SYMPAB - (16246) - RELATIONSHIPS BETWEEN COGNITIVE STYLE AND THE USE OF MULTIMEDIA SCAFFOLDS DURING EXPERIMENTATION

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Short Abstract

The complexity resulting from the application of methodological and specific knowledge in the scientific inquiry process usually leads to excessive workload on the part of students. One way of combating this problem is to provide scaffolds that are systematically integrated into the learning process and can demonstrably facilitate the students' cognitive process. However, their design and the level of the scaffolds should be oriented to the learner. Adapting to learners' individual cognitive characteristics (e.g., cognitive style) can have a positive impact on learning outcomes. The project aims at integrating static and dynamic representation formats in different combinations (e.g. image-text or video) for methodological knowledge into the scientific inquiry in order to minimize student-specific difficulties. Presented in the form of scaffolds, the gaze behavior of 9th and 11th grade learners (n_2 = 69; ♀ = 62.7%; 9th grade = 43.3%) is analyzed to determine student-specific strategies regarding the representations used and to triangulate these with the possible expression of cognitive style. The results show that learners select scaffolds differently, use various strategies within terms of to the respective combination of representations and the content design, and differ with regard to their cognitive style (verbal, visual, spatial-visual).