

# DESIGN FOR PUBLIC ENGAGEMENT AND AWARENESS: EQUIPPING DESIGN STUDENTS WITH EMPATHY AND SOCIAL RESPONSIBILITY SKILLS

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## ABSTRACT

Public engagement has become a crucial process of democratic societies. It broadens knowledge, brings a diversity of views and voices, and widens participation in decision-making activities. Design as a discipline has been shifting from making finite goods to collaborating with different disciplines, generating dialogue, highlighting ethical questions, and engaging different users and/or communities to understand complex issues.

The primary aim of this project was to develop learning and teaching content with real world impact that prepares design students to address societal challenges, including an array of global citizenship competencies that equips students with empathy and social responsibility. ‘Vaccination: increasing trust and awareness’ project targeted second year product design students, and initially originated from the UK’s loss of ‘measles-free’ status since August 2019 with the World Health Organization. Over the past decade, an increasing number of studies have documented a rising number of people who seem to be losing confidence in vaccines.

Within this context, students were asked to develop a service design intervention to inform, raise awareness and ultimately increase public trust in vaccines. Students were also encouraged to take a holistic and inclusive approach to the design of the intervention. The project was supported by a lecturer from applied sciences which helped to understand the challenge from a scientific perspective. The paper includes examples of these design proposals, student feedback and results that illustrates the importance of design for public engagement that addresses societal challenges with real world impact, promotes the understanding of complex issues and fosters collaborations with other disciplines.

*Keywords: Public engagement, empathy, societal challenges, real world impact*

## 1 INTRODUCTION

### 1.1 The importance of public engagement

Public engagement and awareness have been embedded in policymaking, to understand the impact of higher education and research in the wider society and empower communities. A definition of public engagement by the National Co-ordinating Centre for Public Engagement states that ‘Public engagement describes the myriad of ways in which the activity and benefits of higher education and research can be shared with the public. Engagement is, by definition, a two-way process, involving interaction and listening, with the goal of generating mutual benefit’ [1]. Some of the ways in which we can engage a particular user / community range from learning, developing new skills, gaining insight, access information to being inspired. In regard to why public engagement matters, it stems from the idea that low levels of scientific literacy are often linked to a loss of public trust in scientists [2]. This is particularly relevant when engaging with some of the more controversial, but important scientific and social challenging topics. Therefore, since 2008 the major UK funders of HE and research actively started to encourage ways of engaging the wider public in the understanding of research. By establishing the increasingly importance of public engagement institutions can build trust, strengthen the relevance of research and its applications, be responsive to wider public needs, be accountable and transparent on how they used public funds and increase the value and purpose by committing to wider social benefit [3].

## 1.2 Design for public engagement

Design has a wealth of methods and expertise in creating engaging experiences, facilitating dialogue, and translating complex insights into tangible outputs that the wider public can understand. As explained by Teal & French, design can be used to generate ‘thought-provoking public engagement experiences to stimulate creative dialogue and explore new ways of addressing societal challenges [4].

Design has the capacity to gather in depth understanding of user / community needs by using human centred design and / or empathy tools, engage a variety of stakeholders through creativity and innovation and jumpstart action and constructive change by working with different disciplines, expertise, and community to address a specific challenge. Design is becoming ‘an engine for social transformation through increased capacity and resource for communities to change themselves’ [5]. Design is increasingly being seen as a strategy for addressing social change, as it uses approaches that provide the ideal conditions for new communicative spaces and experiential learning, that enable scientific fluency, increase trust, and support constructive change. In this context, it is essential to equip design students with global citizen competencies [6] that include empathy, social responsibility, critical thinking, and recognition of global issues.

## 2 ADDRESSING SOCIETAL CHALLENGES

### 2.1 Addressing societal challenges at London South Bank University

Since 2016, second year students on the Product Design course at LSBU have been exposed to a series of project briefs that envisaged addressing societal challenges such as *Design for Dementia* and *Citizen Participation*. These projects have aligned with the university strategic goals concerning Real World Impact, related to research, and teaching that tackles global and societal challenges, generates critical insights and sustainable solutions that transform the lives of individuals and communities. The project enabled product design students to develop their collaborative skills benefiting cross disciplinary work. It also gave students the opportunity broadens their perspective of design by shifting semantics of design from creating finite goods that end up in land fill to addressing societal challenges. As referred by Cope and Kalantzis, this transformational agenda for the design professions is crucial to strengthen the importance of design within the creative economy and knowledge society and increase product design students’ employability towards empowering constructive change [7].

### 2.2 ‘Vaccination: increasing trust and awareness’

#### 2.2.1 The brief

The primary aim of this project was to develop learning and teaching content with real-world impact that prepares design students to address societal challenges and cover an array of the global citizenship competencies as identified by the UNESCO framework [5] namely: empathy, critical thinking (underlying assumptions), ability to communicate with other, shared universal values, respect for diversity and recognition of global issues.

*Vaccination: increasing trust and awareness* project targeted second year product design students and the first iteration of the brief was launched in February 2019. Students have 4 weeks of approximately 45h contact time and 155h of self-managed time to develop the project. The brief initially originated from a 2018 Wellcome Trust study into global attitudes on immunisation. The study showed that confidence in vaccination was low in some regions [8], further reinforced by UK’s loss of ‘measles-free’ status since August 2019. Over the past decade, an increasing number of studies have documented a rising number of people in both high-income and low-income countries who seem to be losing confidence in vaccines [8], this has been termed vaccine hesitancy. The World Health Organization listed vaccine hesitancy as one of the top 10 threats to global health [9]. Unfortunately, global vaccination coverage dropped from 86% in 2019 to 83% in 2020. Moreover, the current COVID -19 pandemic highlighted the importance of vaccines as one of the most effective ways to prevent disease spreading. However, and despite the evidence of the effectiveness of covid 19 vaccines in providing protection against infection, prevention, serious illness, and death, there is still an ongoing debate on acceptance and refusal.

Within this context, students were asked to develop a service design intervention to inform, raise awareness, engage, and ultimately increase public trust in vaccines. Students were encouraged to

take a holistic and inclusive approach to the design of the intervention and the proposal would need to cover a digital tool, a product(s) and a public engagement strategy. Although this was an individual project, students were put in smaller study bubbles of groups of 3 to 4, so they could apply creative techniques and bounce back ideas with each other due to the complexity of the brief.

### 2.2.2 The importance of including expertise

The project is supported by a lecturer from applied sciences which addresses the challenge from a scientific perspective and gives an overview on how vaccines and immunity work, types of vaccines, how vaccines are produced and why public complacency is problematic to any vaccination programme. On top of this, students also get expert support at specific project milestones to verify the scientific veracity of their proposals.

Conveying scientific knowledge to a non-scientist audience required deliberate thought. Careful attention was given to the language chosen, replacing scientific jargon with language that was more accessible. Analogies, visuals and video excerpts were used to illustrate the more complex concepts thus increasing accessibility. The materials were grounded in a historical context, with the purpose of contextualising the topic and promoting engagement. Students were asked open-ended questions to engage them in a debate in a subject they were initially not comfortable contributing to. This stimulated critical thinking, which in some cases, resulted in a shift in knowledge and attitudes on the topic. Figure 1 shows student feedback before and after the project on how much they learnt about vaccination in general, vaccine hesitancy, levels of trust and public complacency (the darker the column colour the more knowledge students were able to gain).

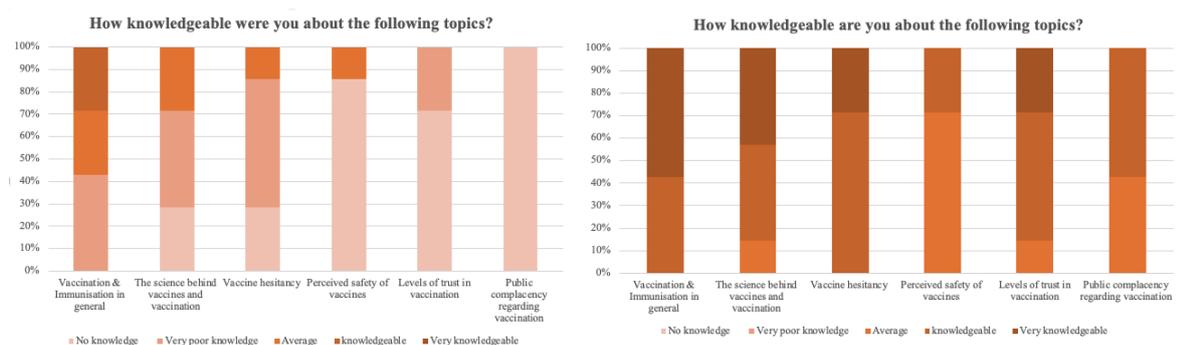


Figure 1. Comparison feedback on student knowledge regarding the vaccination topic before (left) and after (right) vaccination project

The project design gave an opportunity for non-specialist students to improve their perception of science and empower students to make a positive contribution to tackling a complex challenge. Crucially, the project gave an opportunity to address misinformation regarding vaccinations, allowing students to find ways of stopping misinformation and improving vaccine uptake.

### 2.2.3 Transformative service design methods

The project uses a transformative service design method. It adapts the Design Council's Double Diamond method to include service design tools such as service safari, user profiling and journey, empathy map to define user needs, system map, service blueprint and experience prototyping.

Services focuses are less on the design of objects but rather on providing an experience and a means of supporting a more collaborative, sustainable, and creative society. As per Sangiorgi, transformative service design can be applied to radically change public and community services and has been associated with work for socially progressive ends, but also can trigger change within organisations to introduce a human-centred design culture [10].

Therefore, this approach is relevant to the aims of the project and learning outcomes of the module such as drawing knowledge from other disciplines, generate design outputs that increase dialogue and engagement and use service design to generate digital tools to address societal challenges. Furthermore, service design methods allow for a more holistic and inclusive approach as it is looking into both social and organisational change, whilst also enables a quicker exchange of communication between all partners of the process – coined the enabling model centred on co-creation and active citizenship [10].

### 2.2.4 Project stages

After the brief launch, the scientific perspective lecture and an explanation of the projects aims, and methods, students were asked to get research insights. First, they were given an array of academic studies on vaccine hesitancy and each student was asked to do a literature review of 1 or 2 papers that was shared with the whole class. Followed by employing empathy design tools, such as user profiling and empathy maps, to identify vaccine hesitant individuals' demographics and determinants (Figure 2). After identifying a variety of factors associated with vaccine hesitancy students were encouraged to use research methods such as surveys, interviews, focus groups and web forums to gather primary research on the subject. The results were presented to the group so everyone could benefit from the various insights.

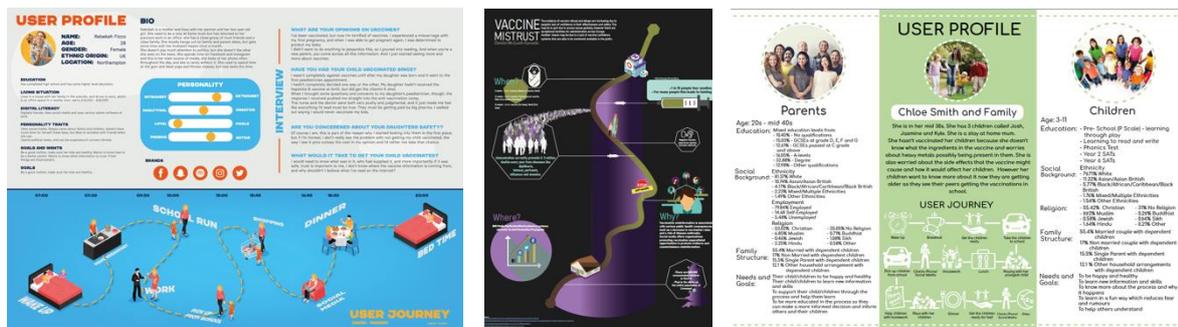


Figure 2. Use of empathy tools to profile determinants of vaccine hesitancy

The project moved into ideation and generation of concepts stage in which students were introduced to service design methods with an emphasis on the enabling model. Outcomes of this stage include service system maps (Figure 3) and a project brief containing a clear rationale on how the service design proposal would address vaccine hesitancy and increase trust.

Finally, students presented a service design proposal that included a digital tool, a product(s) and a public engagement strategy (Figure 3) To this end usability principles and basic user experience laws were imparted to students along with an introduction to digital prototyping tool software (Adobe XD). This was followed by user experience and interaction development such as flow charts, wireframes, service blueprint and user interface.



Figure 3. Vaccination project system maps and service design proposal

Project outcomes are of high standard and well considered. Student feedback was very positive stating that 'I thought product design was essentially designing objects, but I have gained a new perspective on design', 'it was challenging to grasp vaccine hesitancy, but the lecture given by Alison was really useful', 'I really enjoyed learning how to prototype an app, it made it easier to create an outcome for the project' [13]. However, projects can much improve on the evaluation and testing of the proposals with chosen users. In addition, a bigger emphasis in co creation will be necessary in project outcomes. Also, some students prioritised the digital tool in detriment of the rationale.

### 3 VALIDATION, RESULTS & FEEDBACK

In order to validate the project as being appropriate for addressing societal challenges using a design for public engagement framework, we have analysed overall student projects against the core of engagement

processes from Escobar, O., Faulkner, W., J Rea, H. [2], which are: 1. inform and inspire wider publics about a certain topic; 2. converse about ethical or other issues arising from topic; 3. involve groups / communities in the project and 4. collaborate to ‘co-produce’ the project. The multidisciplinary nature of the project and the teaching and learning methods described in Section 2 presented opportunities for students to develop all 4 engagement processes as showed in Table 1. Inform and inspire was the core engagement process of choice, 40% of the projects included all processes within their final proposal and 80% of the projects included at least 3 core engagement processes.

Table 1. Analysis of core engagement processes against processes covered by student’s design proposals

| Core engagement processes                 | Projects |   |   |   |   |   |   |   |   |    | Total per core process |    |
|---|----------|---|---|---|---|---|---|---|---|----|------------------------|----|
|   | 1        | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |                        |    |
| 1. inform and inspire                     | 1        | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 1                      | 10 |
| 2. converse about ethical or other issues | 1        | 1 | 1 | 1 |   |   | 1 | 1 | 1 | 1  |                        | 8  |
| 3. involve groups / communities           | 1        |   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |                        | 9  |
| 4. collaborate to ‘co-produce’            | 1        | 1 |   | 1 |   |   |   |   | 1 | 1  |                        | 5  |
| Total Engagement score per project        | 4        | 3 | 3 | 4 | 2 | 2 | 3 | 3 | 4 | 4  |                        |    |

As for equipping the students with global citizen competencies including empathy tools and social responsibility skills by embedding empathy tools [14], students were able to identify challenges and understand user needs towards vaccine acceptability. The discussions generated within the research stage were valuable and insightful as students were able to get a local and global perspective of vaccination, avoid assumptions, engage with different opinions and perspectives from different demographics and collaborate amongst themselves and with others to do both secondary and primary research. Figure 4, from student feedback, shows that students agreed and strongly agreed that the project allowed them to increase recognition of local and global issues, empathy skills, respect for diversity / intercultural understanding, shared universal values, sense and security of identity, conflict resolution, ability to communicate and collaborate with others, critical thinking / problem solving.

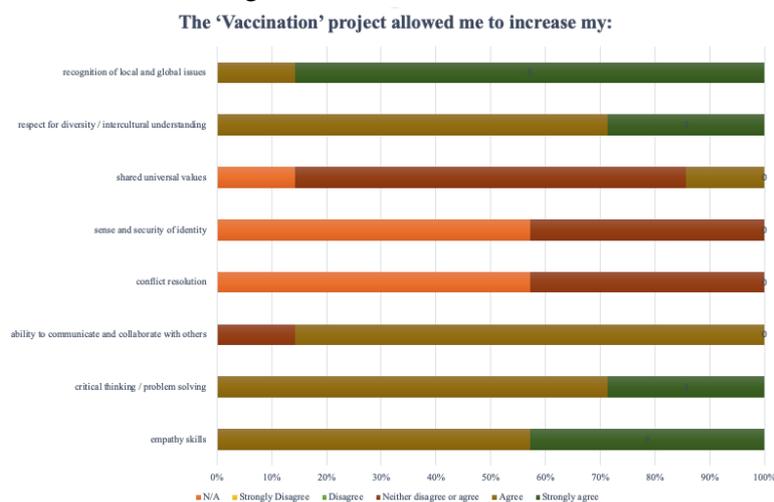


Figure 4. Student feedback on the skills that the Vaccination project allowed them to increase

Through the project they were able to develop transferable skills such as being able to do literature review, identify service design principles and create a digital prototype that students can apply within their placement and final year projects. However, evaluating long term impact of the project would require a longitudinal research study.

#### 4 CONCLUSIONS

The paper started by demonstrating the importance of design for public engagement as having a wealth of methods to generate meaningful dialogue and address societal challenges. The authors highlighted the capacity that design has to use empathy tools, to gather in depth understanding of a group/

community; engage a variety of stakeholders and start constructive change. The paper subsequently describes Vaccination: increasing trust and awareness, a second-year project that requires students to develop a service design intervention to inform, raise awareness, engage, and ultimately increase public trust in vaccines. The main aim of the project was to develop learning and teaching content with real world impact that prepares design students to address societal challenges and equips them with global citizen competencies including empathy tools and social responsibility skills. It shows the importance of expertise support in terms of gaining understanding and knowledge of local and global issues regarding vaccination and immunisation including vaccine hesitancy and complacency (Figure 1). In section 2.2.3 it explains why a transformative service design method is relevant as it enables co-creation and active citizenship. In section 2. 2.4 outlines the stages of the project and shows examples of student work. In section 3 an analysis of core engagement processes against processes covered by student’s design proposals shows that 80% of the projects included at least 3 core public engagement processes evidencing a high success rate on embedding engagement in the design process. Moreover, student feedback on global citizenship competencies shows an increased ability to: recognise local and global issues (90% strongly agreeing), gain empathy skills, respect for diversity, critically think as well as communicate with others. Finally, student perceptions on how well their projects covered global citizenship domains reveal an excellent coverage of increasing trust in vaccination, and a good coverage of including different viewpoints and avoid assumptions [13]. However, improvements need to be made at evaluation and testing phase of proposals to emphasise co-production as the least used core engagement process has shown in Table 1. Measuring long-term impact and legacy will require a longitudinal study. The project validation shows appropriateness of methods and valuable insights.

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