

Research Article

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Mind-waves: Using a Human an AI Collaborative APP to Support Emotional Awareness and Personalized Learning in Education

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ABSTRACT

Mind-waves is a digital application designed as a daily emotional compass, combining human insight with AI-assisted support to promote emotional awareness, self-regulation, and mindful engagement. This article presents a case study exploring the use of Mind-waves with sixth-grade students in an educational setting, demonstrating how real-time emotional data can inform teaching practices, personalize learning, and foster inclusive classroom environments. Beyond education, Mind-waves has potential applications across multiple domains, including parenting, coaching, healthcare, and professional development.

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Received: February 12, 2026; **Accepted:** February 14, 2026; **Published:** March 24, 2026

Introduction

Emotional intelligence and social-emotional learning (SEL) is increasingly recognized as vital components of holistic education. Students who can identify, understand, and regulate their emotions demonstrate better engagement, collaboration, and academic performance. However, translating these principles into daily classroom practice remains challenging for many educators.

The Mind-waves app addresses this gap by providing students and teachers with a structured, technology-assisted method to recognize, reflect upon, and act on emotions. The app functions as a “daily emotional compass,” enabling users to anchor themselves in their emotional experience, understand the dynamics of their interactions, and make informed decisions about their responses and behaviors.

Methodology: Case Study in Sixth Grade Classroom

The Mind-waves app was implemented as part of a case study with sixth-grade students. Prior to each lesson, students engaged with the app to acknowledge their current emotions. This process allowed them to connect with themselves, the teacher, and the classroom environment before beginning academic activities.

Teachers accessed anonymized, aggregated emotional data in real time, which informed lesson design and delivery. By understanding the emotional “energy” of the classroom, educators could adapt instruction to meet the needs of all students, ensuring that everyone felt included and empowered to contribute. The app also provided suggestions for brief mindfulness exercises, reflective journaling, and small, actionable strategies to help students regulate their emotions throughout the day.

Features of the Mind-Wave APP

- **Emotion Recognition:** Students select or describe their emotional state before and during lessons, creating a dynamic map of classroom emotional climate.
- **Teacher Insights:** Educators receive immediate feedback

on the overall emotional atmosphere, allowing for adaptive teaching strategies.

- **Reflection and Journaling:** The app includes a journal and calendar function to track emotional patterns over time, supporting self-awareness and longitudinal analysis.
- **Actionable Interventions:** Based on the student’s current state, the app offers concise, meaningful suggestions to enhance focus, calm, or motivation.
- **Broad Applicability:** Beyond classrooms, Mind-waves can be applied in parenting, coaching, sports, healthcare, and professional contexts, providing guidance for managing stress, performance, and interpersonal interactions.

Results and Observation

Preliminary observations indicate that students using Mind-waves demonstrated increased self-awareness, improved ability to articulate their feelings, and higher engagement in classroom discussions. Teachers reported that access to real-time emotional data allowed them to adjust pacing, group activities, and lesson content to better suit students’ needs. The approach also fostered empathy and inclusivity, as students became more aware of peers’ emotional states.

The app’s versatility was also noted: it is equally applicable for adults in professional or performance-based settings, providing immediate feedback and actionable strategies based on their current emotional state.

Discussion

The Mind-waves app represents a practical application of human–AI collaboration in education. By integrating real-time emotional data into teaching practice, it offers an innovative solution to challenges in SEL implementation. This approach emphasizes proactive engagement with emotions rather than reactive correction, supporting both personal growth and interpersonal understanding.

The case study illustrates the potential of technology to bridge the gap between emotional awareness and effective, inclusive pedagogy. Importantly, Mind-waves is designed to be accessible across contexts, encouraging users to recognize and respond to emotions in a manner that is timely, actionable, and meaningful.

Conclusion

Mind-waves offers a scalable, human-centered approach to emotional literacy, self-regulation, and inclusive learning. In classrooms, it enables students to connect with themselves, their peers, and teachers, fostering engagement and empathy. Beyond education, it provides guidance for individuals across professions and life contexts, reinforcing the value of emotional awareness as a tool for personal and collective growth.

Future research may explore the long-term impact of the app on student well-being, academic performance, and social behavior, as well as its potential application in diverse professional and personal contexts.

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