RECENT DISSERTATIONS

MARIANNE FOSS MORTENSEN, 2010

Exhibit Engineering: A new research perspective.

Department of Science Education, University of Copenhagen, Denmark
IND Skriftserie 19. Copenhagen: Department of Science Education

Abstract

Science museums define the objectives of their exhibitions in terms of visitor learning outcomes. Yet, exhibit designers lack theoretical and empirical research findings on which to base the creation of such educational environments. Here, this shortcoming is addressed through the development of tools and processes to guide the design of educational science exhibits. The guiding paradigm for this development is design based research, which is characterised by an iterative cycle of design, enactment, and analysis. In the design phase, an educational intervention is planned and carried out based on a hypothesised learning process and the means of supporting it. In the enactment phase, the educational intervention is implemented (i.e. the planned lesson is taught, or the museum exhibit is opened to the public). Finally, the analysis phase establishes causality between emergent characteristics of the learning outcomes and the design characteristics of the intervention. The analysis process can yield two types of outcomes: Suggestions for the refinement of the specific design in question, and “humble” theory, which is theory that can guide the design of a category of educational interventions and predict the learning outcomes that these interventions can precipitate.

Here, the design-based research approach is applied to a case: the biology exhibit *Cave Expedition*. In this approach, didactic theory is used as a tool to establish the relationship between content, medium and learner. The work proceeds in three steps: 1) an analysis of the design of *Cave Expedition*, using the notion of *museographic transposition* as a theoretical frame, 2) an analysis of the enactment of *Cave Expedition*, using the notion of *praxeology* as a tool to compare intended and observed visitor learning outcomes, and 3) a synthesis of the findings from the first two studies with findings from the literature to generate two types of results: a coherent series of suggestions for a design iteration of the studied exhibit as well as a more general normative model for exhibit engineering. Finally, another perspective on the generation of theoretical ideas for exhibit design is offered in a fourth and parallel research undertaking, namely the application of the notion of cultural border-crossing to a hypothetical case of exhibit design.

Language:	English with summary in Danish
ISSN:	1602-2149
Contact:	mm@ind.ku.dk
Download:	http://www.ind.ku.dk/publikationer/inds_skriftserie/2010-19-exhibit-engineering/