Human–Machine Collaboration in Gen AI-Hybrid Teaching: Emotion Analysis

Amelia Ijiri
Assistant Professor, Kyoto University of Foreign Studies, Ritsumeikan University, Kyoto, Japan

Lynsey Mori
Lecturer, Kyoto University of Foreign Studies, Ritsumeikan University, Kyoto, Japan

Abstract:

Human–machine collaborative decision-making in education requires a deliberate balance between algorithmic intelligence and human professional judgment. While artificial intelligence (AI) systems excel at processing large-scale, time-series, emotional and behavioral data, educational decision-making remains fundamentally value-laden, relational, and context-dependent. This study positions teachers as central agents within human–machine hybrid teams, arguing that emotional analytics can support teachers' ethical judgment, emotional attunement, and responsibility for classroom climate and emotional regulation.

Data provides teachers with evidence-based insights into classroom emotional "temperature," enabling informed micro-adjustments to pedagogy, pacing, and peer-support strategies while maintaining teacher agency over instructional decisions. This data functions as a starting point for dialogue including prompting teacher-initiated check-ins, peer-buddy interventions, and norm-setting around emotional transparency.

The division of labor reinforces complementary strengths: AI supports detection and aggregation, while educators preserve accountability for values, trust, and care. Within emerging human-machine co-teaching environments, generative AI systems can support pattern recognition across large volumes of affective communication data, while humans retain responsibility for interpretation, ethical response, and relational repair

Positioned within a broader framework of culturally responsive and relational AI integration, this study highlights the risks of algorithmic overreach and epistemic reductionism, advocating instead for teacher-centered hybrid systems that prioritize professional agency, relational sensitivity, and contextual judgment.

Keywords:

Generative artificial intelligence, human-machine collaboration, social emotional learning.