TEACHING EMPATHETIC DESIGN THROUGH THE PEDAGOGY OF DISCOMFORT

Raghavendra Reddy GUDUR
University of Canberra, Australia

ABSTRACT

Students and novice designers, especially those just out of high school, have difficulties understanding the concept of empathy in the design process. In addition, they often confuse empathy with sympathy, and their design solutions show an element of condescension and stereotypical outcomes.

To address the above problem, we have employed two strategies; 1. Transformational teaching: to create a dynamic relationship between teachers, students and a shared body of knowledge to encourage learning and personal growth [1]. This was achieved through situated learning with teachers acting as intellectual coaches who guide as and when required. And 2. Pedagogy of discomfort, According to Boler [2], pedagogy of discomfort as a teaching practice aims at disorienting learners through unsettling their taken-for-granted assumptions; and, consequently, engaging them in 'collective witnessing', 'mutual exploration' and 'deliberate listening'. This was achieved by designing the learning context to engage students in an activity that is both surprising and requires them to un-anchor from their comfort zone.

This paper shares our experience using the strategies mentioned above to teach empathic design to novice designers. We discuss our findings around a case study, an interdisciplinary course comprising students from visual design, industrial design and nursing working together in a culturally diverse environment to solve a real-world problem based on ageing and dignity.

Keywords: Inclusive design, transformational learning, pedagogy of discomfort, empathetic design

1   INTRODUCTION

We observed novice designers, especially the young, have difficulties empathising with target groups significantly different from them in age, capabilities, culture and cognition. In addition, they often confuse empathy with sympathy, and their design solutions show an element of condescension.

Although we use tools like empathy suites as part of the user-centric design process, it often does not produce effective pedagogical outcomes mainly because students take the empathy suite exercise as an academic challenge to be overcome to complete course requirements rather than realising how it feels to be in that condition indefinitely.

As Nadan and Stark [3] noted. *"Learning about 'Others' brings with it the risk of over-generalization, as well as the risk of overlooking the intersectionality of different categories of difference… and other personal circumstances and attributes. This, in turn, can lead to stereotypical attitudes towards people and the tendency to ignore their unique needs and life stories…. Such an approach may promote the view of groups as natural, homogenous, static and detached from macro structures."* In other words, this is an antithesis to the inclusive design paradigm - Which is all about recognising diversity and designing to accommodate it.

To address the above problem, we have employed two strategies: the transformational teaching [1] and the pedagogy of discomfort [2]. The pedagogy of discomfort is an educational approach that challenges students' existing beliefs, assumptions, and comfort zones in order to encourage critical thinking. The transformational teaching approach was employed to create the necessary learning environment to foster intellectual and emotional discomfort as a means of encouraging students to confront and question their preconceived notions, biases, and limitations.

This paper shares our experience using the strategies mentioned above to teach empathic design to novice designers. We discuss our findings around a case study, an interdisciplinary course comprising students from visual design, industrial design and nursing working together in a culturally diverse

environment to solve a real-world problem based on ageing and dignity. Within this context, we view the disconnect between the user expectations and the user experience as a design opportunity, where a design intervention can resolve/solve a negative user experience.

2 EMPATHIES IN THE DESIGN PROCESS

The core steps in the iterative design thinking process are defining a problem, attempting a solution, and, if not satisfactory, going back to re-defining the problem, and it goes on (Figure 1). In the design thinking process, "problem definition" is strongly tied to "Empathy" as it allows exploring the nature of the problem and understanding the users' needs and aspirations [4]. Empathy serves as the driving force behind the innovative process in design. Koppen and Meinel [5] rightly noted that Dorothy [6] was among the early authors to explore the significant connection between design and empathy, introducing the term "empathic design". In her perspective, empathic design empowers companies to enhance their products by understanding and addressing customer needs that may not be readily apparent. It involves immersing oneself in the customers' own environments to identify opportunities for product refinements. Without empathy, the essence of good design is lost, as it is this empathetic connection that brings forth designs that truly resonate with people [7].
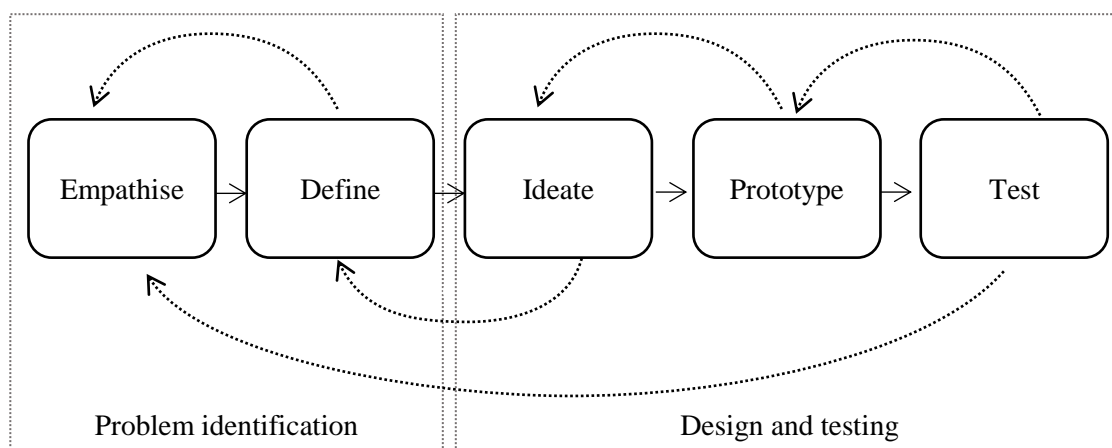

Figure 1. Design thinking process

Empathy is often confused with sympathy; although they are closely linked, they are not the same. Empathy involves understanding and sharing the emotions of others, often through personal experience or the ability to imagine their feelings genuinely. It's the ability to understand and the ability to feel connected to the emotional experience of others without living it. Sympathy, on the other hand, involves acknowledging and showing concern for someone's situation without necessarily experiencing the same emotions.

The exploration of empathy remains fragmented, with various studies focusing on different aspects of this broad phenomenon. Moreover, research on empathy has progressed within distinct disciplines and separate research communities, leading to a lack of cohesive understanding [8]. Kouprie and Visser [9], based on how empathy has been discussed in design and psychology literature, proposed a framework to encourage empathic approaches in design practice. The framework consists of four phases (1) discovery, (2) immersion, (3) connection and (4) detachment. In the 'discovery' phase, designers engage in activities that raise their interest and curiosity around the problem resulting in a motivation to explore and discover the user situation and experience. The second phase, 'immersion,' is the key phase where the designer immerses themselves in the environment of the users and experiences the user's world from their perspective without being judgmental. The third phase, 'connection,' is closely related to the second; here, the designer brings in their own experiences in order to understand what the user feels and what it means to them. In the last phase, 'detachment,' the designer gets back into design mode and leverages an increased understanding of the user and the problem to generate ideas that better align with their needs.

3 TEACHING EMPATHY IN DESIGN

Teaching empathetic design requires the disruption of students' comfort zones and engaging them with end-users who may be marginalised or face different challenges than they do. They must develop the skills and resilience to face challenges by exposing themselves to uncomfortable situations. Such as designing projects that require one to work with diverse stakeholders, confront ethical dilemmas, or address sensitive issues to recognise their biases, assumptions, and limitations. They are encouraged to reflect critically on the impact of their design decisions and understand the broader implications of their work. Finally, supporting agency: Empathetic design can be a powerful tool for social change when designers are critically engaged with the social and ethical implications of their work.

When teaching the concept of empathy in design, it can be divided into three distinct components. In addition to mastering technical techniques, it requires a transformative shift in attitude and the adoption of a new mindset. To effectively teach empathy to young designers, it is crucial to push them outside their comfort zones and expose them to diverse experiences. This process enables them to develop a genuine sense of empathy towards users by breaking away from their familiar frame of reference and embracing new perspectives [10]. In this study, we are exploring the use of a transformational teaching approach and elements of pedagogy of discomfort to create the necessary environment to teach empathy to young novice designers effectively.

3.1 Pedagogy of Discomfort

According to Boler and Zembylas [11], the pedagogy of discomfort involves several key elements, including disruption of the status quo and challenging the dominant beliefs often taken for granted. It was achieved by creating a safe and respectful environment to encourage students to share their perspectives and engage in an open dialogue while ensuring that all students feel heard and respected.

Pedagogy of discomfort as a teaching practice aims at disorienting learners through unsettling their taken-for-granted assumptions; and, consequently, engaging them in 'collective witnessing,' 'mutual exploration' and 'deliberate listening.'

- Collective Witnessing: involves creating a space where students collectively witness and engage with uncomfortable or challenging experiences, narratives, or perspectives. It encourages students to acknowledge and confront social injustices, inequalities, and systemic issues together, fostering a sense of shared responsibility and collective action.
- Mutual Exploration: the importance of students engaging in dialogue, discussion, and exploration of diverse perspectives. It encourages students to actively listen to and learn from one another, valuing the exchange of ideas and experiences. Through this process, students can develop a deeper understanding of different viewpoints and challenge their own assumptions.
- Deliberate Listening: involves actively listening to others with openness and respect. By deliberately listening to others, students gain new insights, build empathy, and foster a sense of connection and understanding.
- Encouraging emotional dimensions of learning and creating opportunities for students to reflect on and share their emotional responses to difficult topics and issues. Fostering empathy by encouraging students to consider multiple perspectives and to develop a deeper understanding of the experiences and perspectives of those who are different from themselves.

These components of collective witnessing, mutual exploration, and deliberate listening work together to create an environment that promotes critical engagement, empathy, and transformative learning. They encourage students to confront discomfort, question dominant narratives, and develop a broader understanding of themselves and the world around them.

3.2 Transformational teaching

The transformational teaching approach creates a dynamic relationship between teachers, students and a shared body of knowledge to encourage learning and personal growth. To engage students in discomfort pedagogy, it is essential to establish a supportive and inclusive learning environment where students feel safe to express their thoughts, emotions, and discomfort without fear of judgment or reprisal to encourage critical thinking. This is achieved through situated learning with teachers acting as intellectual coaches who guide as and when required. Among others, basic principles of transformational teaching include constructive learning, where students actively engage in the discovery process and construct their own knowledge and understanding through active engagement with new information and

experiences. And social constructivism, where learning is more impactful when it involves social interactions and collaborative learning in the construction of knowledge and understanding.

4 METHODOLOGIES

The primary aim of this exploratory study is to help understand if we can encourage students to employ empathy in their design practice by encouraging them to challenge preconceived design narratives using key elements of 'pedagogy of discomfort'[11].

4.1 Process

We have employed Kouprie and Visser [9] empathic framework to encourage empathic approaches in design practice. The framework consists of four phases (1) discovery, (2 & 3) Immersion and connection and (4) detachment. And we used a transformational teaching approach and elements of pedagogy of discomfort to operationalise the Kouprie and Visser [9] empathic framework.

- Discovery: we used the empathy suite, workshops on design for the aged and group discussions to encourage students to raise their curiosity and motivate them to engage with the fieldwork.
- (2 & 3) Immersion and connection: Students spend two days in old age homes supervised by care takers to observe and immerse themselves in understanding and feeling what the older people experience from their perspective. They also need to verbalise their experience as blog diaries to reminiscence and reflect on their experience.
- Detachment: Here, students break into small groups to use their understanding to design an intervention to address any problems they have identified during phase 3. The outcome of their design projects is presented as posters in an exhibition for feedback.

4.2 Participants

As part of a staff-led two-week study tour, Australian students majoring in design, media, and nursing travelled to Singapore to work with peers from Singapore, Taiwan, and Hong Kong. Students were from the year 3 Bachelor of Design (Visual and Industrial) course, ages between 22 and 26 years. They collaborated with residents of elder care facilities and community hospitals throughout Singapore as part of this study tour to co-design fresh ideas that benefit Singapore's ageing population. Students investigated issues related to ageing through a programme of design thinking workshops, site visits, ideation, and prototyping. They also collaborated with end users to co-create new services, technologies, and products based on their needs. The two-week study involved over 23 Nursing and 11 design students. We only used data from 11 design students for the purpose of this experiment.

4.3 Data

We have used two assessments of the study programme to measure the effectiveness of the process. The first assessment is a student learning experience diary/ blog, which they were asked to update throughout the study period, and the second is a poster presentation of their final design concept.

Student learning experience blogs were our main source to access the success of the teaching approach we tool. We were mainly looking at how they negotiated discomfort resulting from challenging situations and how they made sense of it in the context of their practice and Boler's pedagogy of discomfort's three key components of engagement: collective witnessing, mutual exploration, and deliberate listening. We also looked at if the learning was transformational or was it on the surface. Transformative learning involves an individual learning to think critically by questioning themselves about their beliefs, assumptions, and perspective that shape how they operate [12].

5 OBSERVATIONS AND RESULTS

Here we share a few snippets from students' blogs that summarise the outcome of the strategies employed. The quotes below are typical entries observed in students' reflective learning blogs.

> *"The visit has influenced my way of design thinking mainly from speaking directly to the residents and experiencing what they feel and how their daily lives are living at the centre. Being in their shoes really makes you start thinking about how life is truly so short, from the stories which were told dating back to when they were my age and being told that I am still so young…. The take aways from the visit would have to be personally experiencing life in a centre and how difficult it can be not being able to have control of your life in certain aspects, it's just so natural now to have complete control of life and I just find it difficult to image it otherwise. But from these visits to the*

homes and interacting with the residents on a one-on-one personal level has truly changed my thought process of life as an elder citizen."

The above example is something most of the student groups expressed in their blog. That we all age and that our current capabilities are not permanent and will change with time. It reflects the Pedagogy of discomfort elements of disorienting learners through unsettling their assumptions; and engaging them in 'collective witnessing,' 'mutual exploration' and 'deliberate listening.' This simple realisation itself worked wonders in how they were emotionally engaged with the design problem.

"Perhaps the most surprising thing about the visit was the number of elders who just wanted to talk to a new face in a world of normality. Many of them had very little English language, but thanks to some of the Singapore students being able to communicate for us, conversations flowed well."

This is one more realisation we have encountered often. That many older residents are more interested in the social interaction with the students than what they were offering them as design interventions. In fact, some of the groups were a bit lost as they realised they could not identify a concrete problem as they were just happy to spend time talking to students than sharing any compelling problems they were facing. Here again, students disrupted their preconceived ideas and explored design interventions outside of their comfort zone.

"However, I found out very quickly that my questions (prepared earlier in workshop) were not as applicable as I'd hoped…"

Here student group have prepared a bunch of questions and suggestions for elderly care home after the empathy workshop at the beginning of the tour. However, they realised that most of their ideas were already implemented by the organisation.

" From the discussion on the first day I did not realise that classes were already held (such as cooking and art) and that skills were already taught (from a government programme, but it was unclear if this was in the past or still continuing). They did not mind the idea of more group activities, but the people we spoke to already seemed satisfied with the activities. Other issues seemed more pressing and universal to the residents – like the small space….."

This visit influenced my thinking about the project in we have to be flexible in the design process, and the project should be something that could help people more universally, not just in this centre. One of the things that surprised me most about the visit was how similar aspects of the centre was to the centre my own Grandmother attends back home in Australia, and other aspects of elderly living. From the alarm system to the ever-present love of bingo, it was interesting to see how these things transcended different cultures. One of the other major take aways was how multicultural Singapore truly is…"

As can be seen, this group soon realised that preconceived ideas and suggestions might not be appropriate for the problem they were working on. And that they need to be flexible and more open to the needs of the end users.

Of course, we had a few groups who could not break away from their preconceived ideas about what older people need and were basically looking for a reason not to abandon them. The below reflection clearly demonstrates their intent.

…. She told us of family and tradition and how she missed them as much as she missed being independent. Delving deeper, we discussed how she was moved around the hospital in a wheelchair after suffering a fall at home using a walking cane. She hated the cane but would use it if there was a more stable and safe design.

This small insight into the daily struggle of what some people go through was enough to begin some concept development straight away, and as such, these conversations about mobility issues were a key fundamental notion considered when designing the product.

Finally, although the sample size is small to make any broad assumptions, the findings do reveal that students who engaged in the learning process experienced a noticeable sense of discomfort. 'Pedagogy of discomfort' indeed encourages students to step outside their comfort zones and embark on a critical examination of their own selves, including their deeply held beliefs, values, and assumptions. This discomfort aims to foster a sense of responsibility and accountability among students and promote the development of an empathetic outlook towards disadvantaged populations, who frequently encounter discomfort as a result of their marginalised status within society. [3].

6 CONCLUSIONS

Empathy is an important starting point in the design process. The students must understand the importance of empathic design early in their careers to ensure that one is not looking at the problem from a purely functional perspective. We also observed that novice designers struggle to empathise with users who are significantly different from them. Further, when engaged in empathy exercises in a classroom environment, they tend to confuse empathy with sympathy. We also found that the use of tools like empathy suites as part of the user-centric design process is not very effective as students take it as an academic challenge to overcome to complete course requirements rather than realising how it feels to be in that condition indefinitely.

To address the above problem, we have employed two strategies transformational teaching and the pedagogy of discomfort. In which we put students in a situation where they must negotiate uncomfortable situations as part of solving a real-life problem. The outcome of this strategy has shown us that this indeed disrupts students' preconceived notions design process. Pedagogical experiences of discomfort encourage students to question prejudice and to develop an empathetic attitude towards disadvantaged populations who are accustomed to experiences of 'discomfort' daily stemming from their marginalisation.

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