

Unfreezing thoughts. Philosophy, design studies and role-playing games in a foundational undergraduate course

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ABSTRACT

In this paper, we describe an undergraduate foundational course on design methodology, in which strong emphasis is given on the philosophical questioning on method, methodology and, more generally, on designing itself. The course approach and structure are accounted in short steps, as a preliminary case presented for further discussions in the HCI educators community.

Categories and Subject Descriptors

K.3.2 [Computer and Information Science Education]:
Information systems education

General Terms

Design, Human Factors, Theory.

Keywords

Design Education, Philosophy of Design.

1. INTRODUCTION

The challenge of heading HCI and experience design education towards a more holistic stance is indeed urgent, as the early visions of ubiquitous computing turn into market realities with the widespread diffusion of embedded, wearable and distributed systems. Furthermore, going beyond disciplinary boundaries should not be too much of a surprise for HCI, looking back at its multiple sources; HCI relatively recent beginnings have been described as “the coming together of hardware and software engineering, and physiological and cognitive ergonomics” [1]. Similarly, interaction design emerged from the “mating” of HCI with design (including practices and discourses coming from industrial design, graphic design, architecture, and film), adding one more level of complexity to the field. This is why HCI educators could likely benefit from looking beyond what is specific to HCI and open up the discussion to design processes coming from other domains, from more conventional product design to media and fashion design, and others.

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The case of the undergraduate course presented in this paper draws pretty much from analog assumptions. Developed for the Media Design program at NABA-Nuova Accademia di Belle Arti [18], a fine arts academy in Milano, Italy, the course aims to offer a sort of foundational and complementary layer to other methodology courses. As the media have largely overcome their traditional extension to spread over a vast range of contexts and industries (namely ICT), with design challenges that cut across creative production, science and technology, it seemed sensible trying to nurture the ability to think about the act and process of design, in broad and radical terms. By moving from some seminal discussions on the topic of method in modern and contemporary philosophy (jumping between Descartes and Feyerabend), to J.C. Jones *Design Methods*, and by integrating them with organizational games and writing practice, learners are involved in a theoretical and practical *detour* that tries to anticipate in a critical way some of the issues that they might face in their academic and professional development.

Unfortunately, there is not enough evidence yet to propose here a proper evaluation of the course; a systematic comparison with other relevant alternatives would be necessary as well. The author well recognizes these limitations and will try to address them in the future. Still, he hopes that presenting the approach taken, and a quick reflection about this experience, might be of some value to HCI education practitioners.

2. BACK TO DESCARTES

Give the learners some reasons to bounce back to centuries-old theoretical debates is the first difficult move. As usual with design students, a wide variety of high school backgrounds and personal attitudes has to be taken into account: for some of them, philosophy is not more than the label of some exotic and formal discipline, pretty much distant from the rich visual and esthetical qualities of the design world (or of the design world in which they expect to live). Moreover, limits in the course duration rule out any possibility to give a full-fledged introduction into this realm, not to mention any historical perspective, as quick and superficial as it might be.

The only chance is to jump into the subject and, in doing so, trying to build some meaningful context that supports an initial understanding of the topic. To this purpose, the *Discours on Method* [6] (originally appeared in 1637) offers some of the most suitable pages (and of course has the excellence of a milestone masterpiece). The beginning of the text is especially looked at; no handbook or summary is used; students read a text selection (in Italian) and examine it in a guided discussion. Attention is not on

Descartes' overall frame of ideas, nor on its place in Modern and Western philosophy. Instead, they are asked to delve into Descartes' account of the adventures of his youth and maturity, from his scholar studies to the heat of the war field, from the wandering around for kingdoms and countries to the coming back to science and meditation. Individual self-reflection is taken for granted: the quest for the method and true knowledge stands as the not granted outcome of an intimate need. Far ahead from the stereotypical echo of cold rationalism that it is often associated with the French philosopher, the reading unveils the bold move of a single man towards intellectual self-determination and concrete endeavours (as the Italian philosopher Giulio Giorello used to recall in his lectures, some contemporary readers tend to be forgetful about the fact that the *Discours de la Methode* is the introduction to three scientific treatises, *La Dioptrique*, *Les Meteores* and *La Geometrie*).

A more systematic, extremely compact presentation of Descartes famous method is then given. Students are asked again to read the text, following the few, famous argument that bring the philosopher from universal doubt to problem analysis, subsequent inferences and the most complete revisions, all the way proceeding by seeking clarity and certainty. But it is the process and the search that are highlighted. Enlarging the focus from the *Discours* to its environment, Descartes questioning is placed in the larger framework of Sixteenth century Scientific Revolution, with the emergence of experimental method and the fierce battles that surrounded it – including the major historical changes that shaped and were influenced by it, such as the first transoceanic navigations and the prominent role that new technical artefacts were gaining in every sphere of public and private life. Galileo drawings of the moon, or the ships that go beyond Pillars of Hercules on the front of Francis Bacon *Novum Organum* (as in the original 1620 edition), among other images, contribute to depict this broader perspective. In this way, not only the complexity and stratification of the method concept begins to emerge, but also the opportunity to question it is particularly emphasized.

Overall, this account is not easy to convey and the perception of asking too much, in terms of understanding, is often evident; still, the possibility to get more than a bit into the topic should not be overlooked. Philosophy is about “unfreezing thoughts”, as it is said in an ancient tale about a city in which inhabitants' words were frozen in winter but melted down in summer – metaphor for a discipline that seeds his power in youth but brings fruit only with maturity [2]. Giving room to this questioning, as someone argued, might be very much the essence itself of the discipline. What really matters here is opening out learners' views to challenge them further on.

3. FOR AND AGAINST METHOD

If going back to Descartes is functional to ground the discovery of method into the rise of modern science, by direct – albeit very partial – contact with a classic text, rushing fast to some Twentieth century epistemological discussions on methodology aims to suggest how complex and even contradictory the all idea might be.

As above, a proper, complete review of the theoretical debates over the role of scientific method and methodology in contemporary epistemology would not be attainable in the course limits. Hence, the choice is to rely on the brilliant prose of Paul K. Feyerabend, author of *Against Method* [7] and Karl Popper fierce critic on the merits of method in scientific progress and history.

Indeed, Feyerabend effectiveness in forging its radical title and the related famed slogan (*Anything goes*) could be among the reasons for which his thinking might appear as a too radical oversimplification. Things are quite different though. Recent studies have shown how rich and articulated were the discussions that the Austrian-born father of “epistemological anarchism” held with other philosophers of the time (first of all, Imre Lakatos) [16]. Moreover, it is again his general reasoning that it is considered for the course objectives. By reading some of the most entertaining pages of the dialogues on method in [8] (more accessible to non-specialist readers in comparison to *Against Method*), learners go through the vivid exchanges of contrasting positions “for and against method”, stumbling over concepts such as the inconsistency with norms and factual behaviours, the relativity of mindframes, the distorted use of historical cases at the benefit of one or another stand, the ethical and political relevance of knowledge practices and education.

Feyerabend advocacy for creativity and freedom, his call to look above disciplines barriers, especially concerning the separation between what conventionally are called “science” and “arts”, the passionate reconstruction of historical scientific discoveries and his apparently paradoxical defence of tradition – or better, plural traditions – all converge in casting a varied and rich light on the idea of method and methodology, removing as much as possible any rigidity – including the ones that might be generated by his own criticism. To put it in P.K. Feyerabend words:

“One of my motives for writing Against Method was to free people from the tyranny of philosophical obfuscators and abstract concepts such as ‘truth’, ‘reality’, or ‘objectivity’, which narrow people's vision and ways of being in the world. Formulating what I thought were my own attitude and convictions, I unfortunately ended up by introducing concepts of similar rigidity, such as ‘democracy’, ‘tradition’, or ‘relative truth’. Now that I am aware of it, I wonder how it happened” [9].

4. J.C. JONES: THE CRAFTSMAN SHOP AND THE TECHNOLOGY LAB

4.1 Methodology and philosophy of design

Moving from the vast terrain of philosophy to the design domain required some sort of bridge. Vilém Flusser *Philosophy of Design* [10] provides this link, with a range of essays covering subjects as diverse as the designer ethical role, the ever increasing virtualization and the changing nature of production. By reading and discussing some of this material with the students, the course reaches the point in which some theoretical discussion on the nature of design are introduced, taking advantage of the fresh experience of more typical philosophy texts.

Still, some more structured approach to the topic of design methods and methodology is necessary. This is the reason why it was decided to turn to John Chris Jones and especially to *Design Methods* [12], a design methodology established reference, translated in several languages (not in Italian though) and still in print in the latest 1992 edition (the first has been published in 1970). Once again, there is no possibility to go into a detailed presentation of Jones' work in the historical context of the Design Methodology movement (in which he had a prominent role) and the early developments of design studies or design research as a scientific field [5]. Yet this book has a crucial role in the course as his analytical effort on methods and methodologies is placed in the broader setting on the meaning of design that suits extremely

well to the objective of “unfreezing” learners’ thoughts on the subject.

The ample introductory essay that precedes the proper collection of methods (as well as the prefaces and the “imaginary preludes” that enriches the latest edition) is especially useful here, as it offers a historical and critical perspective on the development of design from the practice of the single and independent craftsman to the distributed and multidisciplinary process in which specialists are nowadays involved. Jones’ synthesis goes around a fundamental question: “what is designing?” – and this dense and concise passage tells something of his articulated answer:

“designing as the process of devising not individual products but whole systems or environments such as airports, transportation, hypermarkets, educational curricula, broadcasting schedules, welfare schemes, banking systems, computer networks;

design as participation, the involvement of the public in the decision-making process;

design as creativity, which is supposed to be potentially present in everyone;

design as an educational discipline that unites arts and science and perhaps can go further than either;

and now the idea of designing Without a Product, as a process or way of living in itself” [12]:ix.

Much of Jones’ other studies and essays in [14] and [13] explore these ideas in a number of directions, with [15] standing apart for his extremely original discussion on what has been elsewhere called “the network society”, developed in the form of a literary work. For the course purposes, this approach is discussed to enlarge learners’ perception of the design domain, and usually it raises curiosity and perplexity, at the same time. Some immediate associations with design common understanding are left out: stylish furniture and high-price accessories are not even mentioned here, or exclusive brands and designers superstars. This multiplicity of dimensions appears still not obvious; to get to the point, the course traces again some steps back in time.

4.2 Rethinking tradition

Following Jones’ introductory essay, students are brought to the analysis of “traditional methods” in the ancient world of craft and design by drawing. The South Midlands Spindle-sided Wagon of the early Eighteenth century; or the ornaments that decorate a Middle-Age cathedral, are taken from *Design Methods* as exemplary creations of “the maker-of-things, the skilled craftsman, the ‘designer’ who takes over where natural evolution leaves off” [12]:15. In the process of craft evolution -- rarely described by its protagonists, as it happens in *The Wheelwright’s Shop* [19] -- the outcome might be “a beautiful and complicated object that can be mistaken for the work a highly skilled designer”. Despite the lack of literacy, the absence of written descriptions and formal planning, the craftsman reliance on local networks of relationships and long refined series of corrections enable the production of artefacts that, in the best cases, are exceptionally fit to the users’ needs and very well balanced.

The role of manual skills and the craftsman attitude are hence discussed with the students, considering this way of working as something that goes beyond the chronological development, a model with its own strengths and weaknesses that might even coming back in the world of information technology [11].

Similarly, the review goes on with the stage of design-by-drawing, marked by the scale representation of the artefact to be built as “a medium for experiment and change”, and the essential tool to manage faster and bigger production efforts, in which not only one individual is involved. This is the moment in which, according to Jones, “designing, as a profession, comes into being” [12]:22, the emergence of the engineering and architecture processes.

4.3 From form to experience

Going further, Jones’ stages of craft evolution and design-by-drawing are connected again with the initial perspective on design, as the discussion focuses on what Jones puts under the “new methods” title; and this is not only a preparatory framework for the ensuing collection of methods but also a self-standing reflection on the nature of designing as a human activity. Using Jones’ words, “the massive unsolved problems that have been created by the use of man-made things” call to better methods of designing and planning; those problems “need not be regarded as accidents of nature, or as acts of God, to be passively accepted; they can instead be thought of as human failures to design for conditions brought about by the products of designing” [12]:31. Hence, the necessity to define and model methods suitable to face issues spanning the various aspects of complex domains, starting from the more elementary components up to the product and system levels and up again to the community or public sphere. It is not less important to clarify the responsibilities of each role and actor that takes part in the design process, from the sponsors to the producers, to the design team as a collective and distributed entity.

The design shift “from form to experience” [17] is especially discussed, inviting learners to consider their own daily life, the media and technologies they use, and that they will be shaping as designers. Attention moves to Jones’ investigation of “intangible design”, of the design of systems and services, and his distinctive awareness of their complexities. Some early hints to a number of developments in the field are highlighted, including specific techniques or methods (from scenarios to task analysis), all encompassing approaches such as Participatory Design or User Centred Design, and HCI itself as a discipline.

Next, the main stages of the design process are presented along the lines of Jones’ interpretation, from initial divergence to transformation and convergence, onto which the different methods are mapped and iterated. All of these concepts are examined as a set of building blocks, to be taken critically in the practical adoption of specific methods and in theoretical discussion.

5. PLAY AND PRACTICE

The repeated remarks over the collective and distributed nature of contemporary design processes, which are defining aspects of media and interaction design, is also experienced by the students in practice, as a way to play out the more abstract reflections presented in the course.

This is done by adapting some games taken from the realm of corporate training, especially about group psychological and social dynamics and project work, even though very similar schemes are well documented too in the design literature as “design games” [3]. An expert and consultant in the field takes over the classroom and engage students with these activities, that are subsequently evaluated and discussed in the context of the design process concepts introduced before. The first game of

choice is usually an exercise known in Italian as “La Torre” (The Tower); it has been around in the environment of corporate training for several years and has been adapted to the course by the expert involved. In a nutshell, it is about competing in designing and building two or more towers in separate groups, using Lego bricks as construction material. The group setting allows investigating several dynamics, such as individual attitudes towards assigned tasks, leadership, internal group interactions and other design process concepts, especially about identification and management of basic phases.



Figure 1. Sorting Lego bricks and presenting the group works

One typical issue is e.g. the duration and switch among initial divergence, design decisions to be taken – “transformation” in Jones’ language – and convergence toward final delivery and presentation. The game is not only about an improved understanding of the design process; learners have e.g. to decide among production-oriented roles, such as the ones covered by those that have to sort and assemble Lego bricks, and planning-oriented responsibilities, in which others have to organize the work: as a result, they experience e.g. the separation of production and planning and the necessity of collaboration and interpersonal communication. In this context, learners’ behaviours are not particularly relevant from the psychological point of view, as it might be for the needs of individual and group performance analysis (which is very important in corporate training); instead, in debrief sessions attention is given on a renewed discussion on the design ideas discussed all along the course.

Finally, one more dimension is explored by looking at nonfiction writing, with the contribution of another expert and researcher. The module is offered with both a theoretical and practical side, by introducing first some basics taken from communication theory and media studies, followed by practical exercises, e.g. on ideation tasks. Writing for design purposes and design as writing are explored in their mutual and open relationship.

6. FINAL REMARKS

Since 2003 and up to now, about 100 students have joined the course. From the author point of view, it is more appreciated by those that manage to attend both a relevant part of the theoretical lessons and participate actively in at least one practical exercise (especially the role-playing games); lack of one dimension or another deprives it quite much. This is not by chance: students readiness to elaborate on some abstract concepts, particularly about process and organizational contexts, is relatively low; theory-oriented lessons and practice have an obvious and positive reciprocal interaction.

“Sketching user experiences” [4] is an educational challenge too, as it requires designers that are well at ease in multidisciplinary

settings; not only talented, but also fluent in a number of techniques and theoretical frameworks. The author experience suggests that a philosophical perspective might have much to offer in this direction.

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