Effectiveness Analysis of Structured Training Program for Sensory Substitution Systems

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***Abstract*— Visual-to-auditory sensory substitution technology transforms image into sound, enabling users to perceive visual information through hearing instead of seeing. Just as humans acquire perception abilities through training according to the developmental stage of their sensory organs after birth, a continuous and efficient training process is needed to acquire Visual-to-auditory perception ability. In this research, we aim to contribute to improving the effectiveness of training methods for visual-to-auditory sensory substitution technology through systematization. We developed training materials categorized by auditory characteristics and structured by difficulty level, along with a periodic, repetitive training process, to enhance the efficiency of visual-to-auditory sensory substitution technology training, and analyzed their effects. The study's results indicate that spaced repetition training and systematic provision of materials are effective for visual-to-auditory sensory substitution technology training.**

***Keyword*— Evaluation, Level of Difficulty, Sensory Substitution, Training Method, Visual-to-Auditory**

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