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Visual Coherence Breaks within Expository Films

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Theoretical Background

This study takes part in a series of studies that analyze bridging inferences within expository films. According to Graesser, León and Otero (2002) bridging inferences establish coherence which is necessary to establish a coherent mental model. In other words: If a coherence break (CB) occurs the reader needs to solve the CB by generating a bridging inference in order to understand the text. In expository texts the analysis of bridging inferences has a long tradition, unlike in expository films. Therefore, the present study aims at analyzing visual CBs in the context of expository films. In analogy to the propositional analysis for texts (Kintsch, 1998) a theoretical as well as an empirical analysis of visual CBs were conducted. Two general types of CBs were identified: a) *between* two scenes, e.g. temporal reorientation is required; b) *within* a scene, e.g. a new object needs to be integrated. A theoretical classification of possible CB solutions and corresponding viewer reactions are shown in table 1.

Table 1: Classification of visual CBs

| CB solution | Possible viewer reactions |
|--|---|
| A) CB is solved in the course of the scene | A) 1 st surprise, 2 nd comprehension |
| B) CB is solved in the course of the movie | B) 1 st surprise, 2 nd confusion, 3 rd comprehension |
| C) CB is never solved | C) 1 st surprise, 2 nd confusion |

Method

To validate the a priori defined CBs an empirical study was conducted that aims at defining local and global CBs in the visual material of two expository films.

Subjects

12 subjects from Tuebingen University (Germany) were recruited.

Material

Three film clips taken from the “Sendung mit der Maus”, a German educational TV program were presented. One film clip served as a trial movie, whereas the clips on the “formation of a lightning” (6.05 min.) and on the “construction of a thermos flask” (7.15 min) served as experimental movies. The auditive traces of the movies were eliminated.

Procedure

Participants were asked to participate in a study on filmic depiction of physics. Before watching the movies they were asked to rate their prior knowledge in related domains. Subjects were instructed to think aloud while watching the film clip. They were instructed to describe what they saw while trying to understand how the shown physical mechanism was explained. The presentation order of the films was counterbalanced. After each film subjects were asked several questions on their comprehension and non-comprehension. In a second viewing subjects were explicitly asked to indicate where they experienced a lack of comprehension (i.e. CB).

Results

The correlations between a priori identified locations for CBs and empirically identified positions are analyzed and will be reported at the conference.

References

- Graesser, A., León, J., & Otero, J. (2002). Introduction to the Psychology of Science Text Comprehension. In J. Otero, J. León, & A. Graesser (Eds.), *The Psychology of Science Text Comprehension*. London: Lawrence Erlbaum Associates.
- Kintsch, W. (1998). *Comprehension: a paradigm for cognition*. New York: Cambridge University Press.