

Theoretical Background

Museums play an important role in life-long learning with over 100 million visits per year in Germany alone. Despite its popularity, learning effects are not guaranteed by the visit alone.

Situational Interest

Learning in museums is voluntary, making it dependent on situational interest, a fleeting desire for more or deeper information triggered by and active only in a specific situation (cp. Krapp, 1992). Electronic guidebooks can expand the limited exhibition space by providing access to additional information that is of interest for a visitor (provided by the curators or an online encyclopedia like Wikipedia), at the critical moment where this interest can be used.

Interest Trails

Time constraints often prevent sufficient elaboration of the exhibition content (Hsi & Fait, 2005; Treinen, 1988) and post-visit remembrance of exhibits is often impaired. "Bookmarks" of exhibits made by the visitors for their post-visit exploration and knowledge exchange have been used (e.g. Fleck et al., 2002; Walker, 2006). We use the term "interest trails" for individual lists of bookmarked objects by the visitors of objects they found interesting during their visit.

Research Questions

This dissertation examines the usefulness of this approach empirically by combining both strategies:

1. Situational Interest

Does the immediate satisfaction of situational interest lead to increased engagement with the exhibition and increased learning during the visit?

2. Interest Trails

Does the availability of an interest trail facilitate elaboration and knowledge exchange of visitors after the visit?

Methodology

A 2 x 2 between-subjects design is used to answer these questions. 62 student study subjects are randomized in one of the four conditions (see table 1). They visit the exhibition "Nano-Dialogue" in our institute with a handheld device that either provides additional information (a and b, fig. 1 and 2) or that can be used to bookmark exhibits only (c and d). After the visit, they either receive access to a personal interest trail in an exhibition wiki (a and c, fig. 3) or access to the wiki without personalized information (b and d). Visitors are extensively tested with a pre-, post- and follow-up-questionnaire regarding interest, elaboration and knowledge exchange.

Figure 1: Pocket Loox 720 handheld device with display of one of the four exhibition walls.



Figure 2: Available additional information in conditions a and b.

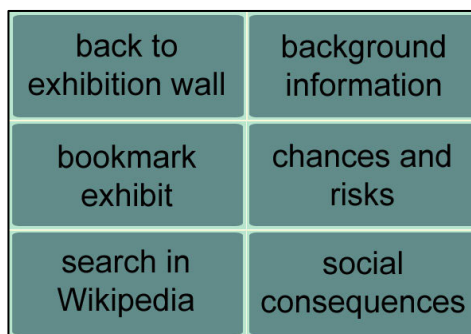


Table 1: Experimental conditions

		interest trail after the visit	
		available	not available
satisfaction of situational interest	information available	a	b
	no information available	c	d

Preliminary Results

Preliminary results indicate that the mobile device was well accepted and used. Additional information was read by all participants and Wikipedia was accessed by 75% of participants in conditions with additional information. On average, 30 exhibits were bookmarked as interesting by all participants. With additional information visitors stayed significantly longer in the exhibition and the evaluation of the exhibition improved regarding size, detail, excitement, exceptionality and complexity. Evidence of deeper processing and improved knowledge in information compared to non-information groups is scarce, probably due to the sample of highly motivated students. The additional information did not impede their knowledge provided by the exhibition alone but deeper knowledge could not be identified so far, probably due to a low cut-off-point during the free recall test. Usage of interest trail was extremely low after the visit, probably due to difficult access and extrinsic motivation of student study subjects, leading to no difference between groups with and without interest trail. However, availability of information during the visit lead to increased occupation with the topic after the visit.

Since the student study subjects differ from "normal" museum visitors in their high level of education and extrinsic motivation a second study will be conducted in a field exhibition under natural conditions with improved knowledge tests.

Literature

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Figure 3: Interest trail on the personal user page of the exhibition wiki in conditions one and three.

