'SISTERS ARE DOING IT FOR THEMSELVES?: EXPLORING GENDER IN IRISH PRODUCT DESIGN EDUCATION'

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ABSTRACT
Good design is gender neutral, as should be the design process that underpins it. However achieving equality in the design process is difficult as female product/industrial designers[1] are underrepresented in both professional and student realms, comprising 20% and 21% respectively [1] [2]. In order to even the balance we must first understand the potential barriers to access that have led to this gender imbalance; the conditions that might limit progression and how learning and working in male dominated spaces influences and impacts upon female designers as they move through their careers. Through a literature review, a series of expert interviews, conversations, journey mapping and focus groups this research gathered together a variety of diverse, but individual, stories that help build a collective narrative of the current situation in Ireland. Subsequently, through a collaborative co-design process, interventions are recommended that could shape a future where barriers to access in Product/Industrial design are potentially dismantled and gender takes a secondary role to merit, ability and creativity.

Keywords: Product Design, Gender, Design Education, Design Practice.

1   INTRODUCTION

Design should be an inclusionary discipline that provides equitable platforms for both sexes to participate without barriers and hindrances. The disciplines of Architecture and Graphic Design appear to be, anecdotally, closing the gender gap but Product Design, unfortunately, isn't faring as well [3]. In order to achieve this balance and equality it is essential to understand the journeys today's designers undertook (from childhood to second level, third level and on in to professional life) and how different experiences have shaped and formed their perceptions of the profession. Through this we can address a number of key questions: *Where are the most impactful moments in an individual's life through design? What are explicit and implicit experiences that shape decisions to enter design? What are the experiences, positive and negative, along a designer's career path?*

2   BACKGROUND: LITERATURE & EXISTING INFORMATION

Literature on the topic of gender equality in design is not significant. There are several studies around women as consumers of design and the 'pinking' of products targeted at women. However this doesn't extend back into the involvement of women in the process of designing. Research by Mayfield [4] and Bruce [5] offered insights into the barriers for females entering and completing Product Design courses at third level in the UK. Bruce [5] highlighted the glaring impact the lack of women had on the design process, which more often than not result in products that reinforce stereotypes of women as consumers and fail to meet the needs of a very large percentage of the consumer base. Mayfield [4] agrees that not drawing on the tacit knowledge of women, at both educational and professional levels, can lead to homogenous design solutions and single-sided design conversations. The dominance of males in the design industry perpetuates *'clichéd concepts of masculinity and femininity'* [6], from very simple gendered aesthetics of blue for a boy and pink for a girl, to product ergonomics favouring male anthropometric data.

In the professional product design world females continue to be under-represented. Figures jump between 1-20% of the professional designers being female [1] [5]. The lack of the female voice in

education, design practice and indeed in the cultural discourses around design is obvious. This can be attributed to the systemic exclusion of women from the top table of design. Men commission the work, hire the designers and dominate juries in design competitions [7] [6]. Long [7] blames 'carelessness and laziness' for the case being as such, while women's lack of self-belief and entitlement has been muted as a key reason why women don't reach the same professional heights as their male counterparts [6].

While women are under-represented at executive tables, on juries and in the winner's circle they occupy a significant place in a generation of emerging designers who are carving new paths in design fields such as Service Design, User Experience and Social Design. Historically women have thrived in new disciplines where there is no male legacy and the freedom exists to invent entirely new ways of working [6].

The situation isn't paralleled in the other creative industries; in architecture for example the key point of attrition is not at entry to third level but the transition to professional life and in the early to mid-career [8]. Females make up 40% of architecture courses in the US, but only 23% of the profession [9]. In The Architect's Journal Women in Architecture survey 2015, 87% of females said that having children put them at a disadvantage in their careers [10] [11]. Here the pressures of family life place stresses on often-small practices and partnerships that cannot afford to cover costs of maternity leave or accommodate for family life balance when long hours are par for the course (ibid).

The role of education in addressing the gender gap has been discussed by a number of researchers. Southwell [12] is highly critical of education's 'prettying' of design, as she argues that piecemeal efforts have done little to address the core issues of few female academics teaching, researching or attending conferences. Mayfield [4] argues that poor (or no) experience of design and/or technology related subjects for females at primary and secondary results in low numbers of applicants to the relevant third level courses. Within an Irish context these poor experiences could be due to an obviously gendered curriculum and examination themes in the traditional feeder subjects of Technology, Design and Communication Graphics and Engineering [13].

A recent article in Fast Company indicates that the situation is improving in the US, with the numbers of females taking design course at third level on the increase. The anecdotal evidence points to classes at some of the top design schools in the US and Europe being majority female (for example RSID have 68% female students with 54% at Design Academy Eindhoven) [3] [14]. The specific discipline within design isn't identified in these discussions and as such must be viewed with caution as other research has shown that women dominate in design disciplines such as fashion, textiles, ceramics and jewellery [4]. And so the story in product design might not be as positive as initially perceived.

3   RESEARCH METHODS

With clear gaps in the literature the next step in the project was to explore the issues of gender and design in more depth. The aim of the data gathering stage was to understand the experiences of individuals as they moved through their design careers. Qualitative primary research methods of Storytelling, Workshops, Journey Mapping and informal interviews were used to gather the data. These methods facilitated the gathering of rich information on individuals and their experiences in order to build a collective narrative of the situation in Ireland.

Informal interviews (n=10) were held with professional designers (local and international) who had been working in the industry for a number of years. Stories (no=30) were gathered in person or via email from professional designers, academics and students at various stages in their careers. Participants were both male and female. It was essential during the data gathering that the positive and negative experiences were captured. Looking at both sides would allow us to find 'interventions' that should build on the enabling scenarios and attempt to eliminate barriers.

Through a workshop comprising design educators, practitioners and researchers (n=24) a number of interventions were co-designed. During the workshop participants were asked to map the journey of a fictional 'designer'. The journey would indicate the pivot points along the timeline where decisions were made and where interventions from external sources could influence these decisions either positively or negatively.

It is really important to note that the focus of the research is on the Irish context; the emphasis in the data gathering was on Irish designers therefore the findings couldn't be generalised across the entire design population. However several international designers were interviewed to provide a more global understanding. What did emerge, through the data analysis, is a list of common themes that occurred

across multiple stories and interviews. These themes are discussed in detail in the following section.

4 FINDINGS & DISCUSSION

The research pointed to different stages of education and professional life at which key decisions were made, or events occurred that pointed individuals in specific directions. Some of these were significant at the time and others in retrospect as designers recognized the influence it subsequently had on their careers (Figures 1 & 2). The largest number of issues and comments emerged around education at all levels from primary through to second and on to third level.

Keep the places for the boys
Keelin Leahy, Technology Lecturer

Lack of confidence
Lorna Ross, Designer, Mayo Clinic

It's all very challenging
Caoimhe Kelly, Designer,

Women have to work harder to justify their existence...just to compete you have to be exceptional
Lorna Ross, Designer, Mayo Clinic

Pinking the curriculum is offensive to students
Fiona Byrne, Designer, Educator

Perceptions of the creative genius is sterotyped as male
Christine Murray, Architect's Journal

Bias' begin with male dominated teacher education
Jason Power, Lecturer Technology

I'm not sexist... but women shouldn't be in a workshop
Louise Kiernan, Designer, Lecturer

One of a handful of women...often hanging out there by ourselves
Lorna Ross, Designer, Mayo Clinic

Bitches, Ruthless
Lorna Ross, Designer, Mayo Clinic

Girls don't do physics
Lorna Ross, Designer, Mayo Clinic

Transition year is too late...decisions are being made, attitudes being formed from first year
Fiona Byrne, Designer, Educator

Expectations that women will make certain career choices
Lorna Ross, Designer, Mayo Clinic

Tech subjects are traditional feeders for design, these curricula are gendered
Jason Power, Technology Lecturer

Figure 1. Negative Design Stories

4.1 'Keeping the places for the boys'

At second level it was clear from the research that females are frequently excluded from access to more traditional feeder subjects for Design. From a basic level the technical feeder subjects are typically not offered in all-female schools; there are currently only two all-female second level schools in Ireland who offered technical subjects in-house. At the most extreme end, females reported to be actively discouraged from certain subject choices. The research pointed to a number of reasons for this, amongst them the fact that the teachers are majority male (as high as 98%) facilitating an underlying culture of masculinity and a gendered curriculum that fails to cater for the type of project work that engages a more diverse group. Female participants were often encouraged to opt for more 'academic' subjects and are steered towards traditionally female disciplines. Some participants described misdirected perceptions, hierarchies and attitudes to certain subjects/ disciplines lead to a bias in the advice given to them which affected their decision making. This reinforces what Bruce [5] terms as '*the sexual division of labour*' where certain jobs are perceived as traditionally female roles and others male. These assumptions and stereotypes, some of the findings indicate, are propagated by parents/ teachers/media, as early as primary school.

4.2 'Women on the decline'

The gender segregation at primary and second levels has a clear impact on the number of females applying to design at third level. Evidence points to classes being imbalanced at undergraduate (in Ireland and the UK). Table 1 shows the figures from the past five years of undergraduate intake in Irish Design courses. We can clearly see a decline in females on the courses in all but one institution.

This could be due to NCAD being a traditional Art School whilst the other courses are housed in more technical institutions and departments. Again the perception of technology disciplines being more 'appropriate' for males could be the reason for this disparity. Further discussions with the staff on these courses didn't lead to insights into why certain years delivered more even female: male ratios. This uneven balance at education is undoubtedly leading to a skewed product/industrial design profession in Ireland with 81% males and 19% females in the workplace [2].

Table 1. Percentage of females studying Product Design at undergraduate level in Irish Third Level Institutes

	Institute of Technology Carlow	Maynooth University	National College of Art and Design [NCAD]	University of Limerick [UL]	**Average**
2012	47%	14%	18%	3%	**21%**
2013	31%	20%	26%	21%	**25%**
2014	31%	14%	39%	13%	**24%**
2015	32%	15%	24%	16%	**22%**
2016	16%	17%	30%	15%	**20%**

4.3 'Sexualising the Designer'
Building on the stories from education, some designers experienced issues in the workplace including negative culture, counterproductive attitudes and limited career progression.

Several of the female designers interviewed related experiences of inappropriate behaviours towards them and a pervasive 'lads' culture that made for an uncomfortable working atmosphere. They described being thrown initially but having the strength of character to stand up to the culture and indeed make efforts to overcome it and raise awareness of the biased atmosphere it was cultivating.

Where females were in the minority, which is usually the case, some of the females felt it was difficult for them to prove themselves and had to work harder to be taken seriously on projects, particularly in more technical projects. Fortunately these cases were in the minority and designers found the open, positive and supportive attitudes of their colleagues and superiors facilitated their careers in both the long and short terms. It was observed that if as a female designer they didn't see other women in positions of leadership, confidence in females began to erode and opportunities to progress in their career were not exploited. Seeing people they would aspire to be in roles they would like to get into encouraged and motivated designers.

4.4 'Key influencers'
Not all of the experiences or findings were negative, fortunately, and all of the designers spoke of numerous positive experiences across their education and careers. Time and again the participants noted there were key people who influenced decisions they made that either directly or indirectly led to them choosing design as a career. Many of the experiences featured an inspirational teacher at primary or secondary level, a family member or a peer/ friend. Marrying this with supportive parents who valued and encouraged creativity in both genders meant the journey into design was a natural one [15]. Individual stories told of fathers and mothers working with them as children and allowing them to explore and build, to family friends describing a television show about design and connecting it to the young designer's personality. These 'influencers' recognised the 'designerly' qualities in the individual and steered them towards subjects, projects or hobbies that led to studying design.
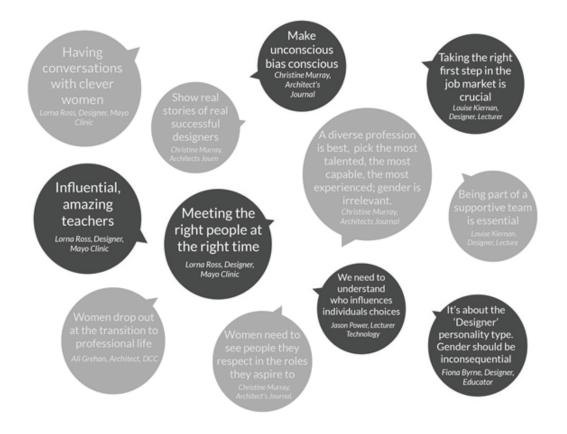
Figure 2. Positive Design Stories

5   OPPORTUNITIES FOR CHANGE

The outputs from the focus groups, interviews, journey maps and stories pointed to clear steps that could be taken to begin addressing the negative issues and capitalising on the positive ones. A brief outline of these are offered below.

The recognition of specific skill sets in young people is key to encouraging both genders to study and practice design. One way of achieving this is for the wider public to understand design and what makes a designer, thus being able to identify the traits in young people and offering them direction and guidance. This could be supported by interventions at various stages in education across all levels, where curriculum and extra-curricular activities centre on design-based themes. This all builds towards confidence and self-knowledge in the aspiring designer to pursue education and take risks throughout their career.

The 'perceptions' of the creative genius is stereotyped as male. Changing the archetype for who is a 'good' designer is essential to creating a balanced profession. This could be achieved by showing real stories of real successful designers, male and female At the most fundamental level Design History and Culture classes must include women as inherent contributors to the design story.

We need to recognise and accept the differences between men and women. Women do think differently; respond differently to projects and behave differently in teams [16]. Rather than homogenising the workforce design companies and managers need to recognise and capitalise on the variety offered. A diverse profession is the most resilient, picking the most talented, the most capable, and the most appropriate, irrespective of gender.

Mentorship and support at every level is essential to offering support, building confidence, raising aspirations and ensuring both women and men attain the same career levels. Women need to see and interact with people they respect in the roles they aspire to [17]. It isn't always about gender nor should it be. Positive male role models are as influential as female role models.

6   CONCLUSION

This paper has explored, through qualitative research, how both women and men perceive and experience the gender divide in Product Design. Whilst the statistics are not shocking or new, it does

appear that the situation isn't improving in Ireland. The proportion of women studying design is on the decline, which directly impacts on the professional world. More work needs to be done at every level; from early education to mid and upper career development to ensure women take their equal place at the design table.

The research illustrates that many moments in a designer's 'career' influence their decisions and shape their experiences. By understanding stories of individual experiences we have begun to build a picture of both the negative and positive aspects of these experiences. This insight enables us to begin to put in place measures to overcome the barriers and increase access into the field of design and hopefully ensure a more equitable progression through professional life for both genders.

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