

The Effect of Training Functional Decomposition on Student Inventiveness

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Abstract: This research is focusing whether instruction on two aspects of invention can improve students ability to invent. The first is the strategy of functional decomposition which previous studies show can reduce the complexity of the invention processes. The second is the role of evaluation functions for assessing the products of the invention processes. Preliminary results of a study with engineering students attempting to solve an invention problem will be described. In a two-by-two factorial design students will be taught the strategy of functional decomposition or not, and will be given an evaluation function to use or not. The students in the no training condition will be given general autobiographies of inventors to read. Concurrent verbal protocols will be obtained during the trials and retrospective debriefing conducted.