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A didactic tool for gender-sensitive practices in design education

Zusammenfassung

Methodische Vorschläge zur Einführung einer gendersensiblen Praxis in der Designausbildung

Der Artikel präsentiert die Ergebnisse experimenteller Forschung, die durchgeführt wurde, um ein didaktisches Werkzeug zu gestalten, das wir „Design/Gender/Design" genannt haben und mit dem die Kategorie Gender in die Designausbildung eingeführt werden soll. Design und Designausbildung müssen sich für die Auflösung von Genderstereotypen einsetzen. Wir fragen deshalb, wie solche Genderklischees im Design implementiert sind und wie sie durch die Sensibilität von Designer_innen in einem Designprojekt beeinflusst und beseitigt werden können. Studierende wurden gebeten, Designfragen mit Bezug zu Gender zu beantworten. Daraus ist ein Katalog von Zeichen entstanden, die auf sie, ihn oder auf jede_n Einzelne_n abzielen (Formen und Größen, Farben, Muster und Texturen, typographische Elemente etc.). Diese Art der Aktionsforschung erlaubt es den Studierenden, den Gebrauch von Gendercodes im Design zu reflektieren, und stellt so die notwendigen Daten zur Verfügung, um herauszufinden, welche impliziten Assoziationen sich einstellen, wenn Gender zu einer relevanten Variable im Designprozess wird.

Schlüsselwörter
Poststrukturalismus, Designausbildung, Genderstereotype, visuelle Kritik, reflektierende Praktiken

Summary

This article presents the results of experimental research conducted as part of a project concerning a didactical tool named "Design/Gender/Design" which is to be used to introduce gender issues into the training of young designers. The article describes the experimental set-up and students' results. The intention is to stimulate a discussion about how design should integrate a gender perspective in theory and practice. By observing design as a process of exchange of values and meanings, we aim to understand its responsibility in the diffusion of gender stereotypes, how these gender stereotypes are incorporated into design projects and how they act within and through them, as well as through the sensitivities of designers. Students were asked to respond to design questions concerning gender in order to compile categories of signs targeted at her, him and everybody and covering different aspects (e.g. shapes and sizes, colours, patterns and textures, and typographic elements). Being typical of action research, the experiment allowed students to reflect on the use of gender codes in design and it provided data for researchers to verify assumptions regarding those associations which are implicit when gender is a variable in the design process.

Keywords
post-structuralism, gender stereotypes, visual criticism, reflective practices, design education

1 Introduction

This article focuses on how design contributes to the reiteration (or contradiction) of gender stereotypes, starting from the analysis of how visual codes and configurations of design artefacts depict gender in our (western) society.[1]

The study is part of wider research on the relationship between design (more specifically communication design) and gender. The aim is to understand to what extent the discipline is co-responsible in the process of the social, cultural and psychological construction of gender identity.

The research is consistent with the feminist post-structuralism discourse on gender (Lazar 2005; Butler 2004; Weedon 1996). If masculinity and femininity are the consequence of a socio-cultural construction and not simply the result of a natural and biologic expression,[2] then gender can be "performed" (Butler 1990; Butler 1988) differently depending on the period and context. Taking this view, gender is an unstable concept which is always undergoing change and is open to interpretation; then design, as a process of representation, can be part of a transformation process (Bosley 1992; Buckley 1986).

The gender analysis needed in the design field[3] requires the definition of specific (theoretical and practical) tools to raise awareness of the issue. These tools can be described metaphorically as "antibodies" for the discipline (Baule/Bucchetti 2013: 24).
In the following we will present findings from experimental research on a tool for investigating how gender codes are part of the design process, starting with the sensitivities of design students.

Our research objective was to observe how artefacts are gendered by designers in order to discuss the possibilities of a more inclusive and open interpretation of gender despite the traditional dichotomy.

1.1 The gender dimension in design research

The increasing attention being given to the presence of gender stereotypes in society is evidenced by the numerous (public and private) actions and initiatives for fostering gender equality globally.[4]

This increased interest is also in evidence in the field of design,[5] as manifested in the numerous research projects, teaching activities and studies which are being conducted

1 "Design artefacts" here refers to the design of objects, from the product itself to its communication.

2 We follow the cultural approach to the study of gender (Rudman/Glick 2008) to avoid the tendency of gender essentialism.

3 Despite some pertinent references, there is as yet little literature on design research.

4 "Achieve gender equality and empower all women" is the Goal 5 in the document entitled "Transforming Our World: The 2030 Agenda for Sustainable Development" adopted by the United Nations General Assembly on 25 September 2015.

5 See the research project "Design innovation for gender equality (DIG Equality)" of the Iceland Academy of the Arts, the Oslo National Academy of the Arts and the Norwegian Centre of Design (Norsk Form); the International Gender Design Network founded by Uta Brandes (Professor of Gender & Design and of Design Research at the Köln International School of Design) and Simone Douglas (Director MFA Fine Arts, Associate Professor of Photography, School of Art, Media and

at international and local level (Caratti 2015a: 129). In most cases, this kind of project answers (directly or indirectly) to institutional programmes (e.g. European Parliament Resolutions in 2008, 2012 and 2015) which emphasise the need to integrate a gender dimension[6] into training and practical exercises for media operators and future designers.

The European Commission's Horizon 2020 Work Programme recommends including a gender perspective in research and universities. One of the expected impacts is the production of goods and services that respond effectively to real women's and men's needs.[7] This involves design, and for this reason, the emerging field of studies has been called "Gender Design" (Brandes 2008), a neologism promoted by the International Gender Design Network, which comprises representatives of this area of expertise. Among other objectives,[8] the group's manifesto considers the problem of the "genderisation" of design products and services as a result of global marketing strategies (in particular mass markets) and, consequently, underlines the importance of including a gender perspective in a more respectful and efficient design process. Research scientists and designers are therefore called to consider that:

> "Not only do we have to be aware of the social genderization in design, we also have to comment on it in a critical, open and public way, and in so doing we have to strive for change towards accepting and supporting diversity, towards a gender-sensitive and gender-appropriate design in both theory and practice."[9]

1.2 Gender analysis through design artefacts: the research background

The increasing presence of "sexually differentiated" products on the market is a result of gendered marketing (Moss 2009; Wolf 2007), a segmentation strategy which feeds the system of beliefs of gender stereotypes which already exist in society. In fact, the reiteration of traditional gender roles in the depiction of women and men by means of product communication is crucial for cultivating different preferences of consumption (even from birth [10]) which are fundamental to consolidating the strategy.

Communication is "mediated" (Caratti 2015b: 23) by a series of factors (artefacts, materials, media and formats) which fuel the collective imagery, reflecting a false impression of society and an ephemeral representation of (consumer) culture to imitate (Bryant et al. 2002).

Technology, Parsons School of Design, New York); the network Women in Design Research of the Scandinavian Network of Women in Design of the Norwegian University of Science and Technology; the Dcxcg research group (communication design for gender cultures) of Design Department, Politecnico di Milano.

6 The European Institute for Gender Equality has a definition: "Considering the gender dimension implies considering the ways in which the situation and needs of, and challenges facing, women and men (and girls and boys) differ, with a view to eliminating inequalities and avoiding their perpetuation, as well as to promoting gender equality within a particular policy, programme or procedure." The gender dimension is sometimes referred to as the "gender perspective".

7 Gender is a cross-cutting issue in Horizon 2020 and is mainstreamed in each of the different parts of the Work Programme, ensuring a more integrated approach to research and innovation.

8 The historical, socio-cultural and economic aspects of the impact on gender in design needs to be studied.

9 http://genderdesign.org/about-igdn/ (date of access: 11 November 2016).

10 Linn (2004) shows that from early childhood to adulthood, preferences and differences in consumption are oriented to gender and are based on what marketing calls "from the cradle to the grave".

Consumer preferences (female and male) for purchasing and using certain products instead of others influence the formation of identity and, in the widest sense, of gender identity (not only in terms of sex). Gender characterises everyday objects (Lupton 1993), which are designed as "discourse objects" (Penati 2013; Pink 2004; Baudrillard 1968) capable of implementing manipulations through persuasion, and thereby contributing to social modelling (Landowski 1989; Mirzoeff 1999).

Gender analysis of artefacts (Ehrnberger/Räsänen/Ilstedt 2012; Weller/Krämer 2012; Kirkam 1996; Sparke 1995) shows that aesthetic treatment (e.g. shapes, colours and effects) and discursive strategies which are part of the product's communication system (packaging, advertisements, etc.) continue to express a dichotomous relationship between the sexes.

The visual translation of the categories of "feminine" and "masculine" (Bucchetti 2016)[11] into design artefacts reveals two separate universes of signs. These are standard repertoires which are used to speak to men or women. In fact, visual product aesthetics play a crucial role in guiding consumer behaviours (Bloch/Brunel/Arnold 2003).

Different chromatic codes, decoration as opposed to minimalism[12] and formal simplification (of women's goods) are among the visual translation strategies used to implement gender differences, and this applies in particular to toys (Fine/Rush 2016).[13]

The resulting model, which is based on a male/female distinction, is problematical not only because it reflects a binary vision of society, polarising differences and reiterating stereotypes, including in the interest of gender inclusion (Oudshoorn/Rommes/Stienstra 2004; Oudshoorn/Saetnan/Lie 2002).

1.3 The need for gender-sensitive practices in design education

Despite some significant initiatives (Caratti 2015a; Bucchetti 2015; Barkul/Potur 2010; Hansson/Jahnke 2009), a critical analysis of the relations between gender and design indicates that design education is lacking, and this needs to be remedied. As we have argued, one urgent issue is the gender analysis of design artefacts. We believe that a phenomenological study of gender codes in design can help to create an awareness of gender codes and their meanings, building on what has emerged from research in the field of gender studies (e.g. on advertising).

Design reflects on the world and at the same time continually reflects on itself, its methods, processes and purposes (Baule 2015). Further, design, given its fundamental pragmatism, can contribute to a reconfiguration of gendered artefacts by reviewing

11 Communication design, gender studies and translation studies are part of a research area which focuses on the relationship between the visual identity of artefacts and gender so as to understand the translation mechanisms.

12 The feminist critique of design largely argues that women in design are oriented to ornamentation, decoration and craft as opposed to men's preferences for minimalism and function (Attfield 1989; Leslie/Reimer 2003).

13 In the case of the board game "Sapientino for Girl", retrieved January 2017 from www.clementoni.com/it/11934-sapientino-bambina/, that is a version of the game "Sapiento" specifically for girls, the differences do not only concern the product aesthetics but also its content: the proposed activities and ways in which they are communicated are close to what is traditionally considered attractive for girls (housework, shopping etc.), and the product diverges a great deal from the original version.

practices and processes with the aim of promoting respectful representation and avoiding simple dichotomies (female/male).

What are the typical gender markers of design objects? Are design artefacts subject to stereotypical images? How do students interpret (or adopt) stereotypes or gender displays? What are the related cultural problems? How can this knowledge be used in education? These are some of the questions which we attempted to address by conducting this study.

2. The experimental set-up

The research, which applied ethnographic methods, was split into three phases: The first phase consisted of the phenomenological observation of the gender markers (e.g. colours, shapes and signs) of artefacts; in the second phase, the acquired knowledge was used to design an investigation tool; and the third phase comprised the investigation tool being tested on design students.

The tool aimed to investigate how participants interpret and visualise gender by adopting different aesthetic languages and whether they reproduce the distinction between female/male and neutral codes which have previously been observed.

The instrument can be used with practitioners in different degree courses (communication design, fashion design, product design and interior design) because it focuses on visual and communicative codes[14] which contribute in the same way to the gendering of products, images, dresses, spaces etc. The name "Design/Gender/Design" makes a joking reference to the ambiguity of "design/gender", which may indicate that design (and designers) are responsible for gendering artefacts (in a stereotypical way). However, "gender/design" suggests the possibility of "gender-driven" design beyond a mere representation of the sexes which is open to a more inclusive interpretation. The possible causes and implications of the gender markers identified in the first phase, and which students recognised afterwards, can then be discussed in the context of critical analyses.

2.1 (De)construction methods for gender analysis

The starting point of the research was the iconographic collection of artefacts (targeted for her/him or everyone) from different sectors.[15] This includes products that are explicitly targeted at and culturally associated with either women or men, as well as products that implicitly refer to "her" or "him" even when this is not justified by their practical functions, and products that are ostensibly designed for both men and women. The entire product communicative system was analysed[16] in order to uncover the visual codes which indicate the feminine, masculine or reference to everyone. We organised

14 The study of visual communication is a common element in most design curricula.

15 The case studies were collected in the period 2012 to 2016 by dcxcg group of Politecnico di Milano, Dipartimento di Design. The identified sectors are toys, household and DIY, personal care and toiletries, sports and tech products. In most of cases the products are by popular (leader) brands which have a strong influence on the production line (followers).

16 Packaging, press and TV campaigns, website, etc.

the data into three categories of signs (for her/him/everyone) using taxonomic tables for comparison.

The main problem of a gender analysis of artefacts is identifying the significance of the established differences and stereotypes which are perceived as "normal" and then "invisible". For this reason, the research used deconstruction techniques (Angermuller 2014) to analyse visual texts and isolate the relevant findings. In particular, the aesthetic functions,[17] such as graphic and visual aspects (colour and treatment, figurative and typographic elements) were observed in relation to their semantic functions (Zuo/Jones 2007) to find the hidden meanings.

The results of the study were used to formulate research hypotheses that are the basis for the design of the tool of inquiry, which also relies on the approach of deconstruction; in fact, it provides the opportunity for us to analyse, one-by-one, the dimensions which are competing in the development of gendered objects.

2.2 The designed tool: reflective practices through a concrete experience

The tool, a kit used in the experiment, consisted of assignments on different forms which needed to be filled out by participants (Fig. 1). Each form included a design brief so as to be able to build a repertoire of signs which can be used to engage a female/male user or everyone.

Figure 1: The Design/Gender/Design tool: worksheets



Source: Marta Isabella Reina.

17 According to the theory of product language (Gros 1976), the functions of an object are the practical functions (ergonomic, economic, ecological) and the language functions, therefore divided into formal–aesthetic functions and semantic functions.

The first task consisted in the drafting of an object (to be selected from a list) by sketching three versions of it (for her/him/everyone). For each item, students were able to provide a name for the products, materials and qualities.[18] In contrast, the second task required participants to describe a typical user/consumer of different products (iron, movie camera, backpack, colander). In this phase, we investigated the implicit associations between products and users (women/men) and, vice versa, how the target user (her/him/everyone) influences the aesthetic qualities assigned to the product. The third assignment also proved this relationship: students had to choose qualities and adjectives to describe design tendencies (for her/him/everyone).

Other tasks were related to shapes, patterns/textures, colours and fonts. This was necessary in order to create visual repertoires which can be used to design for women, men or for everyone. In all cases, the questions were intended to simulate a practical experience (e.g. the development of different categories to be used) of ideation and conceptualization.

The last assignment – called "Who has made what and how?" – was intended to identify authorship of design artefacts that appear to suggest the sex of the designer/author (female/male). The test concluded with a questionnaire aimed at investigating participants' opinions of the experience.

The tool was designed to be self-explanatory: Each form contained the information required to execute it. Both the visual style and language were informal. The researcher interacted only little with students and merely as an observer and facilitator. The activity lasted two hours (approx. 15 minutes for each task) plus 30 minutes of discussion in the group (Figure 2).

Figure 2: A moment during the test of Design/Gender/Design



Source: Marta Isabella Reina photography.

18 I.e. the product values (e.g. elegance, simplicity and strength).

2.3 Testing the tool through the "action"

The experiment applied action research methods and ethnography to collect quantitative and qualitative data on gender markers, but also to observe the students' point of view. It is impossible not to consider subjectivity and the cultural dimension within the design act, and for this reason we believe it was necessary to engage students through action at this stage of the research project.

The experiment is intended to show that gender analysis should be included in the education of designers by means of practical experience which stimulates self-reflection. The activity allowed students to focus on their actions in order themselves to uncover and analyse the associations and solutions which we usually adopt when gendering objects. Of course, we need to bear in mind that gender is always part of the design process (e.g. due to ergonomic functions), but aesthetic features have been little studied so far because they are implicitly considered to be part of the creative process. The activity, as a reflective practice (Schön 1983), tried to get practitioners to "reflect-in-action" as a way to better understand the problem of genderisation, and also to integrate the feminist perspective on self-reflection as the way to increase social change.

3 Results and discussion

An analysis of the case studies collected in the first phase of the project revealed the recurrence of visual codes such as certain colours, patterns and textures, shapes and typographic elements, which distinguish products for her/him/everyone.

The results of this analysis were replicated by the test with students, confirming the hypothesis that cultural forms have a role in shaping the definition of masculinity and femininity beyond our personal preferences. In fact, agreement on gender stereotypes is more evident when designers are forced to employ stereotypical images and forms to create abstract representations that are intended to be more universal and not simply to reflect the individual's own sensitivities. The responses of female and male students were similar, and this is also true considering their respective degree courses.

The sample of students was small.[19] Even though the aim of the research project was not to draw up statistics, the sample needs to be extended to provide a more in-depth analysis. The qualitative results are more relevant when it comes to generating basic knowledge in order to develop other tools.

3.1 Gender markers between separation and hierarchy

The shapes that students drew to represent the feminine and the masculine show that soft and curvilinear shapes tend to be used for women as opposed to straight lines and angles, which tend to be used for men.[20] The forms chosen by students (Figure 3) are

19 Twenty (female/male) students from different BA courses of Politecnico di Milano, Scuola del Design, a.a.a 2015/2016.

20 Note that circles are more inclusive and may indicate communal relationships; angles or straight lines, on the other hand, orient us to the world in different ways (Bosley 1992).

among the archetypical symbols which define "femininity" and "masculinity" in most cultural traditions: circles, sine waves and spirals for women, and geometric shapes, squares and triangles for men. Iconic elements such as the crescent of the moon, eggs, a drop of water and concentric circles are associated with women, while others such as arrows, beams of light, and solar radiation are related to man. Participants selected and drew shapes which refer to flora and fauna (leaves and flowers) for women and those which reference the fields of science and technology for men. Considering their semantic value, this repertoire of signs emphasises the traditional division between nature (female) and culture (male).

Figure 3: The worksheet of shapes filled by a student.



Source: Marta Isabella Reina photography.

Patterns and textures are round and curved for her and geometrical for him. Decoration is one of those elements which characterise the feminine the most, and in general female patterns and textures are more decorative, while the masculine is more rational and geometrical. The rhythm of structures is dynamic and regular in the case of men, and irregular for women; this may imply the idea of rationality as opposed to irrationality.
Students indicated, for each pattern and texture, the ideal design artefacts for the application. Among these, the areas of personal care and fashion were prevalent, possibly because students considered these more flexible and therefore more legitimate areas for the attribution of differences.

"Feminine" colours are bright, pastel and from a palette comprising pink, violet and light blue; the "masculine" colour palette is much more limited and comprises dark colours like black, grey and blue. Nuances are for women; flat hues are for men.
In a task which required students to associate colours with market sectors according to intended user, pink was attributed to girls and blue to boys (toys), while white was attributed to women and black to men when it came to tech goods. Other sectors (cosmetics

and sports articles) indicated more flexible responses, even though pink was the most recurrent marker for identifying women's products. The colour pink is a particular case: It remains an active marker in products for women (even after infancy), a phenomenon which is called "pinkification".[21] The permanence of pink is significant if we consider that the same does not apply to the colour blue, the most important marker in toys and products for boys. The masculine, despite the feminine trend, does not need to define or distinguish itself.

The treatment of products for women and men shows the following oppositions: shiny/opaque, transparent/non-transparent, smooth/rough. Materials used for women are plastic, glass and fabric; leather or metal are used for men. Products for women contain jewels and precious stones, while technology and innovative materials are for men. The same findings emerged when it comes to fonts chosen for products targeting women or men. The feminine typographic elements consist of fantasy characters, they are elaborate and decorative, emulating handwriting, and they are graceful, rounded, sinuous and mostly light. The masculine includes solid and geometric lettering; bold and capital letters are preferred. If the product is closer to the female/male target (e.g. a font used for the brand identity of a beauty shop for women), the correlation with "feminine" fonts is more evident. In the case of products targeted at both men and women, but in a supposed domain of the other sex, such as tech magazines for women, the font selected to closer to the supposed preferences of the target user but also closer to the common language used for the product category. Can type have a gender? This is an interesting question which has recently been raised in the study of typography.[22]

According to Hirdman (2003), society is based on the concepts of separation and hierarchy: the separation principle sees the masculine and feminine as opposed worlds; hierarchy considers the male as the standard and consequently superior to the female. This model traditionally (Attfield 1989: 199–225) sees the function (masculine) as opposed and superior to the form (female); therefore, masculine features are designed as the standard to which the feminine represents an exception.

The observation of gender codes which students attribute to various products confirms these findings. In general, products for women are more simple, rounded, soft, use pastel colours, are often decorated with iconic elements such as hearts, flowers etc., while products for men are more sophisticated, edgy and darker shades are used for them. Artefacts assume a connotative and prescriptive value which can determine the use of an object, excluding or including women (or men).

The materials used for feminine products are linked to the domestic and private sphere, to decorative and applied arts (textile, ceramics etc.); masculine materials reconfirm the male area as dominant, functional, scientific, technological and industrial (Pietroni 2015). If the technical aspect is superior to the aesthetic, masculine products are seen as more valuable, durable and efficient, while feminine products are more useful, very limited and considered only for their aesthetic qualities. The function of a product cannot be separated from its image, and one of the implications of products'

21 The act or process of colouring objects and artefacts pink to attract women.

22 See "The Women Redressing the Gender Imbalance in Typography". Date of access: 11 January 2017 at https://eyeondesign.aiga.org/the-women-readdressing-the-gender-imbalance-in-typography/.

"sexual differentiation" is precisely to support and feed different cognitive and social abilities to men and women (Zarza 2001: 8–10).

3.2 The discussion about gender-neutral codes

The results of our experiment on the visual codes that characterise products intended to be used by both men and women (or products where no preference is expressed) demonstrate that the neutral codes are closer to male than to female codes. For instance, tech goods and educational toys are not explicitly targeted at men (only), but their aesthetic is very close to the male. This is quite similar to the representation of androgyny in fashion, which is more masculine than feminine, despite the fact that the fashion industry was the first to try unisex and a-gender collections to avoid female and male markers.
What is gender-neutral in design? Sparke (1995) proposes a hypothesis based on the idea that neutral codes are perceived as being closer to men because for a long time male designers were the only protagonists in the production process. Nowadays, in Western societies, there are a growing number of women in the design field. Perhaps this will change the most diffused visual rhetoric to express a female sensibility. If we consider "pinkification", this can also be seen as the appropriation of spaces and products on behalf of women, despite this hypothesis being as controversial as the issue itself.

3.3 *For her, for him:* communicative strategies

The typical users (personas method) which students indicated for products were traditional consumers: homemakers for irons and colanders, and backpacks and movie cameras for men (because they require technical skills).

Figure 4: The worksheet about personas.



Source: Marta Isabella Reina photography.

Backpacks and movie cameras are also associated with women, perhaps because the use of these goods is perceived as more flexible than the colander or the iron, which are not associated with men to the same degree. Our results are relevant because they confirm stereotypes (even though this reflects reality), suggesting that students consider the implicit associations which may incur by user design (Figure 4).

The "naming" of a product is an important part of brand communication which requires creativity and copyrighting skills. Given this fact, the name of the products chosen by students was interesting. Most of the female names were a name like Eva, Donatella, Lady etc. or names referring to the world of flowers; the expression "for him" was commonly used to mark this area for men.

The qualities associated with products seem to refer semantically to traditional psychological features of masculinity and femininity (Bem/Martyna/Watson 1976). Men were seen as aggressive, ambitious, analytical, assertive, athletic, competitive, dominant, forceful, independent and strong; women are seen as affectionate, cheerful, childlike, compassionate, gentle, shy, tender, sensitive, sentimental, warm, confident, emotional, inventive, delicate, dependent and fragile. The values associated with women are pure, sweet, elegant, feminine etc., while those associated with men are high, great, formal and usefulness. These characteristics are also suggested by the name of products, confirming the use of these categories to interpret gender.

3.4 Authorship and recognition: a question of gender?

The question of women's recognition in the design field is a necessary one (Buckley 1986). A significant number of design history associations, research groups and scholars are involved in rediscovering of the role of women as authors, and bridging the gap between women and the more famous men. This issue was explored in our experiment by asking students to decide whether the creator of an artefact (chosen from among some quite famous ones) was a woman or a man (Figure 5).

The results of the experiment confirm the common association that the sex of the authors (women or men) determines the preference in the design of products and is related to activities traditionally associated with her/him (women as homemakers used to make pots). In the case of goods targeted at women/men, the producer corresponds to the supposed target (as in the case of the Nike logo, which is associated with the male author).

Women designers produce artefacts which are round, soft and use pastel hues, and men design goods which are more geometric and sophisticated. A minimalist tendency corresponds to male authors, while a decorative and ornamental style is the prerogative of women, as is the humanisation of products or infant shapes.

Figure 5: The worksheet "Who has made what?"



Source: Marta Isabella Reina photography.

This was the last part of the experiment, and students were likely influenced by the associations implemented in the previous tasks. However, what was significant was that few of them noticed this trick. This may be due to their lack of awareness of the issue and their limited experience with this type of inquiry, a problem that can only be addressed through further experience and practice.

4 Conclusions and outlook

In the educational context, innovation is every transformation brought intentionally and systematically into an educational system and which is used to reconsider the goals of this system or to obtain better objectives (Landsheere1982). In this regard, the gender dimension represents an innovation as a topic for design education; the notion of "gender" is just part of the design process, but it does not yet have the relevance of those subjects which had a social impact, such as accessibility for the disabled, sustainability etc. Students recognised this need, as is attested by their comments on the feedback form. Moreover, during the final discussion, they asked for a more active experiment to contrast gender stereotypes. This might provide the incentive for developing a second tool. The research was intended to enable students to interpret communicative phenomena critically through the lens of gender and, as a consequence, to design products, services, images etc. in a more equal and inclusive way. Every communicative act may be an ethic choice (Fabris 2014: 114–115). This is what is needed to prepare conscious designers who can subvert the current norms which contribute to gender equality, which is something which marketing will probably also soon be backing. In fact, marketing has to consider the fact that sex roles have changed. It also implies the need to provide

better interpretations of masculinity and femininity beyond the traditional male–female dichotomy (which continues to be the prevalent model).

One of the future developments of the "Design/Gender/Design" tool may be its use in other universities, with students from different countries and cultural contexts in order to see whether we get the same results. Further, the tool could be used (with minimal changes) at another educational level (e.g. secondary school) to introduce the specificity of design in the visual and media education domain.

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