TEACHING IN HIGHER EDUCATION WITH EYE-TRACKING: AN INTERNATIONAL AND INTERDISCIPLINARY RESEARCH

Filomena Faiella[1], Giuseppina Albano[2], Paola Attolino[2], Maria Chiara Castaldi[3], Marco Giordano[4], Maria Grazia Lombardi[3], Emiliana Mannese[3], Valentina Mascolo[1], Maria Ricciardi[4], & Giulia Savarese[5]
[1]*Department of Humanities, University of Salerno (Italy)*
[2]*Department of Political and Social Studies, University of Salerno, Salerno (Italy)*
[3]*Department of Human, Philosophical and Educational Sciences, University of Salerno (Italy)*
[4]*Department of Political, Social and Communication Sciences, University of Salerno, Salerno (Italy)*
[5]*Department of Medicine, Surgery and Dentistry "Scuola Medica Salernitana",*
University of Salerno (Italy)

Abstract

The oral presentation will describe the purpose, the methods, and the findings of the project "Teaching in Higher Education Effectively via Eye-tracking (THEE)", which was carried out from 2019 to 2022. The project studied the eye movements of higher education teachers and students to reflect on how to improve the teaching-learning process. The project studied the eye movements of teachers and students within the university classrooms to initiate a reflective process about the perception of one's own teaching process (for professors) and one's own learning process (for students), hence looking for ways that teachers can execute to improve the teaching-learning process. The project provides that each involved university (Middle East Technical University of Ankara, Atatürk University, University of Salerno and Vilnius University) identifies some of their courses for data collection, involving both teachers and students in the practice of wearing eye tracking glasses during three lessons. The oral presentation will be a description of the activities and results achieved within the scopes of the project THEE by the Italian research team of the University of Salerno.
Four courses were identified, two concerning humanistic subjects and two related to scientific subjects. Based on the number of students attending classes, the courses were selected in an effort to have two samples of big classrooms and two of small ones. The participants were four professors and twelve students who wore eye tracking glasses during the lessons. For each course three lessons were recorded to obtain twelve recordings from the teacher's point of view and twelve recordings from the students' point of view. Teachers lectured for not less than 45 minutes wearing the eye tracking glasses, then the glasses passed to a voluntary student. The recording system provided for the acquisition of three videos, two captured by two fixed cameras placed in two different angles of the classrooms, and another one captured using the eye tracking glasses worn by the teacher and by the student alternately. The videos were then placed side by side using the split screen technique to show the three perspectives simultaneously and support the analysis of the lessons. It is worth pointing out that during the recording of the lessons the researchers were not present in the classroom. The project relied on the collection, analysis and triangulation of three sets of data: (A) eye tracking data, (B) classroom observations, (C) interviews. The results of the study demonstrate a clear benefit of the approach, based on collecting eye tracking data and teachers' self-reflection on their own classroom practice. A clear desire for change emerged from the observation of the lessons' recordings. Indeed, the experience of watching the videos and the heat maps generated a series of reflexive conditions, activating the teachers' self-reflective and critical ability with respect to their own classroom practice and teaching performance. Thus, between the first and the third recorded lesson 75% of the teachers involved have changed something or thought about changing something in their way of teaching. The main purpose of the project is to obtain useful information for planning a training course meant to improve the overall teaching skills.

Keywords: Eye tracking glasses, higher education, reflection, transformative action, strategic partnership.