INTERNATIONAL CONFERENCE ON ENGINEERING AND PRODUCT DESIGN EDUCATION
8 & 9 SEPTEMBER 2016, AALBORG UNIVERSITY, DENMARK

CULTURE SPECIFIC OR GLOBAL DESIGN IN OPEN ONLINE DESIGN EDUCATION

Annemiek VAN BOEIJEN
Delft University of Technology, The Netherlands

ABSTRACT
This paper explores cultural variety between the design results of an open online design course attended by people from all over the world. It describes global and culture specific elements within the participant's design projects. First, the concepts of *global design* (products that are easily adoptable) and *culture specific design* (products adapted to a local culture) are defined. Next, an analysis of the participant's final designs and the results from a questionnaire shows that not many culture specific aspects were found. About 60 % of the participants considered their designs as global ones. However, some cultural variety could be identified regarding the participants' contextual research results and their design challenge formulations. The paper concludes with a discussion of the influence of global design education, and a plea for culture conscious design education.

Keywords: Culture, design education, globalisation, online learning, socio-cultural.

1 INTRODUCTION

The reason for this study is the second run of our Massive Open Online Course (MOOC) about product design. The course - called Product Design: The Delft Design Approach - is an introduction to our design approach, entailing a number of design methods applied in a realistic, theme-driven, design project. Currently, the course has run twice, with participants from over 150 different nationalities. We were surprised that the design results from participants did not seem to be culture specific, or at least did not show much cultural variety at first site. This led to the question if - under the influence of such an international course - designs are more global and less culture specific. This paper presents the set up of the course, and a reflection on the influence of online education on cultural variety in design.

2 ONLINE DESIGN COURSE

Only a few years ago platforms such as Coursera, Udacity and edX started to run online courses. Since then millions of people from all over the world and with various backgrounds subscribe and attend. Our university started in 2013 to run courses supported by the edX platform and in 2014 launched a

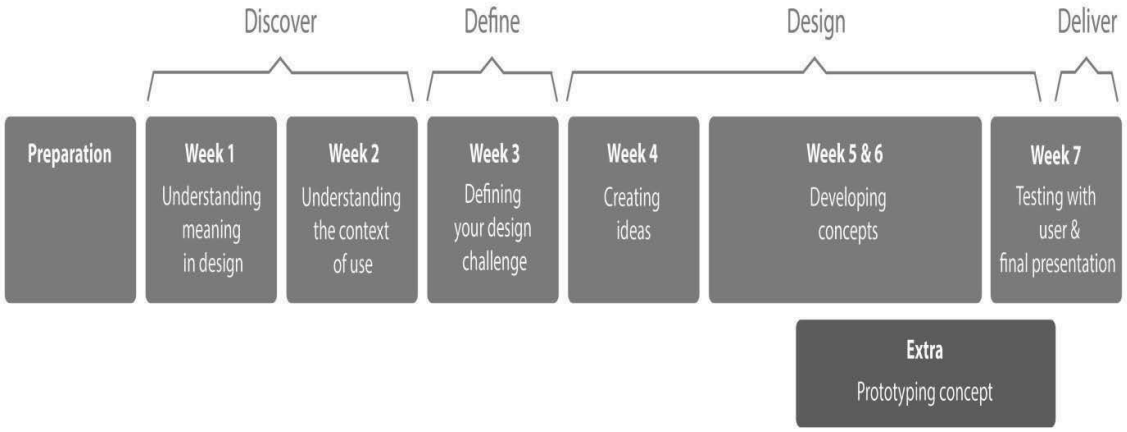

Figure 1. Phases and activities of the massive open online course

design course. One of the challenges is the feasibility of design education in a long distance context. The course is based on principles from experiential and reflective learning [1, 2]. The participants successively experience and reflect on the different phases of the design process defined by the Design Council [3] (see Figure 1). This design process includes typical characteristics such as diverging versus converging and iterative thinking.

The learning method offers different modalities, to serve a wide audience with different preferred styles of learning; lecture-, expert interview-, and benchmark videos (consists of two of our own students, showing and explaining their results), assignments with templates (see for examples Figure 2); sofa sessions (weekly feedback on participant's results); quizzes; checklists; self- and peer assessments; a discussion forum; a world map to share results; literature and a syllabus.

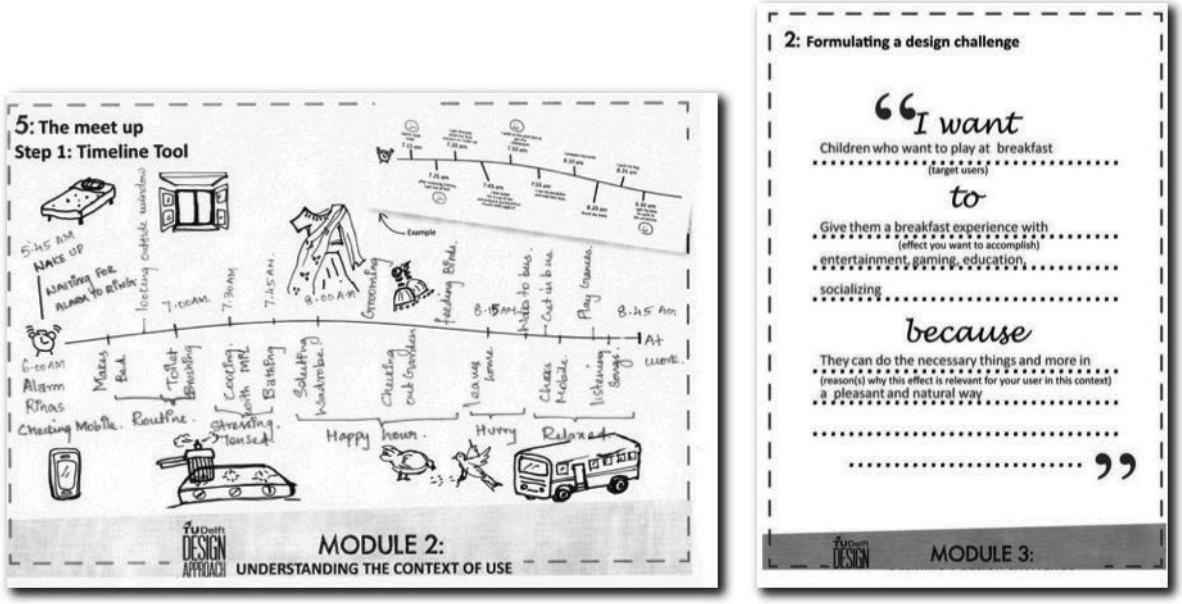

Figure 2. Completed templates: timeline of a person's morning ritual & design challenge

The course is tuned to an online global context. The leading theme for the design project is '*morning rituals*', which is defined as 'people's activities and experiences from the moment that they wake up until the moment they arrive at school, at their job, or similar'. It is assumed that it is a theme everyone in the world can identify with; close enough to share the same topic and open enough to adapt to individual preferences and local realities.

The results of the design assignments are, among others: timelines of morning rituals from user research, a textual formulated design challenge, ideas & concepts and an evaluated final concept & presentation, with an option for prototyping. The results, shared by the participants on the discussion forum, together with the answers on a post-questionnaire in the course, are subsequently used for evaluation. Evaluations of the first two editions show that participants are enthusiastic, reflected in this participant's quote: '*I would like to thank the members of the university for their support and dedication, your expert guidance is so meaningful that has created a milestone in my career path. Please, keep up the good work and do not forget to delight us again with more courses'*.

3 CULTURE SPECIFIC VERSUS GLOBAL DESIGNS

Culture is defined in many ways. A definition, meaningful in the context of design because it includes explicitly material culture, is the following: '…[the] system of shared beliefs, values, customs, behaviours and artefacts that the members of a society use to cope with their world and with one another, and that are transmitted from generation to generation through learning' [4]. In our definition a society consist of people that can be grouped in different ways, such as by nation, profession, and sports. Designs are considered culture specific - and thus not global - when evoking a specific meaning, regarding specific values, shared by a specific group. Culture specific designs are in some ways exclusively for the social context they are part of. In contrast, global designs are used worldwide and not exclusively used by a specific group. First, because they hardly evoke a specific meaning that interferes with the social values of the group. They can be easily *adopted* because they serve a universal need or because they add value that cannot be fulfilled with other products yet. For example,

the paperclip has a utilitarian value that is globally used. Generally, it does not evoke a specific cultural meaning. However, a global product can have a connotation specific for a cultural group. For example, in Norway the paperclip has gained a mythical status as a national symbol, because in the Second World War patriots wore the -in 1899 by the Norwegian patented- paperclip in their lapels to denote solidarity and unity [5]. Next, some designs are considered global because they can be easily *adapted* according to the values and practices shared by the group. For example, the first mobile phone can be seen as a global design, because it serves people's needs for communication all over the world, although the exact use varies and is adapted to local preferences. In Africa mobile phone services are appropriated for banking via text mail [6]. Nokia reported a study in India about an idea for multiple contact folders in mobile phones, because of the local habit to share one phone per family [7]. If the adaptations are strong and become very specific for a specific group an initially global design can become cultural specific. For example, a bicycle design originated from the United Kingdom became a national symbol for the Netherlands and is now known as a Dutch bike [8, p.12]. Apple is an example of a brand that is committed to deliver one single message to all its users all over the world, using a global design for its websites, service points, and other channels. Except for the mobile cases, there is not much that can be adapted to local preferences.

In practice, products that are initially intended to be globally adoptable, or that seem to be easy to adapt, unintentionally may fail in specific cultures. For example, a simple feature such as a flower pattern on Adidas sport shoes was not acceptable for the Swedish Democratic Party in Sweden, because they used the same pattern as a symbol for their identity. Next to tangible designs, non-tangible design may also fail as global designs. For example, the professional network service LinkedIn is up till now not very popular in the United Arabic Emirates (UAE). The acceptation is difficult, because the low hierarchical way of networking that LinkedIn supports does not match UAE values of high power distance and low individualism. Most people in the UAE would not ask for jobs to a superior and would not express themselves individually and openly.

3.1 Influence of the designer's background

Various design researchers analysed designers' cultural values that explain certain culture specific designs [10, 11]. For example, Razzaghi et al. [10] show how concept designs of telecommunication devices from Australian and Iranian design students differ as a result of the designers' different value orientations. Although both designer groups proposed hands free solutions, they focused on different aspects. The Iranian designers, who valued uncertainty avoidance higher than the Australians, emphasized the need to safeguard the product from getting lost or stolen, whereas the Australian designers did not bother much about safety issues and focused more on the adaptation to the backpacking lifestyle. Razzaghi [12] concludes that designers' cultural preferences do influence their approaches toward tackling the design problem. Thus, it is expected to find varieties in designs in our MOOC due to differences in cultural backgrounds.

4 RESEARCH APPROACH

The example of the paperclip shows how difficult it is to determine if a product is culture specific, because giving meaning to a product seems to be a fluid process. A simple product, initially designed for utilitarian purpose, can be globally used but not embraced by a specific group that creates its own myth and meaning. It thereby turns into an artefact representing a specific culture. The influence of the designer on this meaning giving process is limited, and involves mainly 'production', one of the five cultural processes, described in the circuit of culture model [13]. Nevertheless, we will try to say something about the designers' attempts to design for a global or local context and/or how the designers' cultural backgrounds - unconsciously or not - are reflected in their designs. The central question of the study in this paper is: *What cultural variety can be identified in the design results of an open online design course, attended by participants from all over the world?* To analyse the cultural variety, participants were asked to fill in a questionnaire after completion of their course. Furthermore, the uploaded design work, - 14 sets of filled in templates by participants - was analysed. The design results were selected based on the following criteria: availability (not all participants shared their work on the course's discussion forum), level of detailing (some results were too vague to examine), and variety of nationalities. Table 1b shows an overview of the selected results. A cultural framework has been used [14, p.146] as a lens to examine culture. The main elements are the distinctions used in the reasoning model of Roozenburg and Eekels [15]; values, need, functions, properties, and forms.

5 RESULTS AND DISCUSSSION

The results are presented referring to the various deliverables of participants. Table 1a shows an overview of the number of participants for different activities.

Table 1a. Data from questionnaire and course

participants	number	nations	remarks
enrolled	17.255	161	
finished with a certificate	209		
gender	68% male 22% female		
educational background	40% with bachelor degree		
post-questionnaire	123	41	29 Indian (24%) 10 Netherlands (8%) 10 US of America (8%)
answers on culture specific versus global design question	87	24	10 Indian (8%) 6 Netherlands (5%) 6 Colombian (5%)
global design	51 (59%)		
culture specific	18 (21%)		
not specified	18 (21%)		
open answer	45		

Table 1b. Selected results from course

11 nations 14 projects	time/ stress	main function
Great Britain		stuff organizer
Ireland		salt dispenser
Germany	✓	sunset simulator
France	✓	activity organizer
Spain	✓	fashion selector
Philippines	✓	daily tasks reminder
Australia		straw upholder
Turkey	✓	relax awake maker
US of America		cat-owner relation
US of America		information provider
Brazil	✓	light awake maker
Brazil	✓	belonging organizer
India		breakfast delivery
India		head protector

5.1 Morning ritual theme

The morning ritual theme was appropriate. It was open enough for cultural variation. The majority of the students - 84% (incl. neutral) of 88 respondents - found that the morning ritual theme was appropriate for this course. Main arguments were: it is relevant since the morning defines the whole day; the theme is applicable to everyone; and there are similarities between morning rituals, yet there are some differences. They also found there is a lot of complexity in morning rituals, such as multiple tasks, which offers a broad range of possibilities for design challenges.

5.2 Cultural variation among the designs

The majority of participants - ca. 60% of the 89 respondents - reported that their design was *global*, for example, because they designed something that is commonly used or is a common problem, putting the *function* of the design central. Examples of such comments are; '*the function applies everywhere'*, and '*the product is commonly used*'. One person mentioned the adaptability of the design as a criterion for global design: '*the function is very adaptable to the taste of each person*'. Two participants mentioned that their design - a service and an app - explained that their design is global. Apparently they did not see how their designs for this product category could be culture specific. Maybe because apps are relatively young and not much diversified yet, but probably also because - as we saw earlier - it is difficult to determine. In contrast, another respondent wrote that applied icons were globally recognized, but that the functions differ per country. Respondents who mentioned that their design is culture specific often did not mention product *functions*. They explained differences regarding *values* and *forms*. One person mentioned '*Western world, North America is very orderly in nature'*, and another *'I do not know if in other cultures the behaviour of a mother housewife is the same with her family and her sons'*. Three other respondents found different food habits as a reason for culture specific design (salt/sugar intake, fork/chop sticks, fresh squeezed juice), and an Indian living in Germany expressed his doubts if his morning ritual - totally different from his intended user - has led to a culture specific product. One respondent criticized educators ignoring culture; '[..] *Do we want to encounter the same type of objects everywhere around the globe or do we adapt our concepts depending on the 'targets' (culture, tradition, lifestyles, economy,..)? All the creative subjects, such as design, have a philosophical intrinsic issue which is scarcely dealt in lectures, courses and schools.'* Others mentioned that combining ideas from different cultures helped in being appealing to a particular type of community. One person wrote that he/she thinks globally, yet with a European influence, showing that he/she is aware of the influence of his/her background. How this affected her design was not explained. In concepts with digital means international icons were used, and regarded as global. Some concepts could be typified as 'modern', using simple forms, plane surfaces, bright

colours, and no decorative elements. These design styles could be seen as global since products with similar styles have been distributed all over the world by brands such as Apple and Nike. The earlier mentioned example about the cat-owner relationship was well detailed: a pair of slippers for warm feet of the cat owner and at the same time for the cat to scratch her nails, using natural materials such as sisal, leather and wool, and with bright colours. This form could refer to a national culture, for example, Mexico, but could also contribute to the cultural identity of a sub-culture. More global examples were the concepts based on biological principles, designed to help people waking up, using light and sound and psychological principles such as rewarding to increase work productivity.

5.3 Cultural variation among intermediate design results

Also the results from the participants' design research were examined. The timelines in the templates show some culture specific activities and forms, such as the woman feeding her birds and wearing a sari (see Figure 2), which is typically found in India, or a brand for porridge eaten only in the Netherlands. The context analysis and design challenge in the templates show that half of the participants (in 7 of the 14 selected sets of templates, see Table 1b) from different places of the world found that stress from time pressure was an important problem and challenge to solve. Although the time problem was the same, the envisioned effect expressed in their formulated 'design challenge' differed slightly. For example, most of them wanted to limit the stress and focused on duties and productivity in the morning whereas participants from Brazil emphasized the importance of happiness, fun, and joy. This could be explained with the high score on Hofstede's value-orientation dimension 'indulgence' [16], which means a higher degree of importance on leisure time than in other cultures, which confirms the stereotype of the passionate Brazilian. Two participants (Ireland and India) out of 14 mentioned the importance of healthy eating habits, which was for the Irish participant the reduction of salt and sugar, whereas the Indian participant focused more on calorie intake, which could be explained by different food cultures. Some design challenges focused on relationships that could be regarded as culture-specific, for example, the importance of a happy relationship between children and parents, or with cohabiting grand parents. An American participant wrote *'I want* [name] *the cat to feel that there is a delightful and affectionate bond between us* [cat owners] *..'*. Such affectionate values in animal-human relationships are not global but very culture specific. According to Herzog [17] in 53 out of 60 cultures people live with dogs, and only in 22 of these cultures dogs are reckoned as pets.

5.4 Conclusion

The findings do not show much cultural variety in the designs. Most participants seemed to focus on and formulate product functions, and they are formulated and formed in such a general way that they could be applied everywhere. Only some designs were culture specific, because they were food and animal related. The formulated 'design challenges' have some characteristics routed in the cultural context of the participants, but most concepts do not show much culture specific characteristics. This is no surprise; The participants might have more in common with each other than with their nationals; they are able to communicate in English; have a common interest in design; a certain level of education; access to Internet; and might have a global orientation already. Furthermore, they were likely influenced by each other, and by the course. And since the course started with an exploration of the participants' own morning ritual and of one of somebody close by, they might have focused on their own similar worlds, more than on local cultures. In addition, the study has its limitations, because the participants were novice designers, so not all of them detailed their concepts enough yet to be able to judge their culture specific meaning. Finally, it has proved very difficult to distinguish cultural variety, because it only becomes clear if the designs are well detailed, and developed over time. It is difficult all the more so because the researcher herself cannot completely step out of her culture to identify cultural variety in an objective way.

Nevertheless, the results raise the question whether we should pay more attention to cultural aspects of design in the design of the course, given the fact that so far, most participants see their design work as global and lack attention for cultural variation. This question is especially relevant given the fact that with massive open education, we influence people worldwide with our thinking and action mode.

6 CONCLUSION AND DISCUSSION

The question for this exploration was: *What cultural variety can be identified in the design results of an open online design course, attended by participants from all over the world?* The paper examines how culture specific aspects could be distinguished from global ones. Although it turned out to be difficult to make this distinction, some variety has been found. Overall we still see a more global orientation in this course. It is considered useful that design educators are aware that more and more people all over the world are trained to design in a more or less similar way, and that this might lead to the same kind of results. The benefit of these similarities is that commonalities such as common design values, language, products etc., support and facilitate intercultural cooperation. At the same time we might overlook the benefits of variety by, for example, tuning our designs to local realities; values and practices transmitted from generation to generation. Although courses cannot be designed value free, at least we could pay attention to how they tune with our participants' backgrounds. We could for, example ask explicitly for their design intentions regarding the culture they design for, and pay attention to cultural variety if only to ensure that we do not move to an average common denominator that makes us less flexible to react on changes, and ending up bored.

ACKNOWLEDGEMENT

Thanks to fifteen master students - in particular Alienor de Haan - who wrote an essay about the topic.

REFERENCES

[1] Schön D.A. (1987). *Educating the reflective practitioner: Toward a new design for teaching and learning in the professions*. San Francisco: Jossey-Bass.
[2] Kolb D.A. (1984). *Experiential Learning: Experience as the Source of Learning and Development.* Upper Saddle River, New Jersey: Prentice Hall.
[3] Design Council (2005). *The Design Process*. Retrieved October 1, 2014, from: http://www.designcouncil.org.uk/about-design/How-designers work/Thedesign-process
[4] Bates D. G. and Plog F. (1976). *Cultural Anthropology* (3 ed.). New York: McGraw-Hill.
[5] Paper clip (n.d.). Retrieved February 2016, from https://en.wikipedia.org/wiki/Paper_clip
[6] Wray R. (2008). *Cash in hand: why Africans are banking on the mobile phone*. The Guardian. Retrieved February 2016 from http://www.theguardian.com/business/2008/jun/17/telecoms.telecoms
[7] Lindholm C. Keinonen and T. Kiljander H. (2003). *Mobile Usability: How Nokia Changed the Face of the Mobile Phone*. New York: McGraw-Hill Professional.
[8] de Mooij M.K. (2004). *Consumer behaviour and culture: Consequences for global marketing and advertising*. London: Sage Publications.
[9] Sardar Z. (2012). *De Nederlandse Fiets/ The Dutch Bike*. Rotterdam: nai010 Publishers.
[10] Razzaghi M. Ramirez M. and Zehner R. (2009). Cultural patterns in product design ideas: comparison between Australian and Iranian student concepts. Design Studies, 30, 438-461.
[11] Gautam V. and Blessing L. (2009). *How Cultural Characteristics Influence Design Processes: An Empirical Study*. In ASME 2009 International Design Engineering Technical Conferences and Computers and Information Engineering Conference (pp. 937-943). American Society of Mechanical Engineers.
[12] Razzaghi M. (2007). *The influence of designers' cultural preferences on product concepts*. (Doctor), University of new South Wales, South Wales.
[13] du Gay P. Hall S. Janes L. Mackey H. and Negus K. (1997). *Doing Cultural studies: The Story of the Sony Walkman.* London, Great Britain: Sage Publications (in association with the Open University).
[14] van Boeijen A.G.C. (2015). *Crossing Cultural Chasms: Towards a culture-conscious approach to design.* (Doctoral thesis), Delft University of Technology, Delft.
[15] Roozenburg N.F.M. and Eekels J. (1995). *Product Design, Fundamentals and Methods.* Chichester: John Wiley & Sons.
[16] De Hofstede Centre (n.d.). Retrieved February 2016, from http://geert-hofstede.com/brazil.html.
[17] Herzog, H. A. (2014). Biology, culture, and the origins of pet-keeping. *Animal Behavior and Cognition*, 7(3).