# Synchronous Eye-tracking Video Analysis of Collaborative Pairs: An Embodiment Perspective

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## Abstract

This lecture aims at practicing on synchronous eye-tracking video analysis of collaborative pairs on students' metacognitive processes during they are engaging with scientific concepts across three different physics lesson from 7th graders' science curriculum (Work and Energy, Mirrors and Light Absorption, and Solar System and Beyond). Data collection procedure in for whole study, part of a multiple case study, includes data collection instruments as semi-structured interviews, eye tracking, and third point of view video cameras as on-line observation instruments. Matched-pairs of students were given their question sheets at the entrance of the science center and their glasses were activated. Students were asked for concurrent think-aloud during they were answering to the questions. Videos of each collaborative pair were coded synchronously and data of each phase for all gathered data were analyzed seperately. Eye-movement patterns of each collaborative pair were transcribed regarding each student's looking direction (pair's eyes, exhibition unit, worksheet, and science center environment) and type of eye movements (transitions, and visual search). Metacognitive processes among the science centre activity was coded under *orientating, planning, monitoring* and *evaluating* categories pinpoint to both verbal, and non-verbal sub-themes. In this lecture, participants will practice on how embodiment perspective may be associated with the analyzed metacognitive processes.