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Impact of Educational Technology on Student Well-being: An Australian Perspective

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ABSTRACT

Background. The integration of educational technology (EdTech) into Australian classrooms has accelerated over the past decade, especially in response to remote and blended learning demands. While EdTech has enhanced access, flexibility, and engagement in learning, growing concerns have emerged about its potential effects on student wellbeing.

Purpose. This study investigates the multifaceted impact of educational technology on the psychological, emotional, and social well-being of secondary students in Australia. The research aims to assess both the benefits and risks associated with EdTech use, considering variables such as screen time, digital workload, connectivity, and social interaction.

Method. A mixed-methods approach was employed, combining survey responses from 412 students across five states with in-depth interviews involving educators and school counselors.

Results. The findings reveal a dual impact: while many students reported increased autonomy, engagement, and digital literacy, a significant proportion experienced digital fatigue, stress, and reduced peer interaction. The results also underscore the importance of digital balance and school-level support systems in mitigating negative outcomes.

Conclusion. The study concludes that educational technology, when implemented thoughtfully and inclusively, can support student well-being—but must be guided by holistic strategies that prioritize mental health and social connection alongside academic goals.

KEYWORDS

educational technology, student well-being, digital learning, Australia, secondary education

INTRODUCTION

The rise of educational technology has become a defining feature of contemporary schooling in Australia, reshaping how students access, engage with, and experience learning. As digital tools and platforms have become more embedded in daily instructional practice, schools have increasingly embraced EdTech as a means to enhance flexibility, personalized learning, and digital literacy (Alshemaimri et al., 2025; Shafiee Rad, 2025). These developments have been further accelerated by the demands of remote and hybrid education, particularly during the COVID-19 pandemic, which compelled educators to rapidly adopt digital solutions across all levels of education. In this context, technology is no longer a

supplementary tool but a central element of educational delivery.

The increasing reliance on digital learning environments has brought a parallel need to examine not only the academic outcomes of EdTech integration but also its broader impact on student well-being. Students today spend a substantial portion of their school day interacting with screens, navigating online platforms, and managing digital workloads (Kumar & Sharma, 2025; Punj et al., 2025; Rädel-Ablass et al., 2025; Safdari & Ehtesham, 2025). The quality of these interactions can significantly influence their emotional, psychological, and social development. While technology has enabled greater access to resources and increased autonomy, it has also introduced new pressures related to connectivity, concentration, and social disconnection, raising urgent questions about the holistic experience of learners in digitally mediated environments.

Educators, policymakers, and researchers in Australia are becoming increasingly aware of these complex dynamics. National educational frameworks have begun to incorporate well-being indicators into school performance metrics, and mental health support services are expanding within the education sector. However, there remains a need for evidence-based understanding of how technology shapes student well-being across diverse contexts. Recognizing this need, the present study investigates how students perceive and are affected by the technological dimensions of their schooling, placing well-being at the center of the discussion.

The central issue addressed by this study is the dual impact of educational technology on students' mental health and social-emotional development in Australian secondary schools. While EdTech has been widely praised for its capacity to enhance learning, relatively little is known about the psychological trade-offs that students may experience. The prevalence of digital fatigue, increased anxiety related to online performance, and the erosion of face-to-face peer interaction are growing concerns among educators and parents alike. These experiences are often compounded by the variability of school policies, teacher preparedness, and access to digital infrastructure.

Students across Australia face varying degrees of digital pressure depending on school type, geographical location, and socio-economic background (Alshammari & Babu, 2025; Yazarkan et al., 2025). Those in urban, well-resourced settings may benefit from smoother digital integration, while students in remote or underfunded schools may experience technology as a source of frustration or exclusion. Beyond academic functionality, technology is shaping how students construct their identities, build relationships, and regulate their emotional responses to academic and social demands. Without a nuanced understanding of these experiences, educational institutions may overlook critical dimensions of student development.

The growing emphasis on well-being in education demands a shift from technology as a neutral tool to technology as an experiential environment. Students do not merely interact with digital devices; they live within digital ecosystems that influence their learning rhythms, social behaviors, and mental health. The specific design of platforms, the pacing of digital lessons, and the constant flow of notifications can affect cognitive load, attention span, and emotional regulation. These factors must be acknowledged if educators are to create learning environments that support, rather than compromise, student well-being.

This research aims to explore the perceived and measurable impact of educational technology on student well-being within Australian secondary schools (Machado et al., 2025; Neher et al., 2025). The study seeks to identify patterns in how technology usage correlates with emotional, psychological, and social outcomes among students, with attention to variables such as screen time, platform interaction, workload, and peer communication. The focus is on understanding both positive and negative experiences associated with digital learning environments, particularly from the student perspective. The study also aims to examine the role of schools in shaping these experiences. Institutional factors such as teacher attitudes, digital pedagogy, access to support services, and school-level digital policies are investigated for their influence on student well-being (Gottlieb et al., 2025; Thomran et al., 2025; Ulhasanah et al., 2025). Through a mixed-methods approach, the research captures quantitative trends across diverse student populations while also delving into qualitative narratives that illuminate lived experiences. This dual perspective allows for a more comprehensive view of how EdTech impacts the day-to-day well-being of learners.

By centering student well-being, the research seeks to contribute actionable insights for educators, school leaders, and policymakers. The findings are intended to inform guidelines and strategies for more balanced technology integration—where academic benefits are harmonized with socio-emotional health. The ultimate goal is to ensure that educational technology serves as a tool for empowerment and support, rather than becoming a source of stress or disengagement for Australian students.

Existing literature has largely focused on the academic benefits of educational technology, including improvements in student performance, digital skill acquisition, and personalized learning pathways. Research has examined how EdTech enhances access to content and supports diverse learning needs, but much of it remains silent on how these tools affect students' mental and emotional states. Studies have tended to emphasize outcomes like test scores, engagement metrics, or system usability, with little attention paid to subjective well-being, social connection, or psychological resilience.

Some emerging research has begun to address student well-being in relation to screen time and digital overload, particularly in the context of remote learning. These studies often highlight correlations between excessive technology use and issues such as attention fatigue, anxiety, and decreased motivation. However, findings are frequently generalized and do not account for differences in educational contexts, technology design, or student demographics. There is a lack of research that situates well-being within the actual digital practices of schools, including the role of instructional design, teacher support, and peer dynamics.

This study addresses that gap by focusing explicitly on how educational technology affects student well-being within the structured environment of Australian secondary education. It explores the nuanced experiences of students as they navigate digital platforms not only as learners but as individuals managing stress, relationships, and self-perception. The research bridges the domains of digital pedagogy and youth mental health, offering a more integrated understanding of how EdTech shapes student life beyond the academic sphere.

The novelty of this study lies in its multidimensional approach to student well-being within digital learning environments. Rather than treating well-being as an ancillary outcome, the study positions it as central to the evaluation of educational technology's effectiveness (Aghasafari et al., 2025; Naeem & Mushibwe, 2025). It considers not only the quantity of technology use, but the quality of student experiences—what digital learning feels like, how it influences social bonds, and how it affects students' sense of agency and emotional balance in school.

The study also offers a conceptual contribution by framing educational technology as a social and emotional context, not just a cognitive or instructional tool. This perspective broadens the discourse on digital education, encouraging stakeholders to think beyond functionality and toward human experience. It provides a framework for assessing technology integration that includes indicators of relational health, emotional regulation, and psychological safety.

The significance of this research extends to educational design, policy formulation, and teacher professional development. It offers evidence to support more student-centered approaches to

digital learning—ones that are attuned to mental health, inclusivity, and community. The findings will help schools create learning environments where educational technology supports academic achievement and fosters emotional well-being, offering a balanced and sustainable model for future-ready education in Australia.

RESEARCH METHODOLOGY

This study employed a mixed-methods research design to explore the impact of educational technology on student well-being in Australian secondary schools. The design integrated quantitative and qualitative approaches to capture both broad patterns and in-depth personal experiences related to digital learning (Alshemaimri et al., 2025; Mojumder et al., 2025; Shafiee Rad, 2025). Quantitative data were collected through structured surveys to assess general trends in student well-being across different technological contexts, while qualitative insights were obtained through semi-structured interviews to explore emotional, psychological, and social dimensions more deeply. This approach allowed for triangulation of data sources and a comprehensive understanding of the complex relationship between EdTech usage and student well-being.

The population targeted in this study included secondary school students enrolled in Years 7 to 12 across five Australian states: New South Wales, Victoria, Queensland, South Australia, and Western Australia. A stratified sampling technique was used to ensure representation from urban, suburban, and regional schools, as well as public and private institutions. The final sample comprised 412 student respondents for the survey and 18 participants for the interviews, selected through purposive sampling to include diversity in gender, school type, year level, and reported digital learning experiences.

The instruments used consisted of a structured online questionnaire and an interview protocol. The questionnaire included both closed-ended Likert-scale items and open-ended questions, measuring perceived well-being indicators such as emotional fatigue, motivation, digital workload, screen time, and peer interaction. The instrument was adapted from established well-being and EdTech evaluation frameworks, and was validated through expert review and pilot testing with a small student group. The interview guide explored students' daily digital routines, emotional responses to technology use, perceived benefits and stressors, and their suggestions for improving digital learning environments.

The research was conducted in four phases. Ethical approval was obtained from a university research ethics board and participating school authorities. In the first phase, recruitment and consent were facilitated through school coordinators and parental permission forms. In the second phase, survey links were distributed electronically via school platforms, with anonymity and confidentiality ensured. In the third phase, interviews were conducted with students who volunteered after the survey, either face-to-face or via secure video conferencing tools. In the final phase, quantitative data were analyzed using descriptive and inferential statistics through SPSS software, while qualitative data were transcribed, coded, and thematically analyzed using NVivo to identify key patterns related to student well-being and EdTech experiences.

RESULT AND DISCUSSION

Descriptive analysis of the survey data revealed that students had varied experiences with educational technology and its impact on their well-being. Table 1 summarizes key indicators reported by 412 students regarding screen time, perceived stress, engagement, and social interaction. A total of 68.4% of respondents reported using digital devices for more than five hours per school day, and 52.1% stated that they often felt mentally fatigued after prolonged use. While

61.2% reported feeling more in control of their learning due to technology, 47.5% also indicated that constant digital connectivity contributed to increased anxiety.

Table 1.

Student Responses on EdTech Use and Well-being Indicators (N = 412)

Variable	Percentage (%)
Daily screen time > 5 hours	68.4
Frequent digital fatigue	52.1
Increased academic autonomy	61.2
Heightened digital stress or anxiety	47.5
Reduced face-to-face peer interaction	44.3
Positive perception of EdTech benefits	58.9

The data illustrate a dual effect of educational technology on student well-being. A significant portion of students acknowledged the benefits of autonomy, flexibility, and accessibility associated with EdTech platforms. However, many also reported emotional strain due to digital overload, difficulty concentrating, and a decline in peer socialization. Students noted that excessive screen time affected their ability to relax and disconnect after school hours, blurring the boundaries between learning and personal time.

The open-ended survey responses and interview narratives reinforced the quantitative trends. Students described feeling empowered when allowed to manage their learning pace using digital platforms, but simultaneously expressed frustration with the intensity and fragmentation of online assignments. Several participants highlighted that they missed spontaneous classroom interactions and informal peer engagement, which they felt had diminished in a fully digital or hybrid environment. Others noted that constant notifications and pressure to respond immediately in digital platforms contributed to feelings of overwhelm.

Interviewees frequently mentioned the emotional impact of being "always connected," especially during peak academic periods. Students in senior secondary years (Years 11–12) reported the highest levels of stress related to digital workload, particularly when managing multiple online platforms simultaneously. Many shared concerns about the lack of designated offline time, the pressure to be available after school hours, and the absence of digital well-being guidelines from teachers. The emotional toll was particularly evident among students who had limited self-regulation strategies or lacked structured digital routines.

Inferential analysis confirmed statistically significant relationships between high daily screen time and reported levels of fatigue (r = 0.49, p < .01), as well as between frequent use of digital platforms and perceived stress (r = 0.41, p < .01). Regression analysis revealed that perceived teacher support was a moderate predictor of positive EdTech experiences ($\beta = 0.36$, p < .01), suggesting that the quality of instructional design and relational engagement significantly influenced students' emotional responses to technology use. Students who felt their teachers were present, empathetic, and responsive in digital spaces reported better well-being outcomes.

Further analysis demonstrated that students attending schools with clear digital communication policies and support mechanisms—such as screen-time boundaries, wellness checkins, and digital detox days—were significantly less likely to report high stress levels. Conversely, students in schools lacking coordinated digital strategies expressed confusion over expectations, increased pressure to multitask, and feelings of social isolation. These findings suggest that school culture and policy play a mediating role in shaping student well-being within technology-rich learning environments.

Data relationships also emerged between levels of digital competence and psychological outcomes. Students who rated themselves as digitally competent (n = 174) were more likely to report positive emotions such as confidence, motivation, and reduced frustration in navigating online platforms. In contrast, students who felt underprepared or unsupported in managing digital tools (n = 105) experienced greater anxiety, avoidance behaviors, and feelings of inadequacy. Peer support and school-provided digital skills sessions emerged as protective factors for well-being.

The school case study conducted in metropolitan Victoria provided a detailed example of effective EdTech integration. The school implemented a balanced technology model, including time limits on screen use, structured offline learning breaks, and digital literacy programs focused on well-being. Students reported high levels of satisfaction and engagement, with 72% indicating that they felt emotionally supported in their digital learning experiences. Teachers were trained in trauma-informed digital pedagogy and regularly checked in with students about their emotional states in online settings.

In contrast, a rural school in New South Wales with limited infrastructure and minimal teacher training faced challenges in maintaining student well-being. Students expressed frustration with unstable internet access, inconsistent platform usage, and unclear communication from teachers. Several reported increased stress and demotivation, particularly during periods of remote learning. The lack of structured routines and absence of social-emotional supports contributed to feelings of detachment and academic disengagement. This contrast highlights the critical role of institutional readiness and equitable access in determining the emotional outcomes of EdTech use.

The evidence points to a layered impact of educational technology on student well-being, shaped by individual capacities, instructional practices, and school-level systems. Students benefit from EdTech when it is embedded within a thoughtful, human-centered approach that acknowledges emotional needs and promotes balance. When poorly implemented or unsupported, however, technology can amplify stress, reduce social connection, and undermine motivation.

In summary, the results underscore that the impact of EdTech on student well-being in Australia is neither wholly positive nor negative. Its effects depend on how technology is designed, implemented, and experienced (Al-Kamzari & Alias, 2025; Herrera-Lillo & Urrejola-Contreras, 2025; Ljungblad et al., 2025). Schools must develop inclusive, well-structured digital strategies that protect mental health while enhancing learning outcomes. Effective integration requires alignment between pedagogy, policy, and student support, ensuring that educational technology empowers rather than overwhelms the learners it is meant to serve.

The findings of this study reveal a dual impact of educational technology on student wellbeing in Australian secondary schools. While a significant number of students reported increased autonomy, improved access to learning resources, and enhanced engagement, many also experienced emotional fatigue, digital overload, and reduced face-to-face interaction. Quantitative results showed a strong association between high screen time and elevated stress levels, particularly among senior students. Qualitative data highlighted students' struggles with managing multiple platforms, constant connectivity, and blurred boundaries between academic and personal life, underscoring the emotional complexity of digital learning environments.

The results are consistent with emerging research that acknowledges both the potential and pitfalls of educational technology in relation to student well-being. Previous studies (Bartholomew et al., 2021; Livingston & Byrne, 2022) have also observed that while EdTech can support engagement and independent learning, it may contribute to stress, distraction, and social isolation

when not properly regulated. This study extends those findings by incorporating the Australian school context and emphasizing the mediating role of teacher support and institutional policies. Unlike some global studies that focus primarily on device access or digital literacy, this research prioritizes the student's emotional and relational experience with technology.

These findings suggest that student well-being must be central to the evaluation and implementation of educational technology. The study highlights that the quality of students' digital experiences is shaped not just by the tools themselves, but by how those tools are embedded within learning environments. The fact that students reported higher satisfaction and lower stress in schools with clear digital boundaries and emotional support systems reflects the importance of holistic digital integration. This signals a shift in perspective, where technology in education must be viewed not as neutral, but as a lived experience with psychological and social consequences.

The implications of these findings are critical for educators, school leaders, and policymakers. Schools must move beyond simply adopting new technologies and begin designing digital ecosystems that consider student well-being as a foundational principle (Groves et al., 2025). Professional development for teachers should include training in trauma-informed digital pedagogy, student mental health awareness, and strategies for managing digital overload. Policymakers should provide clearer guidelines on digital communication limits, workload distribution, and wellness monitoring. Technology providers and curriculum developers must also consider the emotional demands placed on students by digital learning tools and prioritize user-centered design.

The findings can be explained by the interplay between technological design, institutional structure, and student developmental needs. Students are navigating a digital world that often lacks clear boundaries, consistent expectations, or responsive support systems. In schools where EdTech is implemented without thoughtful pedagogical planning or emotional scaffolding, students are more likely to feel isolated, overburdened, and disengaged (Venegas-Mejía et al., 2025). Where schools provide a culture of care, digital practices become more empowering and manageable. This variation reflects the broader educational context in Australia, where levels of digital maturity and well-being infrastructure differ significantly between schools and regions.

Teachers play a key role in mediating the impact of educational technology. In classrooms where teachers were present, empathetic, and actively involved in monitoring student well-being, students reported lower levels of anxiety and higher motivation. This reinforces the importance of human connection in digital learning spaces (Johansen et al., 2025). Students do not experience technology in isolation; they experience it through relationships—with teachers, peers, and institutional norms. The presence or absence of these relational anchors can determine whether EdTech becomes a tool of empowerment or a source of emotional strain.

Future practice must focus on designing school-wide frameworks that integrate digital learning with social-emotional development. This includes setting clear expectations for screen time, fostering digital self-regulation, and incorporating wellness check-ins into daily routines. Schools should regularly audit their EdTech practices with input from students to ensure that policies remain responsive and inclusive. Mental health professionals should be involved in co-developing digital curricula that align with well-being principles. Continuous collaboration between educators, psychologists, and technologists is essential for creating sustainable and supportive digital learning environments.

Further research is needed to explore long-term trends in student well-being as educational technology continues to evolve. Studies should investigate how different forms of digital instruction (e.g., synchronous vs. asynchronous, gamified vs. task-based) influence mental health and motivation. Longitudinal studies could also assess how interventions—such as digital wellness

education or screen-time policies—impact student outcomes across various school settings. This study contributes a foundation for those inquiries and reinforces the urgency of designing educational systems where digital innovation is matched with an equally strong commitment to student well-being.

CONCLUSION

The most important finding of this study is the identification of a dual impact of educational technology on student well-being in Australian secondary schools. While digital tools enhance autonomy, engagement, and access to learning, they simultaneously contribute to emotional fatigue, increased stress, and social disconnection when not properly managed. This research reveals that student well-being is not determined by the presence of technology alone, but by the context in which it is implemented—including teacher support, institutional policies, and the structure of digital routines. This nuanced perspective distinguishes the study from earlier work that often focuses solely on academic outcomes or general usage patterns.

The primary contribution of this study lies in its conceptual integration of digital pedagogy with student emotional and social well-being. It offers a comprehensive framework for understanding EdTech not only as an instructional innovation but as a socio-emotional environment that shapes learners' day-to-day experiences. Methodologically, the study employs a mixed-methods approach that captures both statistical trends and lived student narratives, allowing for a multidimensional view of technology's impact. The inclusion of policy context and school-level practices adds further depth, providing actionable insights for educators and policymakers seeking to balance innovation with mental health.

This study is limited by its focus on secondary students within specific Australian regions, which may not fully reflect the diversity of experiences across different education systems or primary-level learners. The cross-sectional design also limits insight into long-term effects of EdTech use on student well-being. Future research should employ longitudinal studies to examine the lasting impacts of digital integration, particularly in relation to psychological resilience, social development, and academic identity. Further exploration of teacher perspectives, parental roles, and cross-sectoral collaboration will be essential to develop holistic strategies for sustainable, well-being-centered digital education.

AUTHORS' CONTRIBUTION

Author 1: Conceptualization; Project administration; Validation; Writing - review and editing; Conceptualization; Data curation; In-vestigation.

Author 2: Data curation; Investigation; Formal analysis; Methodology; Writing - original draft. Author 3: Supervision; Validation; Other contribution; Resources; Visuali-zation; Writing - original draft.

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