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Towards computational learning science: modeling creative problem solving in child-robot interaction through behavioral learning analytics

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In Computational neuroscience and bioinspired artificial intelligence (AI), different studies aim at understanding the mechanisms of perception such as shape recognition and sensori-motor coordination such as grasping or pinching. A step further, as in the Mnemosyne research program, cognitive mechanisms are analyzed to better understand brain circuits responsible for reasoning and problem-solving by a biological or algorithmic agent.

The ANR CreaMaker and AIDE projects aim to better understand creative problem solving by analyzing the interaction between brain processes and problem-solving activity from a behavioral perspective. The CPS behavior (intentions + CPS regulation) is analyzed based on learning analytics generated automatically and also through human analysis of this activity based on coding schemes.

The ANR CreaMaker project aims to advance the study of individual and collective creative problem solving through educational robotics.

Levels of analysis of creativity (Romero, 2022) based on Lodge et al. (2017)

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MSc SmartEdTech is an international master’s program in edtech.

IDEX UCAJedi for Ukrainian researchers. Collaboration with Prof. Strutynska to evaluate wartime stress CPS, including learners in Kyiv and Ukrainian refugees in France.

The GTnum #Scol_ia aims to advance the study of teachers’ and learners’ digital competencies required in the AI era.

The ANR CreaMaker project aims to advance the study of individual and collective creative problem solving through educational robotics.

Levels of analysis of creativity (Romero, 2022) based on Lodge et al. (2017)