

Title: Providing Adaptive, Real-time Tutorial Feedback in MetaTutor

Author: Jason M. Harley, François Bouchet, Roger Azevedo

Synopsis: We discuss several approaches and kinds of feedback that can be provided by intelligent tutoring system, such as MetaTutor.

Abstract: MetaTutor is a hypermedia, multi-agent learning environment that teaches students about the human circulatory system and fosters the development of self-regulated learning skills. MetaTutor's design is guided by contemporary models of SRL that emphasize the temporal deployment of cognitive, metacognitive, and affective (CAM) processes during learning and treat SRL as an event. One of the greatest challenges to developing real-time feedback protocols for intelligent tutoring systems' pedagogical agents is using and aligning complex, multi-channel data including self-report, log file, physiological and behavioral data. We outline some of the different data channels we are using, how we are using them to innovate upon the design and programming of MetaTutor agent feedback, and highlight future directions.