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# Editorial: Evidence-based technological monitoring tools and interventions to manage behavioural difficulties at school

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## KEYWORDS

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## Editorial on the Research Topic

### Evidence-based technological monitoring tools and interventions to manage behavioural difficulties at school

In order to optimize student educational outcomes, teachers must consistently promote the social, emotional, and behavioral functioning of their students. Unfortunately, some students exhibit behavioral challenges that negatively affect learning for them and their fellow students, thereby negatively impacting the classroom climate. Increasing the impact of these challenges, interruptions to in-person schooling that occurred during the COVID-19 pandemic likely exacerbated student social, emotional, and behavioral challenges due to extended social isolation, changes in instructional modalities, and stress related to health concerns. An established strategy to address student social, emotional, and behavioral challenges is for teachers to systematically monitor student behavior, plan interventions that target key challenges, gather data to assess intervention effectiveness, and use data to make informed intervention decisions.

The articles included in this Research Topic report results from empirical investigations that involved leveraging information and communication technologies to monitor student behavior and deliver interventions that can improve student educational, social, and behavioral outcomes. In our lead article, [Owens et al.](#) evaluated teacher adoption, adaptation, and implementation of a daily report card intervention supported by an online platform. They demonstrate the use of technology as a promising way to assist elementary school teachers in implementing Tier 2 interventions for challenging student behavior. In particular, their study highlights the potential of technology-based support, specifically the Daily Report Card Online (DRCO) Platform, a web application designed to support teachers in adopting and implementing daily report card (DRC) interventions to address challenging student behaviors. This platform provides professional development resources, guided workflows, decision-making tools, and real-time progress monitoring. [Owens et al.](#) describe findings related to teacher adoption and implementation of DRCO, choice of target behaviors, use of evidence-based practices, intervention effectiveness, and impact on student outcomes. The authors recommend future investigations with larger samples to guide development of additional technology-based tools like the DRCO in order to enhance personalization of management strategies and ultimately optimize engagement for both students and teachers.

The second article by [Sanches-Ferreira et al.](#) assessed the impact of an online peer tutoring intervention on the reading skills of elementary school students (2nd and 4th graders). The combined intervention significantly improved students' reading abilities, as evidenced by their progress in reading fluency and accuracy. This study highlights the importance of peer tutoring in increasing reading practice, especially during challenging times like the COVID-19 pandemic, where digital tools played a crucial role in intervention delivery. Their findings indicated that online peer tutoring was particularly beneficial for students with lower reading performance. Moreover, gender did not significantly affect the gains in reading skills, emphasizing the intervention's potentially universal benefits. Nevertheless, the study had limitations (e.g., small sample size), thus necessitating further replication and long-term follow-up. Despite these limitations, this study underscores the positive impact of online peer tutoring in enhancing students' reading abilities, contributing to ongoing development of effective reading promotion strategies in early education.

For the third article in this topic area, [Evans et al.](#) describe a novel computer technology (Beacon) to assist educators and school mental health professionals in the process of implementing evidence-based interventions and related supports within a multi-tiered system of support for students with social, emotional, and behavioral difficulties. Beacon is a software platform designed to facilitate data collection, progress monitoring, and informed decision-making regarding classroom strategies grounded in evidence-based principles. Beacon is innovative in its capacity to diminish the typical barriers (e.g., lack of just-in-time access to strategy information) that impede the adoption of evidence-based practices in educational settings by providing teachers and other school personnel with evidence-based information and supporting them while systematically gathering data on student outcomes. The ultimate aim of Beacon is to enhance educators' perception and consistent adoption of evidence-based strategies to enhance student behavioral and educational functioning.

The final article in this topic area by [Pandria and Bamidis](#) provides an overview of case studies in which information and communication technologies have been employed to overcome the main challenges associated with pen-and-paper behavioral data collection methods. The authors present four sets of case studies involving participants aged 8–25 years with diverse emotional, behavioral, and medical challenges. Additionally, they introduce a fifth pilot study in which technologies are utilized for the early identification of ADHD and the management of associated behavioral issues. The study results demonstrate the potential for applications such as WHAAM, AffectLecture, ADHD360, and the BrainHQ platform to be seamlessly integrated into the processes of managing and intervening to address student behavioral difficulties

in special education classrooms. The authors' work underscores the importance of using monitoring systems and adopting an evidence-based approach to make informed decisions regarding the effectiveness of implemented treatments.

The initial investigations described in these articles highlight the vast potential for computer technology to significantly improve teacher and student access to, adoption of, and engagement with evidence-based interventions and supports for addressing student behavioral, emotional, and social challenges. In addition, this pilot work illustrates how computer technologies can facilitate consistent monitoring of student functioning and use of data-based decision-making which are key components of evidence-based educational practice. We look forward to continued research investigations in this area that include larger sample sizes, controlled designs, and comprehensive assessment of student behavior and academic performance. It is clear that educators must embrace technology in the delivery of instruction and classroom management in order to optimize student educational and mental health outcomes.

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