The issue with inclusivity: the promotion of inclusive design within architectural education

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How can inclusive design be taught within schools of architecture to facilitate a better understanding of issues of equality and diversity within architecture?

The Equalities Act came into force within the UK in 2010 and is designed to legally protect people from discrimination in the workplace and in wider society. There are 9 protected characteristics identified within the act which are: age, disability, gender reassignment, race, religion/ belief, sex, sexual orientation, marriage and civil partnership, pregnancy and maternity. This paper investigates inequalities in relation to these characteristics and how they manifest themselves within our built environment, education and the practice of architecture. I argue that the current lack of equality and diversity within both the architectural profession and architectural education highlights the need to be more inclusive in our design teaching and our teaching methods in order to remain relevant in today's society.

This paper describes an Action Research Project which was undertaken as a result of identifying that many students are not being challenged to design inclusively within the studio environment especially when considering the diverse needs of the end user. It also discusses the traditional teaching methods used within architecture and hypothesizes that these are not always supporting diverse learning methods which take into account the varying needs of the student cohort.

Through a mixed methods approach, this study explored the attitudes and experiences of architecture students at both undergraduate and post graduate level from one School of Architecture. Participants took part in a questionnaire, interactive on line discussion board, participatory workshop and focus group where they explored issues around inclusivity, equality and diversity.

The findings demonstrate there is a desire to engage in issues of inclusive design, diversity and equality within the wider architectural curriculum and suggests a variety of strategies to support a greater engagement with inclusive design and the development of more inclusive teaching methods.

KEYWORDS: Architecture; Inclusive Design; Equality; Diversity

INTRODUCTION

Within the Royal Institute of British Architects, RIBA, Strategic Plan 2016-2020, which outlines the focus and priorities for the RIBA, it states

> Our Purpose: To serve member and society in order to deliver better buildings and places, stronger communities and a sustainable environment.
> Our Values: Being inclusive, ethical, environmentally aware and collaborative underpin these strategic objectives and all we do. (RIBA 2016)

It further states within its strategy 1.2 that to achieve this it will:

> Attract and retain the best and most diverse talent:
> Engage school-age students to inspire an interest in architecture
> Work with schools of architecture and practices to engage the next generation of architects in the future of the profession
> Support our members and Chartered Practices in overcoming the barriers to an inclusive profession. (RIBA 2016)

And yet in 2019 the RIBA Graduate Attributes for Part 1 and Part 2 do not mention inclusivity or inclusive design and within the curricula published on line for all the Schools of Architecture in Scotland, there is no mention of inclusive design. Furthermore, it is recognized that there is a lack of diversity within the teaching staff within Schools of Architecture across the UK as highlighted in academic data from 2014-2015 where 70% of faculty staff were male and yet 45.4% of students were female. (Morrow 2016)

As Weisman reflects in her article 'Diversity by Design: Feminist Reflections on the Future of Architectural Education and Practice'

> How can an architectural education that continues to define professional expertise in relation to the history of white, heterosexual, Euro-American male consciousness prepare students to function as effective professionals in pluralistic communities? How will students be sensitized to "difference" when they are encouraged to suppress their own gender, race, and class identities in the process of becoming "professional"? (Brown 2016, 1)

I have identified the following areas of interest in relation to this within the current teaching of architecture:

- Students are not given enough opportunity to engage with issues of diversity and equality within the curriculum
- Students are not being challenged to design inclusively within the studio environment especially with regards to the diversity of the end users
- The traditional teaching methods are not supporting diverse learning methods which take into account the varying needs of the student cohort

If we agree that equality and diversity and inclusive design should be part of architectural education, the question remains how can inclusive design be taught within schools of architecture to facilitate a better understanding of equality and diversity within architecture as a whole?

CONTEXT

I have identified Inclusive Design as the design of the places and spaces that support the dignified access to and use for all as identified within the Equalities Act of 2010.

This definition builds on the description of inclusive design set out by CABE (the Commission for Architecture and the Built Environment) which states

> Inclusive design is about making places everyone can use. Inclusive Design aims to remove the barriers that create undue effort and separation. It enables everyone to participate equally, confidently and independently in everyday activities. (CABE 2006)

This description is far more inclusive than many others which focus solely on physical disabilities and is similar to the World Health Organisation's interpretation of inclusive design.

The UN's Architecture Guide to the UN17 Sustainable Development Goals takes things further by amongst other things identifying gender equality as a requirement within architecture and states

> To support a movement towards gender equality, the design of buildings, settlements and urban areas must be inclusive to all citizens regardless of gender. (UN 2018)

The problems of diversity and equality within the architecture profession are well documented by amongst others Despina Stratigakos in 'Where Are the Women Architect's' (Stratisgakos 2016) and Dr Harriet Harris et al, in 'The Gendered Profession – the Question of Representation in Space Making' (Morrow 2016). Equally The annual 'Women in Architecture' survey in the UK shows that issues of equality within the profession are getting worse with the gender pay gap widening at top level practices, 1 in 7 women architects experiencing sexual harassment and 9 out of 10 women stating that children hinder their careers. (ArchitectsJournal 2018)

If you then consider this discrimination along with other protected characteristics identified within the Equalities Act of 2010, it is concerning how exclusive architecture as a profession still is and the question remains whether could be tackled within the education process. There is however far less documentation on the inequalities within the architectural education process and the ways of teaching architecture.

Morrow highlights this in her essay 'Architectural assumption and environmental discrimination: The case for more inclusive design in schools of Architecture' (Nicol 2000, 43-48) which draws on the DraWare research project at the School of Architecture, University College Dublin, and suggests ways of making the curricula more inclusive.

It seems imperative that architectural education should be teaching inclusive design as a way to foster inclusion within the built environment as a whole. However, as Larkin highlights

> Despite this global shift in attitudes and policy in recent years, it is yet to transfer to a major shift in the education program of architects and designers. (Larkin 2016, 19)

It is my belief that until the emphasis shifts from the aesthetics of architecture to focus on an architecture that is fit for purpose and inclusive for all then we will not be able to tackle the inequalities that currently exist within the profession.

In order to achieve this there is a need for inclusive design methods to be explicit as opposed to implicit within architectural education. CABE's 'The principles of inclusive design (they include you) report (CABE 2006) and the Centre for Universal Design, at North Carolina State University, have designed a set of universal design principles that relate directly to the methodology of designing architecture. These principles could be easily adopted within all studio briefs at Schools of Architecture as standard and would make inclusive design an explicit requirement for any proposal.

If we then also consider the traditional architectural modes of teaching centred on the master and student relationship to be in need of review to allow for a more inclusive learning environment, what could a new teaching model look like?

The 6 principles for a feminist pedagogy in the teaching of research methods set out by Webb et al (2004), are:

- Reformulating the professor – student relationship (from hierarchy to equality and sharing)
- Ensuring empowerment (for a participatory democracy)
- Building community (through collaborative learning)
- Privileging the individual voice (not only the lecturer's)
- Respecting diversity of personal experience (rooted for example in gender, race, ethnicity, class, sexual preference)
- Challenging traditional views (eg. The sociology of knowledge) (Cohen 2007)

These 6 principles provide a basis for an inclusive style of teaching that responds to the diversity of our student cohort. I experimented with these principles within the framework of the Action Research Project and analysed and reflected on the success of this different approach. Also by choosing an Action Research Project, it has allowed further feminist research approaches to be undertaken, namely giving power to the participants, through the use of an engagement tool and by conducting long 'interviews' through the workshops and focus groups to allow all voices to be heard. (Cohen 2007)

DESCRIPTION AND OUTLINE OF RESEARCH
The structure of the Action Research Project was developed to provide a broad range of data that focused on not only inclusive design and equality and diversity within architecture but also on different teaching modes and as such a variety of methods were used. These are outlined in time order as:

- Briefing session
- On line anonymous questionnaire
- On line interactive discussion board – padlet page (anonymous uploads)
- Workshop 1 – 4 first year students
- Workshop 2 – 3 fourth year students and 4 fifth year students
- Focus group/ De Briefing session

PARTICIPANTS
Architecture students at both Undergraduate and Postgraduate level were invited to take part. Of the twelve participants who consented to take part and completed the on line questionnaire, 5 identified as male and 7 identified as female. 8 out of 12 self-identified as a protected character as defined by the

Equalities Act of 2010 and 4 of these identified in more than one category. The almost equal number of male and females taking part in the study shows that it is not a gendered subject of interest but the high proportion of participants that identified as being part of a protected group I believe shows that first-hand experience plays a part in the interest of inclusivity, equality and diversity.

DATA COLLECTION

On-line Questionnaire

The on-line questionnaire which was completed by all 12 participants was designed to give a better understanding of the current knowledge, interest and experience of the students with regards to inclusive design, inclusive teaching methods and designing with equality and diversity in mind.

Questionnaire: Analysis and Findings

"I think the most important skill as an inclusive designer, is the ability of reaching out, listening and understanding the needs of different user groups. Sure there are design legislations to aid in particular mobility impaired users but the field of inclusive design expends to other user groups as well. No one and no design device can be taken for granted. At no point in my time in education here I have been taught about the subject." (Questionnaire 2019)

Through analysis of the questionnaire it became clear that all had a sound understanding of what the definition of inclusive design was although it became apparent that the participants from the post graduate level had not worked on any projects that focused on inclusive design. This was different for the first year students who had been exposed to designing for people with disabilities in their very first project. As such the majority of students had developed their knowledge through either the staff run 'Missing in Architecture' lecture series titled 'Peripheral Visions' which invited guests to talk about subjects on the periphery of architecture or through personal projects and peer discussions. In turn this resulted in the majority of participants (7 out of 12) feeling unconfident about being inclusive designers.

When considering the skills needed to be an inclusive designer there was a recognition that empathy, compassion and understanding were required although it was questioned whether this could be taught or whether this was inherent.

It was felt by the majority of the participants that inclusive design skills were either not taught at all, or could be taught better within the school (7 out of 12). The participants who felt these skills were taught well within studio were all in first year. I believe that this directly relates to the briefs set within first year where there was an emphasis on compassion and client. It is understandable that through the explicit nature of the studio briefs these skills were seen to be developing and were able to be taught.

With regards to the inclusivity of teaching the results were mixed, with some students feeling there was diversity of teaching staff and methods whilst others felt there was a lack of diversity. This I believe can be attributed to their personal experience and the stage of their educational journey.

When asked the areas of the built environment which discriminate there were a wide variety of responses which centred around education, the built environment, construction industry and practice.

It became clear that the undergraduate and post graduate participants had very different experiences and feelings about the way they were being taught about inclusive design.

Padlet Page: On line interactive discussion board

On completion of the questionnaire, participants were invited to populate the interactive discussion board with information relating to the research topic of inclusive design and equality and diversity within architecture and architectural education. The padlet page was set up to provide a safe place to raise potentially sensitive topics but also as an on-line resource. The intention was to identify an understanding of the current interest and knowledge of the research group and to create an interactive research tool which tested different ways of teaching and peer learning. It was also a useful test to identify whether this on line resource could be used within the curriculum.

*Padlet Page: Analysis and Findings*
The padlet page was a success and has continued to be used by the participants after the workshops were complete. There developed a sense of community for the members of the page and led to further discussions out with the study.

The information uploaded on the padlet page and the finding from the on-line survey were collated and through using thematic analysis a series of themes were identified for discussion within the workshops.

The themes identified for discussion were as follows:
- Gender
- Race/ Ethnicity
- Disability and the ageing population
- Mental Health
- Elitism

ENGAGEMENT TOOL
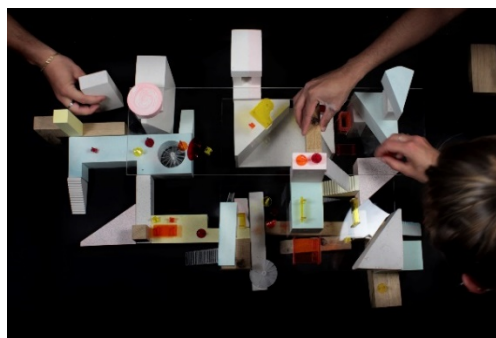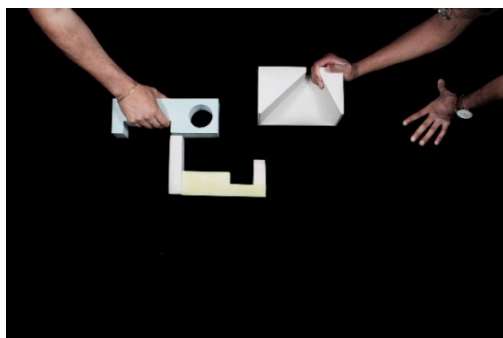
Figure 1 + 2: Engagement Tool: The Institute of the Everyday. Source: (Missing in Architecture)

Within the participatory workshops a model was used as an engagement tool where participants were asked to collaboratively explore the five themes identified through a physical artefact.

The intention was that the model would act as a tangible teaching tool to create a collaborative response and as a participatory tool acting as a discussion starter. This design artefact was designed to draw out tacit knowledge on the themes identified and the participants' relationship with the built environment.

The engagement tool was a model called 'The Institute of the Everyday' and was designed as a collaborative piece where I worked with students to create an interactive model which investigated the inequalities that exist within society and how they manifest themselves within the built environment. This was done as part of a collective for which I am a co-founder called 'Missing in Architecture' and the model has been part of a series of exhibitions for Archifringe and the RIAS.

WORKSHOP 1
The first workshop consisted of 4 first year students. From the outset the participants were keen to use the engagement tool and were happy to work together to develop collaborative responses to the themes identified. The discussions that developed around each model were mainly focused on the built environment and the profession with less emphasis on architectural education. This can be seen to be as a result of their limited exposure to the architectural curriculum to date.

Through the use of colour and the different shapes and materials of the blocks, the participants were quickly able to construct a narrative which identified the issues of gender that exist within the architectural profession. With regards to the identification of gendered spaces the discussion extended to the public realm and feelings of security.
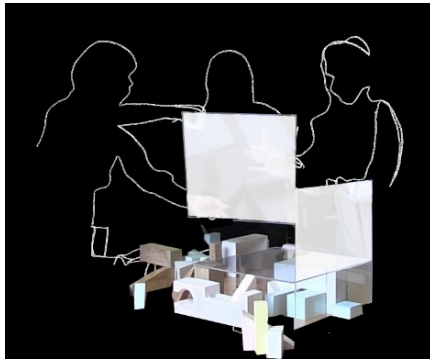
Figure 3: Workshop 1: responding to issues of gender. Source: (Isabel Deakin)

On the second theme of disability and the ageing population, again the participants worked well to develop a collaborative response to the theme. As the discussion developed themes around mental health were also discussed. The physical representation focused on the lack of dignity and the thresholds within the built environment that supported able bodied individuals. The participants were comfortable to talk about the three topics and drew on personal experience and tacit knowledge to develop their response.

When asked to consider race and ethnicity within architecture and the built environment, there was a hesitancy to engage with the topic although half the group identified as BAME. There was a general feeling that the built environment was not discriminatory and although the profession was predominately white, it was not a subject that the participants felt they had knowledge of to be able to discuss it in detail.

WORKSHOP 2
The second workshop consisted of 7 participants, three fourth year students and four fifth year students. Unlike the first workshop there was a hesitancy to engage with the model and the participants were less willing to work together on a single piece and found it easier to discuss the themes in a wider sense without the need to construct a narrative or use the engagement tool to explain their views.

The discussion showed a depth of knowledge on the subject of inclusivity, equality and diversity within architecture as a whole but focused mainly on architectural education. There was a sense of frustration at the lack of support within current educational systems to allow the participants to further their knowledge and be supported in their interests around these themes.

Figure 4: Workshop 2: Getting started. Source: (Isabel Deakin)

The discussions that developed around the theme of gender were similar to the first workshop and the model that was constructed had used a similar narrative to establish the form although this was not done collaboratively. The discussion focused more on equality within the profession and work/ life balance with issues of exploitation within practice being highlighted.

When discussing disability and the ageing population the group recognized the awareness that disability extended beyond the physical. There was a hesitancy to establish how architecture could positively support other non-physical disabilities and a general agreement that this was an area which was not discussed within their architectural education.

The theme of race and ethnicity was an area that these participants felt strongly about. They related this to the lack of diversity and transparency of their education to date. There was a desire that the architectural education as a whole should be de-colonialised and that this should be done throughout the curriculum encompassing history and theory and studio practice. There was also a feeling that without a more diverse body of staff with different specialist areas the participants' interests and specialisms could not be supported.

The engagement tool was successful as a teaching tool and a discussion starter. By allowing the participants to build something it facilitated the discussion and in some cases the building blocks were used as safety blankets, and were hugged when discussing sensitive topics. The different interactions due to the size of the group showed that this type of teaching method is best used with smaller groups who can work closely together but is a valuable tool to allow a variety of voices to be heard.

REFLECTIONS

On completion of the workshops, both discussions were transcribed. Thematic analysis was then undertaken with areas of interest identified for further discussion at the focus group.

The focus group consisted of 7 participants with a mixture of participants from each of the workshops. Through the use of post-it notes we discussed ways to develop the curriculum to support a more inclusive architectural education. This was designed as a way to create a positive conclusion to the volunteers' participation within this Action Research Project. It was also designed as an informal discussion where prompts from the workshop were used to facilitate conversation and post-it notes were issued to allow for comments to be made even if the participants were not comfortable discussing them.

The participants were all very vocal and happy to discuss and question one another and there was no hierarchy within the group although they were from opposing ends of the education system. This correlates with the feminist principles which formed the basis of the structure for the project. The participants suggestions for the curriculum and conclusions from the workshop were analysed and the recommendations draw on these discussions.

The design of the Action Research Project itself was also testing a diverse range of teaching methods that supported a feminist approach to pedagogy. The success of this can be seen from the engagement of the participants. Many of these teaching approaches have now been tested further within the wider teaching practice within the school.

My recommendations are as follows:
- Diversification of the reading lists, precedents used by staff and approaches to architecture and design especially when developing studio briefs
- Amend curriculums to support inclusive design and to include client's needs in the aims of the course
- Diversify the teaching styles to support a diverse cohort
- Development of peer support groups and mentoring schemes to support exchange of knowledge from a diverse cohort
- Develop inclusive design principles that should be embedded in each studio brief to support designing inclusively within the studio

Although this Action Research Project was based in one school these suggestions extend to the wider architectural curriculum across many Schools of Architecture.

CONCLUSION

The conclusions and recommendations were developed through collaboration with the participants of the project and through creating a supportive environment and using diverse teaching methods allowed for a sense of empowerment amongst the participants and individual voices to be heard whilst always respecting the diversity of personal experience. (Cohen 2007)

Steps are being made through the current diversification of the studio briefs within the undergraduate course at the Glasgow School of Art and the development of the wider curriculum across the Mackintosh School of Architecture. This can be tackled at a micro level within individual studio briefs, reading lists and inclusive teaching practices of individual tutors as suggested in my recommendations but also should be developed at an institutional level and a policy making level.

The next generation of architects should be challenged to design holistically with the highest regards given to the inclusive nature of the built environment and the diversity of the end users. They should be given the tools and the opportunity to do this and for this to be taught through more inclusive teaching methods which allow the students individual specialisms to be nurtured and supported.

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