

# Design Education: A Trend in the Right Direction...



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**Abstract** The chapters in this section of this publication share a common denominator. From various perspectives, they deal with design education as transcending the narrow confines of a nascent design discipline. They support the notion that designerly ways of knowing require the synthesis of cognitive skills that have relevance to a wide spectrum of contexts. Thus, they represent a trend in the right direction and confirm the shift in the epistemology of design towards a wider social role for design. The chapters deal specifically with teaching and learning issues that enhance the role of design in this new context and reveal the concerns of the authors as educators to seek instructional ways that can support this shift.

**Keywords** Design education · Cognitive skills · Employability · Interdisciplinarity · Life-long learning · Creativity

## 1 Introduction

Design education aims to provide learners with the necessary skill set as the foundation for the continuous and sustained progression of designerly practice and thinking [1]. Hands-on and project-based learning, well-grounded on theoretical and methodological frameworks that draw from practice and research and informed by field-related knowledge, are essential to the educational process. Moving on from design education to design practice, novice designers are expected to constantly develop professional knowledge through iterations of designerly practices, eventually gaining

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expertise at a level where they can in turn contribute to knowledge. Design education is how future designers gain the learning experiences that help develop the ability of agile navigation through the design process, with designerly thinking and practices at the core of the intellectual agility to be attained [17]. To keep up with the fast pace of the evolving field of design practice, learners need to be qualified with the abilities to identify opportunities in the challenges that are expected to arise during their career and respond to them through paradigm shifts in practice [8]. This requires a mindset for sustained progression as a manifestation of experience-based design expertise. It requires a permanent state of professional development.

In constantly changing social contexts where the demands and requirements of diverse consumers are moving targets, there is an increased need for design professionals with the wide perspective required to deal with multifaceted challenges. Given the increasingly complex and interdisciplinary problems humanity faces, inevitably design is either part of the problem or the solution. Due to its transformative potential, design can play a significant role in dealing with such challenges [19]. Consequently, there is a definite and growing need to invest in pedagogies that can help learners develop skills beyond learning how to think in intellectual silos [4, 13].

Based on studies carried out with experienced design practitioners, Cross [7] made three observations. Designers bring a systematic approach to exploring a problem as a whole; they frame design problems from their perspectives; and they develop creative design solutions from foundational principles, by engaging with forms and structures appropriate for the identified requirements. Design education endeavours to provide learners with the ability to be solution-oriented when dealing with ill-defined problems [9]. Also, learners need to develop the ability for synthesis based on a thorough exploration through design divergence and critical and timely decision-making through the convergence of various ideas. Creativity and evaluation are two modal shifts that parallel divergence and convergence during the design process [2], and design education strives for this primary objective. Thus, we need to determine courses of action for how learners can become aware of the complexities of a sustainable world and contribute to improvements in society.

The evolution of design from crafts, standardised methods and emphasis on symbolic and visual communications, through to engagement with organised services, stakeholder methods and complex systems and environments, came with a corresponding evolution in design education [14, 16, p. S930]. As design evolved from a practitioner's field to an academic discipline, the epistemological and methodological aspects of the discipline were acknowledged by other academic areas [5]. One can discern this characteristic among the seemingly diverse chapters in this part of the book. They represent a trend in the right direction, a problematization of how design education can foster the competencies required from design learners to succeed in an advancing, global and transdisciplinary design milieu. At the same time, these chapters fortify the academic value of design by demonstrating its uniqueness as an inherently cross-disciplinary area both in content and application.

## 2 The Chapters

The fundamental issue of the acquisition of the essential skills and competencies that are transferable to varied contexts is addressed in the chapter ‘Teaching and Learning Soft Skills in Design Education, Opportunities and Challenges: A Literature Review’. The significance of soft skills, in general, has been articulated previously as well as the appropriate instructional strategies to foster them in Higher Education (HE) curricula, and the authors refer to a total of 65 articles on this subject. The question is what is unique to the design disciplines *vis-a-vis* soft skills, because—as the authors argue—“There are still few studies on soft skills in the context of design education”. Employability emerges from this chapter as a desired graduate attribute, and to achieve it the prescribed pedagogies—not surprisingly—entail active and cognitive teaching and learning strategies. In unpredictable environments, design graduates may be confronted with diverse and multifaceted challenges that have explicit social relevance and impact. Their cognitive skills will be tested.

All this is inward-looking. One looks at curricula and attempts to prescribe the appropriate balance of teaching and learning strategies that can enhance graduate employability. In this respect, the ‘Subject Benchmark Statement: Art and Design’ provides a useful guide for the required skill set to be fostered in design curricula. In this pedagogical benchmark, the reference to graduates that can “apply, consolidate and extend learning in different contexts and situations, both within and beyond the field of art and design” [11 p. 9], confirms educational congruence on the objectives of design.

Another approach is to look at design curricula from an external viewpoint, from that of ex-graduates who are now design professionals. How do they sustain employability? They adopt informal life-long learning patterns, i.e. they continuously acquire knowledge outside the formal education system [15]. A sustained attitude of life-long learning can enhance employability prospects, as not all can be known about future professional challenges and a lot is learnt—informally—in situ. Estimates suggest that this form of learning comprises anywhere between seventy to eighty percent of the learning that takes place in the workplace [10, 15].

An insightful case study on how pedagogy can foster the competencies required to undertake complex design tasks is dealt with in the chapter ‘Can the Pedagogy of Sheila Levrant de Bretteville be Considered a Relevant Model for Adapting Design Education to Global and Local Contexts?’. The author puts forward the proposition that Sheila Levrant de Bretteville—a multi-award-winning graphic designer with a lifelong interest in communal forms of art and feminist design—advocates through her teaching and learning the need for emancipatory education and interdisciplinary collaboration to facilitate critical thinking and social engagement.

The authors present some of the instructional tenets of Sheila Levrant de Bretteville with the argument that these promote critical thinking. The instructional value of cross-disciplinary collaborations in communities of practice is widely acknowledged and thus not a unique educational concept in her armoury of instructional tools. However, the pursuit of a subjectivist expression of design where form reveals

ideology makes explicit design's political dimensions. One way to encourage politically and socially informed learners is to open a series of dialogues with them, and this Sheila Levrant de Bretteville did, often by triggering an exchange of ideas about an object that has multiple interpretations. All the different interpretations are part of the same narrative. Critical thinking, empathy, subjective and political expression are cultivated through productive tension, the acceptance of contradictory worldviews, teaching as a horizontal exchange, participative methodologies, a collaborative relation between learner and teacher and a direct connection to wider society. Her overall approach is described as the emancipative model of design education and has obvious overlaps with design activism and critical design [14].

Together with an attitude for life-long learning and the ability to apply critical thinking, creativity is another essential skill and an instructional challenge not only for design curricula. There is extensive literature on this multidimensional and seemingly abstract term and in particular how to foster it in teaching and learning [10, 15]. Triggers and factors that can promote creativity can be divided broadly into three categories: a) external causes such as the role of the environment (various external inspirations and triggers) and/or a method that can facilitate the creative process (e.g. collaboration, ideation), b) internal factors and attributes that make creativity possible (e.g. personality, inquisitiveness, attitude) and c) a combination of internal and external factors. The latter category encompasses multidimensional considerations and departs from the emphasis on individual creative self-expression; it is better placed to help prepare graduates for the professional challenges ahead.

The chapter 'Idea Generation Using the Fictionation Design Tool in an Interactive Prototyping Course for Industrial Designers' adopts an inward-looking approach, i.e. it is a case study with critical reflection from within the learning environment on how to introduce curricula learning strategies that can foster creativity. At the start of design projects, we often observe some learners who remain limited to the boundaries they embrace for themselves. They do not explore and research for further development and generation of ideas. The innovative aspect of this case study based on a product design curriculum is that it seeks to harness the collective creative ideas through a group reflection process by a community of practice that elaborates on hypothetical scenarios—*Fictionation*—that explore imaginary what-if scenarios. What if a product were designed for an extraordinary user? What would the form of the product be? How would the product's function change, and how would the user interact with the product? Beyond the potential of a collective generation of new creative ideas, one can discern that through *Fictionation*, learners need to reflect on user empathy, a skill of particular significance for participatory and co-design approaches to design.

The transference of designerly ways of knowing to other disciplines is evidence of the value of design epistemology. Cash [3, p. 97] argues that while design draws extensively from different academic areas, the reverse does not occur. One way to overcome this perceived weakness is to strengthen design education practices in ways that demonstrate value for other domains [18, p. 64]. This is the theme of the case study in the chapter 'The Value of Design Tools: Using Design Tools to Teach Psychology'. Positive psychology deals with human well-being. The author describes

and analyses how a designerly approach was used to help postgraduate learners of psychology to think like designers and approach learning from a more horizontal perspective of knowledge transfer—thinking about people and their contexts.

Groups of students brainstormed, discussed, reflected and *empathised*, using a set of predetermined canvases where outcomes for each stage were recorded. They followed a series of moderated and structured stages of a cognitive scaffolding approach towards knowledge generation, and they concluded with the identification of design opportunities and a designerly-generated outcome. One can discern from this staged process the user-centred and evidence-based characteristics of design thinking, such as discovery, interpretation, ideation, experimentation and evolution [14]—the transference of designerly ways of knowing.

### 3 Afterword

The authors of this chapter came together not known to each other previously and not familiar with each other's work. Coming from three different institutions, speaking different languages and representing different cultures, it turned out to be rather easy to find common ground based on a shared passion for design education. This passion emerged from a common understanding of design education and practice, in which the underlying mindsets and skill sets are agreed upon and shared, and the pool of knowledge related to history, theory and methodology are available to refer to, use, improve and build upon. On the wider discussions on the current state and future of design education, we noticed it builds on a common understanding; designerly thinking and practices can be beneficial for many fields of endeavour. Academics from different locations, with different perspectives, perceptions and cultures of design education work on the terms of this common understanding, thus making collaborations across borders and disciplines possible.

We were fortunate enough to have met before the outbreak of the Covid-19 pandemic, when the writing of this chapter started. Due to the pandemic, the collaboration continued by other means to which we adapted quickly. Drawing a parallel between our collaborative effort and distant design education, we see that, in many respects, it is easy to share knowledge on practices in design education. We exchanged information, theories, methodologies, expertise and experiences. The similarities confirmed our approaches, whereas our differences set examples for alternative ways of doing things. We developed new perspectives, new tools and new measures to carry out distant design education, and this encouraged us to think about the new designerly skill sets and mindsets required for the future. Challenges in design education are opportunities for improvements in design practice. The evolution is from different paths but towards widely shared common goals. The professional patterns diverge, but the objectives converge. This was possible due to a common language that embraces the fundamentals of design education and acknowledges its trend in the right direction.

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