

An Investigation on the Impact of Screen Multi-Tasking on Secondary Students Behaviour and Wellbeing in Mathematics in NSW Secondary Schools

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Digital technology use has dramatically altered learning in secondary mathematics classrooms. Although the purpose of technology was to enhance engagement and streamline teaching (Yang et al., 2020), its impact can be contested, with concerns that devices may distract students and undermine learning (Kuş, 2025). Growing concerns about digital distraction have led to initiatives such as the NSW mobile phone ban, underlining the need to examine how laptops and multi-tasking behaviours affect students in mathematics. Adolescents engage in extensive daily screen use and frequent media multitasking (May & Elder, 2018), leading to divided attention, cognitive overload, and poorer learning outcomes (Saarinen et al., 2021). Excessive screen use is also associated with anxiety, sleep disruption, reduced self-control, and internet addiction (Nakshine et al., 2022). While purposeful technology integration can enhance conceptual understanding and engagement, unfocused multi-tasking may weaken working memory and hinder deep mathematical processing (Pellas, 2024). This study investigates the behavioural and socio-emotional impact of screen multitasking in secondary mathematics classrooms. It aims to provide evidence-based recommendations to support responsible technology use while maintaining focus and improving mathematics outcomes. This study is underpinned by Bandura's Social Cognitive Theory and Sweller's Cognitive Load Theory, which together provide a lens for understanding how screen use influences classroom dynamics, student engagement, behaviour, and wellbeing. Using a pragmatic and realist approach, data collected from a single Sydney secondary school include student survey, Flanders' Interaction Analysis observations, and semi-structured interviews of students and senior staff. Surveys capture students' self-reported task-switching; observations document classroom dynamics; and interviews explore perceptions of technology's influence on learning and wellbeing. Findings contribute to promoting healthier technology use, informing school practices, and guiding policy related to digital wellbeing.

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