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Generalized Coloring for Tree-like Graphs

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Kurzfassung

Inquiry learning environments increasingly incorporate modelling facilities for students to articulate their research hypotheses and (acquired) domain knowledge. This study compared performance success and scientific reasoning of university students with high prior knowledge ($n=11$), students from senior high-school ($n=10$), and junior high-school ($n=10$) with intermediate and low prior knowledge respectively, in order to reveal domain novice's need for support in such environments. Results indicated that the scientific reasoning of both groups of high-school students was comparable to that of the experts. As high-school students achieved significantly lower performance success scores, their expert-like behaviour was rather ineffective; qualitative analyses substantiated this conclusion. Based on these findings, implications for supporting domain novices in inquiry learning environments are advanced.