## Understanding the Effectiveness of Augmented Reality for Training Individuals in the Medical Ecosystem

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## Abstract:

Computer-mediated training utilizing augmented reality (AR) is slowly being added and used together with traditional training methods as more technological barriers are addressed over the years of research and development. Although the use of AR for training has a lot of potential, its effectiveness is not as straightforward as there are a lot of concepts that are contested and poorly understood that warrants further investigation. The goal of this study is to understand the implementation of augmented reality training systems (ARTS) by exploring how and under which circumstances ARTS work for training individuals in the medical ecosystem. This study took a realist approach through the formulation of a program theory. This is done by the theory elicitation of context-mechanism-outcome (CMO) configurations, then tested through the confirmation of each of the respective hypotheses of these configurations. Empirical evidence and logical induction were both used to appraise the training effects of these CMO configurations. Specifically, empirical evidence involved user studies and expert feedback while logical related induction involved work generalizations and model conceptualizations. Finally, this program theory is generalized by identifying what facilitates or constrains the implementation of training with AR in the medical setting.