

Changing the change

Design Visions, Proposals and Tools

An international conference on the role and potential of design research in the transition towards sustainability

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HOW YOU DEFINE IS HOW YOU DESIGN

Problematic definitions in Design for Sustainability Education

Abstract

This paper illustrates how problematic definitions of sustainability, contribute to problematic Designs for Sustainability (DfS) solutions. How the understanding of 'unsustainability' is embodied in the realized design outcome. The paper draws on results from a three year Action Research study at the University of Western Sydney where theoretical and pedagogical interventions were implemented in the Sustainable Design curricula. The interventions attempted to A. increase students understanding of unsustainability, and B. transfer the understanding of unsustainability into realized conceptual design solutions. This paper explores the transfer of progressive DfS theories into undergraduate industrial design education.

The three year Action Research project at the University of Western Sydney took place within the sustainable design stream of the undergraduate bachelor Design / Industrial Design program. The project examined over 500 conceptual DfS scenarios which were the outcomes of student assessment tasks at the end of the sustainable design stream. Using content analysis the conceptual design scenarios were examined against the progressive DfS theory.

The students understanding of unsustainability was well represented in the final design scenario outcomes. An error in definition as to why we are unsustainable in our everyday or a weak understanding correlated to design solutions that were inadequate in progressing towards sustainability.

The first iteration of the action research cycle highlighted a technical product orientation to DfS by Industrial Design students that left consumption unchallenged and negated behavioral change of the end user. Similar to a reading of the history of green design, the error in definition of unsustainability in viewing it as a technical problem offers solutions inadequate to bring about a transition to a sustainable society. The emphasis on immediately designing conceptual solutions as opposed to further defining unsustainability was problematic.

The Interventions to increase the understanding of unsustainability utilized the pedagogy of deep learning, the philosophy of Defuturing and theories of Fry (1999), Manzini (2003) and Shove (2003). An increased amount of time within the unit was devoted to the exploring unsustainability in a thematic context.

The transfer students understanding of unsustainability into conceptual DfS scenarios focused on reworking the traditional medium of the design brief. Students understanding of unsustainability was transferred into DfS criteria in context specific design briefs. A suite of creativity tools were then applied to the design briefs in intensive day long workshops. This technique was refined over multi-iterations of the Action Research Cycle.

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The combination of interventions lead to conceptual DfS scenarios that better embodied the progressive sustainability theories via a better problem definition of unsustainability. This was evidenced by higher instances of systemic social-technical design solutions presented by students.

If we are to re-orientation towards more sustainable directions, enabling designers the skills to seek and define why we are unsustainable, and transfer that knowledge into resolved conceptual designs is critical. If designers can not adequately visualise an appropriate response to unsustainability within the confines of academia, then there is little hope of implementing solutions with the additional pressures of professional practice. This paper highlights the key role education plays as a bridge between theory and practice, enabled by the teacher as researcher. In conclusion a greater emphasis on the problem definition of unsustainability in context leads to higher designed outcomes.

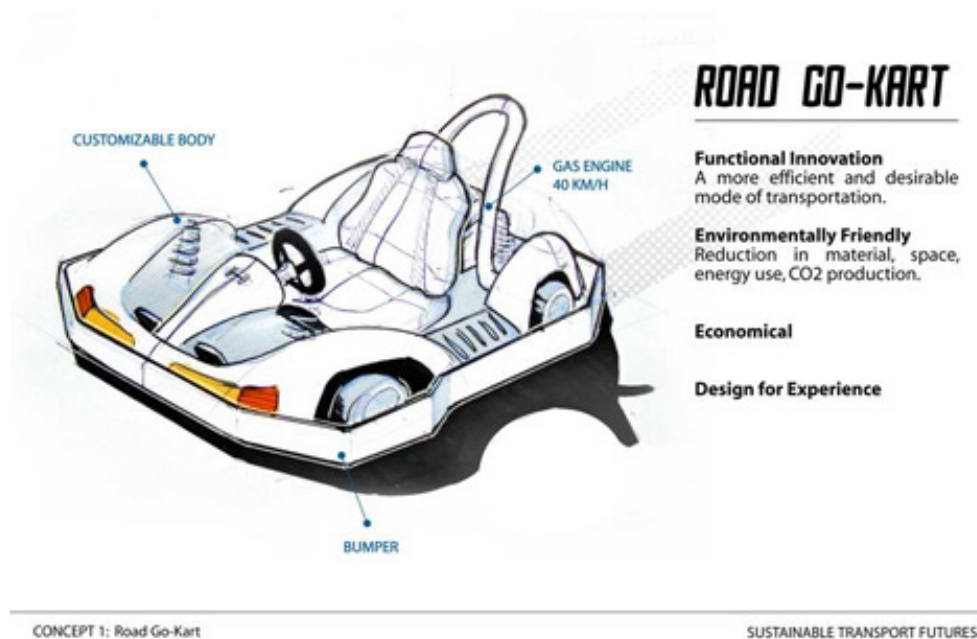


Fig. 1: example student conceptual design work 2005, *Problem*; cars inefficient in fuel consumption and produce emissions. *Solution*: Small efficient car

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Fig. 2: example conceptual student design work 2006, *Problem*; commuting long distances to place of work and study. *Solution*; sweat of solutions that focus on removing the requirement to commute.

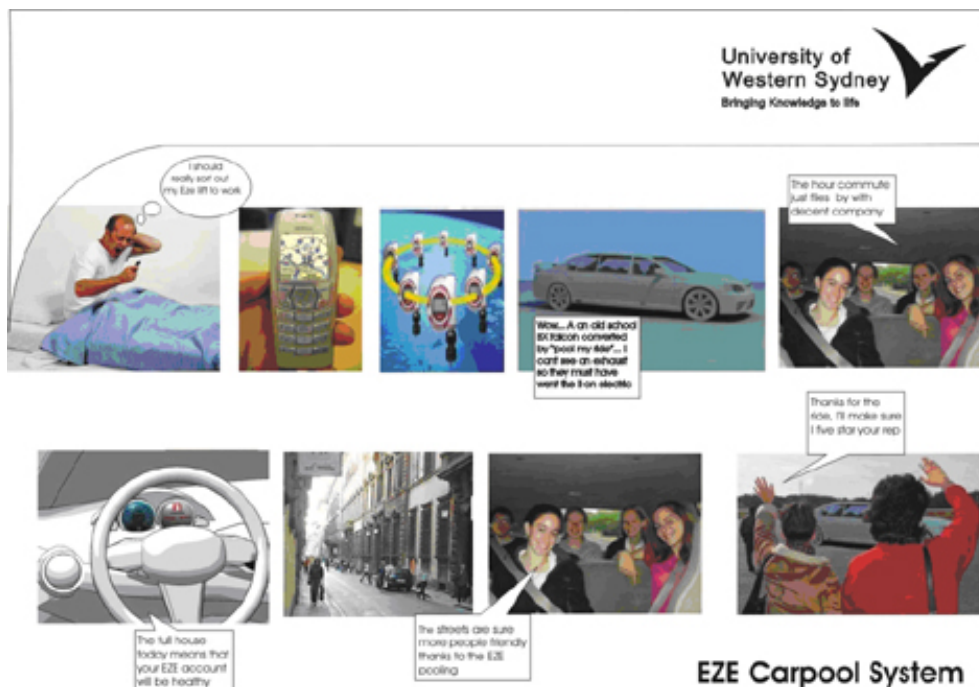


Fig. 3: example student conceptual design work 2007, *problem*; single car trips on long commutes, inadequate facilities for car pooling system. *Solution*; cars retrofitted for sharing and a car pooling service.

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Selected References

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