

**USE OF GAZE TRACKING TO STUDY STUDENT ATTENTION IN CLASS:
EARLY REFLECTIONS ON METHODOLOGY****Markku S. Hannula***University of Helsinki**with David Clarke, Man Ching Esther Chan, Gaye Williams, Enrique García Moreno-Esteva,
Miika Toivanen*

Human communication consists of more than just words; diagrams, gestures, glances, body movement and prosody are also important aspects of it. This multimodality of the communication raises a question regarding the student's attention to the different channels used. Gaze-tracking has been used to study visual attention mostly in laboratory settings, which lacks ecological validity. This talk will reflect on our pilot studies using mobile gaze tracking in classrooms. In our first pilot study, we analyzed the student gaze during a teacher's presentation. We found moments when the student used the subtle cues of the teacher's gaze to direct his attention to a specific area before the teacher explicitly directed attention to that particular area. Moreover, we observed a clear difference between attentive and non-attentive listening to teacher. This and also our other case study indicate that gaze tracking data can provide more accuracy in location and in time than ordinary video data and, therefore, provides information that cannot be extracted from ordinary video data. We have also analyzed the location of student gaze in relation to direction of teacher gaze for a short segment where teacher shifted their gaze back and forth between the class and the board. It was found that both frequency and duration of student gaze fixations seems to be influenced by the direction of teacher gaze.