ETHICS IN DESIGN EDUCATION: AN INTEGRATED APPROACH

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ABSTRACT

Up to now, ethics is mainly addressed as a separate course in a design curriculum. We are developing a different approach: formulating learning objectives and integrating these objectives in the different design courses. We hope to inspire other teachers responsible for curriculum building to do the same. And simultaneously, we hope to inspire design teachers to address ethics in their design courses.
This paper presents some starting points for the development of such a design curriculum.

Keywords: Ethics, learning objectives.

1   INTRODUCTION

The history of design education shows successively the introduction of new topics relevant to successful designs, such as Human factors, Sustainability, and Universal Design. At the (anonymous for review) university, the development of these topics shows a shift from dedicated special electives, addressing these topics as 'add on' to the design process, to an integrated aspect of design education courses. These topics are now integrated topics one addresses no matter what project one is in: they became part of our common sense in designing.

Nowadays, awareness for the ethical aspects of design becomes more and more important. Design is inherent to changing the world, and thereby always has an *impact* on that world. And impact always has an ethical aspect: are we doing the right thing?

Also, it seems that the integration of Ethics in design is following the same development as the topics mentioned before: from dedicated electives to an integrated approach. However, a fully integrated approach to ethics in the design curriculum was not developed yet. Design schools are still addressing Ethics as a separate course: it is up to the students to address it in their own projects or not. This more often than not leads to a poor awareness of ethics in design projects.

This paper will explore how design education can shift from addressing ethics as a separate topic in 'satellite' courses to an integrated topic throughout the Bachelor design education curriculum. The paper will set the stage for the development of such a curriculum, addressing the different aspects relevant to such an integrated approach: the process of development, the learning objectives, the ethical framework to support positioning, and the need for ethical stories in design.

The balance between personal and professional ethics will also be approached: designers need to become aware that ethics is not an 'of the shelf' practice with its own protocols and guidelines, but a continuous dialogue between different stakeholders. Designers, with their own moral values, are part of the stakeholders of the project, and need to learn how to cope with tension fields between them.

Finally, the 'problem solving approach' to ethical dilemmas, as proposed by different authors in the field, will serve as a basis to explore how ethics can actually be addressed in the design process: finding the common values underlying the differences, and initiating a creative process with the common values as starting points.

2   THE DEVELOPMENT OF THE INTEGRATED APPROACH

The development of a curriculum is typically a synthesis of a top down process (boards of education setting the general goals and vision) and a bottom up approach (teachers and course coordinators creating a curriculum together, inspired by these overall goals). This project is an example of such a hybrid process. Once the need for education in the ethical aspects of designing was acknowledged and supported by the board of education of our department, a group of teachers and course coordinators was asked to develop these plans into concrete actions. To facilitate this process, a blueprint to start

with was developed, formulating the two basic starting points: 1) What are the learning objectives? 2) In which courses are these objectives going to be addressed, to ensure that all objectives are met?

The learning objectives are presented in the following chapter. The courses identified to start with had to cover three domains: design courses, theoretical courses and skill based courses. To start the process, workshops are organized with the different teachers and course coordinators, to fill in the following matrix (table 1): how are the learning objectives addressed in each type of course, to ensure that the overall result is coherent? These workshops will be held in March 2016.

The next stage will be to develop dedicated learning materials that will meet support these learning objectives. In sum, the process follows a design approach: Why (should we care)? How (should we make it happen)? What (is needed to make it happen, and to assess it actually happened)?

Table 1. The integration of the learning lines in the different Bachelor courses

	Design courses	Theoretical courses	Skill based courses
Learning objectives in ethics in designing	*Stage 1: How to construct the course, to allow students to take the ethical perspective into account when designing?* *Stage 2: what learning materials, methods and tools are needed?*	*Stage 1: How to construct the course, to allow students to explore how ethics is linked to the specific theory offered in the course?* *Stage 2: what learning materials, methods and tools are needed?*	*Stage 1: How to construct the course, to allow the student to explore the ethical implications of the skills that are developed?* *Stage 2: what learning materials, methods and tools are needed?*

3 THE LEARNING OBJECTIVES IN ETHICS IN DESIGN

At the (Anonymous for review) University, the learning objectives formulated regarding the ethical development of students are the same for all departments, from Civil Engineering to Applied Sciences, to Architecture and to Electrical Engineering. These learning objectives are developed by the faculty of Technology, Policy and Management [1], and formulated as follows.

3.1 Ethical sensitivity

First a student needs to develop the ability to recognize situations in which moral values are at stake, and if relevant, which moral dilemma's are raised in that situation. For example, most designers will underscore that it is their ambition to design for a better world. However, our political landscape shows that there is not one clear vision on how that world should look like. A designer's ethical sensitivity is awakened when he becomes aware that his choices represent a political statement, involving ethical choices. In addition, when he becomes aware that his design has implications not only for the intended user, but for all stakeholders involved. For example, he needs to be aware that a design always excludes some people from use, because of their specific situation. Is he aware of whom he is excluding? In sum, a design student has to develop his sensitivity to see the ethical aspects of his project.

3.2 Ethical analysis skills

Once a student's ethical sensitivity is awakened, he needs to be able to analyze the ethical aspects of a particular situation, in a systematic and complete way, creating an overview of the facts, of the stakeholders, and of their different rights and values.

3.3 Ethical creativity

Once the student has the skills to create a comprehensive overview of the ethical dilemma or problem involved in a design project, a next step will be to be able to generate different approaches on how to address these issues. This phase is in line with the creative act of designing in itself, and as such; the emphasis is not on the development creativity itself, but on how to be creative when handling ethical issues.

3.4 Ethical judgment skills

Once a situation is analyzed in a systematic and complete way, the student should be able to formulate an informed and reasonable moral judgment regarding that situation. That is, take position regarding the situation.

3.5 Ethical decision-making skills

The student's judgment should be in accordance with the decisions he makes, and his consequent behaviour. It is only in his acts that his ethical commitment is actually manifested.

3.6 Ethical argumentation skills

Throughout the previous stages, the student needs to have the ability to structure and verbalize his thoughts, proposals, and actions, to justify them regarding their ethical aspects. Moreover he has to have the ability to discuss and evaluate them with others stakeholders, such as end-users, experts, industry, politicians, and so on.

4 DIFFERENT ETHICAL PERSPECTIVES

Next to having a clear vision on the different stages of the development of students' ethical skills, we need a framework on ethics in design to work from. Throughout history ethics have been approached in different ways, putting emphasis on different values or aspects. It is too far fetched to give a complete overview of these perspectives in the context of this paper, however, an attempt to build a framework for designers, starting from some of these perspectives, is described. In this attempt, the different perspectives are translated to the design world (see fig. 1)

First, *Virtue ethics* (based on Aristotle) offers a perspective on ethics that regards the designer as a *person*: being ethical is striving for the development of one's virtues, in other words, to strive for being the best designer you can be. From this perspective, the designer is responsible for a lifetime learning, development.

Next, *Deontology* (based on Kant) puts an emphasis on the *intentions* a designer has towards its users, and these have to be founded on principles one can not bargain with: they are categorical imperative. So if one values 'honesty', there is no situation in which a lie towards the user would be acceptable. These intentions are more important than the effect or impact they have: even if a (small) lie would contribute to the users well-being (for example as an encouraging act), it is still not acceptable to lie.

On the other hand, *utilitarianism* (based on for example Beckham) or consequentialism focuses on the *effect* a design has, regardless of the intentions of the designer. From a utilitarian perspective, a design is ethically sound when it has a positive impact on as many people as possible. Ideally, this effect should be measured, to allow designers to make a good choice between different alternatives. In other words, *utilitarianism* is a rational approach to the ethical aspects of design.

Care ethics (based on Gilligan) on the contrary offers an empathic perspective, where the values and rights of different stakeholders is taken into account, and where it is not a matter of making choices between alternatives, but about finding a common solution to the situation, in communication with the stakeholders.

Finally, it should be emphasized that one can always rely on *common sense* ethics. This is based on the rule "treat yourself how you would like others to treat you", or in a negative way: "don't do to others what you don't want others to do to you". This seems to be a universal principle: in their theories and writings, most religions and worldviews have this rule in common.

Integrating these perspectives leads to the following framework that designers could use to position themselves, and to allow them to envision their design situation from different perspectives.
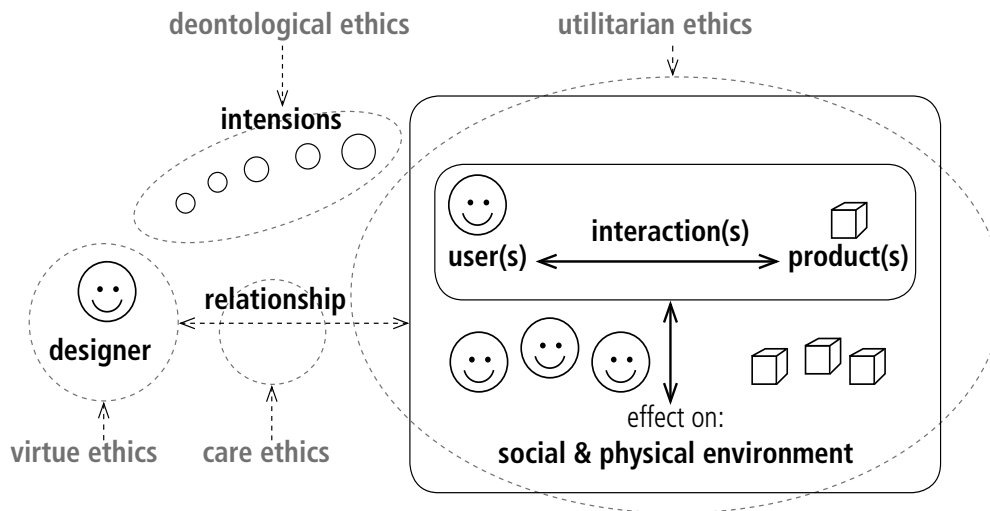
Figure 1. The different ethical perspectives in design: virtue ethics, deonthological ethics, utilitarian ethics and care ethics

5 UNIVERSAL, PROFESSIONAL AND PERSONAL PERSPECTIVES

A framework integrating the different perspectives on the position of the designer towards the user is not enough to cover the whole landscape of ethics in design. One should also consider the level at which the ethics of design are addressed. Some ethical consideration touch upon universal values as defined by the universal human rights. For example, designers involved in designing for the end of life, are confronted with the dilemma of ensuring the length of life versus designing for the quality of that same life.

Next, one should consider ethics at a professional level: what is common sense in one's profession? From that perspective, one could think of the development of an ethical code for designers to design with. An example of such a code (although still in a nutshell) is the design manifesto as proposed by the Internet Of Things designers group [2]. Students could be encouraged to participate in the debate and contribute to the creation of such codes of conduct in their domain.

Finally, ethics should be considered from a personal perspective. The ethical values one strives for as a designer, should coincide with one's personal values, to be solid and believable [3]. Therefore design education should also address design students on a personal level, and encourage them to explore their own ethical values and to establish their own position in the field.

6 THE PROBLEM SOLVING APPROACH: FROM DEBATE TO DIALOGUE

Next to offering different perspectives on ethical dilemmas per se, education needs to offer different approaches on how to solve these dilemmas, to allow the students to find their own way. Typically the different approaches can be divided into two opposing approaches. When one has to chose between A and B, a conventional approach would be to have a debate to establish the positive and the opposing arguments for A and for B, and to assess who 'wins' the debate. This would be the 'either/or' approach. The beauty of this approach is that it creates a good overview of all the pro's and cons for A and for B, thereby fostering a deep understanding of the ethical implications. The downside is that there is always a winner, and thus always a loser, thus somebody who's moral values are neglected. An alternative approach would be a constructive perspective: to look for the common ground between A and B, and to explore how A and B can be transformed into a new solution that fits both A and B. This would be a more designerly, problem solving approach, as for example described by A. Weston [4]. The beauty of this approach is that it invites all stakeholders to have a constructive dialogue, rather than a debate, where the different stakeholders are asked to be empathic and have an open mind

for other values and perspectives. The downside of this approach is that one has to count on that open mind of all parties, for success. Both approaches, the opposing debate as well as the constructing dialogue, need to be facilitated, which could be an interesting role of the designer himself.

7   THE NEED FOR STORIES ABOUT ETHICS IN DESIGN

To make ethics an integrated aspect of their design work, design students need to have stories to be able to relate to. Ethical theory should not remain abstract, but illustrated with examples; preferably examples from daily life, examples that students can empathize with.

However, when considering textbooks on the ethics of technology, of the ethics of engineering, two adjacent domains of design, concrete examples for design are missing. Most examples relate to situations such as the use of nuclear power (concern for the environmental), the disaster with the Challenger (whose responsibility?), or the development of the Fiat Punto (the value of human life versus the costs of protecting it). These examples do not fit the design domain, first because designers tend to have an other position in the development process than engineers do, and next because it is difficult to translate these examples to one's own practice of designing for everyday life.

During different workshops and discussions among designers, the following examples came up as stories that could inspire the design students. These examples are not developed yet into complete stories useful for ethics in design education, however, they show some possible starting points. The common ground is that these and future stories involve the impact on the user's behaviour and well being in daily life. To develop these stories into useful examples for education, the different learning objectives formulated in paragraph 3 should be addressed, to allow the student to use the stories as learning materials.

When is a story a good example? There are many answers to this question, but to start with, the story should clearly show a dilemma between two moral values. In other words: one could debate whether developing supersized candy for kids offers a moral dilemma: a straightforward answer would probably be "It's wrong for the kid, and is only designed to enrich the producer". But again, this position is open for debate.

7.1 The introduction of the microwave

The microwave oven is introduced to allow people to warm up meals whenever they need to, thereby being able to have a more flexible schedule. However, as a result, families tend not to have dinner together anymore, thereby missing out the opportunity to talk together and to know about each other's lives. This example shows the dilemma of designing for individual freedom versus designing for social cohesion.

7.2 The development of echography control devices for rural area's in India

Echography allows doctors to assess the health of the unborn child; thereby increasing it's chances to a healthy life. Remote rural areas, such as in India, do not have access to such advanced medical equipment, a simplified product was developed to be able to distribute it in these areas. However, the result is that people may use it to know the gender of the unborn child, leading to more abortions of girls. The dilemma is to design for better prevention versus protecting the unborn child.

7.3 The iPhone privacy policy of Apple

Recent terrorist attacks in the USA raised an ethical dilemma regarding the safety and privacy policy of the apple iPhone. These smartphones are protected by the user with a password, that not even Apple is able to by-pass. When the FBI asked the company to try anyway, they refused, because the only way to be successful would be by developing a structure that would allow many other 'malevolent' to hack anybody's phone. So the dilemma was: should the privacy of the individual be sacrificed for the safety of the public?

Until now, this debate is still going on, and it can be assumed that it is exemplary for many debates to come, regarding privacy and safety in the development of new technology.

These examples represent just a small sample of ethical dilemmas. However, one could imagine that once we have a solid collection of stories to illustrate the different dilemma's involved in designing, one could start to categorize these stories according to the different aspects of the learning objectives, and thereby support the student's development.

8   CONCLUSION

This paper sets the stage for the development of ethics in design education, considered as an integrated aspect of the different courses offered to the students. The next step will be to actually build the curriculum with these starting points in mind, involving all relevant parties of the faculty, and including their needs and their values.

The overview of the different aspects needed to build such a curriculum, such as learning objectives, a design framework, a problem solving approach, and the collection of design stories, is meant to offer a starting point. But it is not meant to be exclusive and exhaustive. Ethics should always remain in the realm of asking questions, of pointing out dilemma's, and this goes for *education* of ethics in design as well: it should always be open to dialogue, to the challenge of seeing things from a different perspective. Therefore, developing *ethics in design education* as a research domain in its own right, where the topics addressed in this paper can be discussed among fellow researchers/teachers, would be a welcome future perspective.

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