends in the field of design.

2.4. Designing strategies for paradigm shifts in teaching and learning

If there is a way to carry forward the concept of human-centred design, it must start with education. However, the transformation of design education involves a wide range of issues, such as innovation, pedagogy, and training students to better respond to the challenges of contemporary design. On the one hand, studies have shown that some design schools produce unsophisticated work, even the most basic

typography is disappointing, as they are steeped in the traditional concepts of fine art modelling. As a result, many students are unable to solve the problems involved in contemporary design work after graduation [13]. On the other hand, today's teaching methods are slowly being enhanced with digital tools and technologies. Students are required to be proficient in the use of a large number of software and digital tools such as virtual reality.

Overall, the traditional design paradigm does not match today's research direction and is unable to cope with the complex and diverse social reality [1]. The current society requires designers to be able to quickly deal with a wide range of difficult problems. Additionally, to support a systemic shift in education, there is a need to be able to construct a cultural framework that is creative for society. In a sense, this paradigm shift is the result of the interdependence of diverse cultures that need to be combined with the interdependence of natural disciplines such as economics, society, politics, and biology.

3. Methodology

The present time is one in which design education is changing, as well as the challenge of shifting to social design. In doing so, social design has changed the parameters of understanding previous traditional design paradigms, as well as demonstrating different dominant approaches in terms of the data collected and the strategies explored. At times, some of the methods and processes may be somewhat similar, but there is also only some consensus in terms of the process of exploration and the resulting strategies. Therefore, to more clearly correspond to the influence of the current social environment on the design industry, I conducted focus groups as well as explored some of the data underpinning the qualitative approach and the current design education situation. The population I studied was current undergraduate students; in other words, I analysed data on the amount of knowledge and experience that prospective students possess.

3.1. Focus group structured interviews

Focus groups belong to a qualitative research method that focuses on discussions on certain issues in response to an exploratory method of practical experience of specific target users accumulated over a long time. The rationale behind the issues is clearly articulated in a structured way that shows the feelings, experiences and attitudes of the target group. The advantage of this approach is the ability to obtain visual comparisons, but the disadvantage is the inability to define conclusions in terms of quantitative data and the possibility of interactions between interviewees, which can lead to imprecise results. Therefore, I screened 8 eligible people from 20 current undergraduate students, which I labelled with the letters A-F and warned them in advance not to do anything to each other that would affect the results. In the end, I took one-on-one structured focus interviews. In addition, the direction of this theme was to focus on a series of questions such as whether contemporary university students can solve problems quickly when they meet design projects; whether they have built up a network of knowledge beyond their speciality; whether they can work independently when they encounter problems; and whether they have experience in the workplace (see Table 1). The methodology used in this project can be classified as seeking experiences, feelings and behaviours, so the participants only had to give simple answers to the questions.

Table 1. Datasheets for focus group interviews

Participant	Do you have a rich social knowledge network?	Do you have internship or work experience?	Speed in solving professional problems	Can you solve problems independently?	Education level
A	YES	YES	Quick	YES	Undergraduate
B	NO	YES	Quick	NO	Undergraduate
C	NO	YES	Quick	NO	Undergraduate
D	NO	NO	Slow	NO	Undergraduate
E	YES	YES	Quick	YES	Undergraduate
F	YES	NO	General	YES	Undergraduate
G	YES	YES	Quick	YES	Undergraduate
F	YES	NO	General	YES	Undergraduate

3.2. Data analysis and discussion of results

Throughout my research, thematic analysis was used to qualitatively analyse the data. The information collected was analysed in an organised manner using inductive summaries.

Therefore, from the data above, it can be seen that, firstly, people who have a wide knowledge chain, but no work experience, the data shows that: are normal in terms of the speed at which things are resolved, thus illustrating the importance of having a wide knowledge base.

Secondly, people who do not have a broad knowledge base but have work experience are still fast at solving problems, but it only shows that they possess a certain strength in practice, and due to the lack of knowledge, the work needs to be done in collaboration with many people rather than independently.

Finally, for those who have both multifaceted knowledge and work experience, the data show that: they are fast in solving professional problems and deal with them quite independently.

This shows that social design change is inevitable; that social design trends are also future; and that the impact of social change on design is free and open-ended. The impact of social change on design is free and open-ended because society exists in a very large "colour tank". They do not have specific data parameters, nor do they have a clearly defined strategy for addressing what is wrong and what is right. Often, they are basically a headache to deal with.

Therefore, we need to pay more attention to the output of this problem, and timely propose solutions to deal with it.

4. Conclusion

Obviously, we have analysed the data of the study and found that nowadays college students need a large knowledge base in this complex social environment, however, not only in the knowledge within the scope of the profession, but also additional as well as wider knowledge chain articulation, only in this way can they have independent problem-solving ability. Or that they have many years of work experience, although they can not solve the problem independently, but can have enough ability to deploy personnel, but also the advantages brought about by experience.

In summary, to avoid a disconnect between design and society in the future. It is necessary to solve this thorny

problem from two aspects. On the one hand, the improvement of the design mode; on the other hand, it is to increase the concept of practice and innovative thinking of the design education management mode. From the perspective of the design education model, the future trend will be the trend of human-centred social design. Therefore, the improvement in design education is also a priority.

First of all, there is a need to expand and supplement a wide range of subjects in schools, such as economics, culture, natural sciences and geography of the world. This is to make up for the lack of design content caused by the single subject knowledge.

Secondly, to enable students to better integrate with society after graduation, it is necessary to add some social participatory design. For example, a community participatory design approach is adopted so that community residents can directly participate in design decisions and practices. By establishing a community, a broader perspective can be gained so that design can better serve the actual needs of the people. In addition, the school fosters students' concern for the social environment. Internships can be combined with community engagement projects, which allows students to better integrate theory and practice on the impact of current design on society. This not only helps to cultivate a sense of social responsibility as a designer and sustainable design thinking. It also prepares students optimally for future trends in design [6].

Finally, teachers need to be trained and supported accordingly, as teachers at this stage are already baptised by the traditional design education model, and educating people starts with educating teachers, so providing teachers with a human-centred design education philosophy is also the most important thing to do at the moment.

After the school's high-quality training, strengthen the attention to the students' internship strength. Because in the past in the fourth year of college students in the period of internship, there will be a large number of formality of the internship certificate. So the quality of the graduation internship is particularly important to the school's responsibility to the students. Papanek [2] in a very early time saw the future design trends, so based on the direction of these design theories, and then combined with the development of the current society as well as the current design education missing part of the design trend in the future will inevitably

be the trend of the social design, which will be from the value of the society, ethical, duties and other aspects of the development in combination with human needs, and expand to sustainable design, inclusive design, participatory design, and the establishment of innovative thinking models of design management, etc., numerous disciplines are linked to make the direction of the design profession become rich and colourful [4].

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