Design Literacy – from primary education to university level

Nielsen, Liv, Naess, Petter, Reitan, Janne, Digranes, Ingvild, Berg, Arild, Maus, Ingvill and Jones, Peter

DESIGN LITERACY - from primary education to university level

Liv Merete Nielsen, Petter Naess, Janne Beate Reitan, Ingvild Digranes, Arild Berg, Ingvill Gjerdrum Maus and Laila Køteles

The main purpose for this study is to further develop knowledge of design education. Design has a wide impact on society, seen in a consumer perspective in light of sustainability issues. Design education - from primary to university level - is in this project regarded as a key issue for developing a sustainable society as the choices general public take when it comes to design, touches the core of consumerism.

Worldwide environmental problems are closely linked to an increasing amount of waste and pollution related to the production, transportation and consumption of artefacts. Designers, decision makers, investors and consumers hold different positions in the design process, but they all make choices that will influence our future environment. In order to solve some of the crucial global challenges, designers and lay people must cooperate; for this purpose, awareness of design qualities from a sustainable perspective is necessary. We include such an awareness of quality, longevity and sustainability in the design process of artefacts and solutions in our understanding of DESIGN LITERACY. It refers to concerns and practices such as democratic participation in the processes, developing and using ethical responsibility, and understanding and supporting sustainable aspects of production and consumption.

The research methods utilized in this project will be Systemic Design in connection to Critical Realism and Action Research, which we see as a fruitful combination of systemic thinking and the recognition of both actors and structures. A dependent causal impact forces and thus provides a good platform to examine the causal relationships between social factors, structures and actors' (including the designers') actions.

The growing consumption of 'things we do not need' is an increasing problem for Europe. In this DESIGN LITERACY project, we are promoting design education of non-designers (in their role as consumers and decision makers) as a stepping stone for a cultural strategy for change. The DESIGN LITERACY project will develop an application for an EU project connected to smart, inclusive and sustainable growth, highlighted in the Europe2020 strategy (European Commission, 2010). Specifically, this project will be a further step towards an application for the Horizon 2020 EU Framework Programme for Research and Innovation.

Outline

It is our hope that the current generation of school-aged youth will become future responsible citizens or even leaders of social change, but how can we prepare them to take on these roles? Values and motivation for change are not sufficient characteristics for bringing about social change in

the context of a globalized corporate world. Youth also require education and training in hard-won soft skills, such as consumer choices, discursive and expressive competencies, decision-making and governance methods and cross-cultural collaboration. Furthermore, young people are constrained by many emerging forces that civic actors and academics know little about, and we must take these forces into consideration within the contexts of research and formal education. These forces include the underlying infrastructures of global economics, the unknown abilities of emerging economies to destroy economic value in established cultures in a globalized market, the inability of sustainability as it is currently constructed to bring about change and the radical differences in habitus between the aging European population and the globalized young.

In addition, due to its continued development and globalisation, Internet social media is an unchecked source of *informal education* for youth. This relentless stream of information that promotes a constant consumption of goods can, in some ways, serve as a counter force to actual positive change in a sustainable cultural, social, economic and ecological context. The winners in the current economy are the advertising-based social media corporations that hold a hegemony over the attention and media access of youth. *Formal education* must meet these challenges by providing knowledge of materials, craftsmanship and production methods in combination with the soft skills of design thinking and knowledge of consumer aesthetics and rhetoric. Design methods connect people to planning, form-making and innovation in many domains, from healthcare to urban planning to sustainable resource management. This can play a crucial role in *formal education*, from primary school to university level. Designed artefacts influence our lives and values, both personally and from a societal and global perspective of sustainability. Therefore, to solve current critical global challenges, the general public and designers must work together. Design skills are necessary for both professional designers and the general public as users, decision-makers and consumers.

While social media does play a role in the communication of and recruiting for our project, it can also be critiqued as a dissembling of cultural values. Topics that might be prioritised by older generations, such as the modest consumption and reuse of materials and vernacular design, might again become important values in light of the recent economic changes in Europe. Our intention in this project is to provide knowledge on how design education can serve as a tool for solving some of the challenges faced by formal education in terms of learning outcome that are not easily measured, such as active citizenship for sustainable change. The concepts of citizenship, sustainability and change can, in some ways, be seen as abstract values that the younger generation find hard to grasp. However, we view design education (both the creative process and the process of creating) as a tool for translating these abstract questions into concrete artefacts that provide an avenue for learning and discussing questions related to consumer and lifestyle choices that affect our global future. By developing educational tools and resources within the context of design education, we wish to explore and refine the learning process; i.e., enhance learning outcomes through research with co-researchers (teachers and teacher students) in schools in several EU countries.

In this project, we will employ reflexivity regarding the construction of empirical material and will utilise self-critical reflection during the research process. We will highlight creativity in the sense of viewing various aspects, theoretical breadth and variation and reflection at the meta-theoretical level that is inspired by reflexive methodology. A curriculum analysis, surveys, observations of education practices, interviews and 'design education stories' will form the empirical basis for the study. Our hope is to develop educational tools and resources that can better promote the desired

learning outcome—a willingness to act upon the values gained—and imperative knowledge on sustainable issues. We could reframe the position of our research as answering the following question: "How can formal design education capacitate and empower the engagement of youth in active citizenship within the context of a transition to a more sustainable society?"

This means that today's young people will have to approach life in new ways. Resources will be scarce, and they will not be able to produce, distribute and consume things the way we do now. They will also have to be more active global citizens. But is today's education system teaching young people how to behave and act in this future world?

In this project, we will tackle several factors, namely formal education, a future global society, informal education, interactive technology and gaming, and emerging economic and sustainable business models.

- **Formal education**: This is necessary to formulate and promote structured curricula for EU schooling that are universal enough to be employed in most schools systems, to find innovative ways to combine various elements and technologies and to determine how to develop a participatory and bottom-up process by working together with youth, teachers and designers with an open problem-solving approach. Design learning will also be advanced in informal education and dialogic contexts. Design literacy will be adopted as a context for trans-system practical learning, and tools for self-directed and life-long learning will be prioritised.

- **Future global society:** As young people will be living in a more global society in the future, where memes, concepts and brands will quickly have a global reach—we might adopt a **design literacy with critical thinking approach** to ensure that cultural values and diversity are sustained within Europe.

- **Informal education**: This approach to education includes localised events, online sharing across schools and learning platforms, mobilising museums and galleries via designers and 'ambassadors' and using cloud services and social media for teaching cultural awareness.

- **Interactive technology and gaming**: This factor includes a simulation game platform for learning to make sustainability-related design decisions within the context of a city rebuilding game. Emerging technologies (e.g., online visualizations, whiteboards and presentations) will also be used in socializing informal education.

- **Emerging economic and sustainable business models**: These models combine current unique models in play, as well as government services, commercial services and foundations/charitable services.

The results of this research will be useful from a wider societal perspective, as well as for recommending specific changes in policy and educational implementation. This study's importance lies in the needs to better inform design education itself, to improve the quality of design educators, to educate reflective consumers and, as a result, to further the goals of a sustainable, creative society.