

Review – Mobile Devices
GPO Box 33
Sydney NSW 2001

To Whom It May Concern:

FIC Technology submission: NSW Review into the non-educational use of mobile digital devices in NSW Schools.

FIC Technology welcomes the opportunity to respond to the review and address the non-educational use of mobile digital devices intrinsically linked with educational use in NSW schools.

Summary:

We have real student device usage data which suggests that banning mobile technology such as smartphones to reduce misuse may not be effective. One reason is that students are well known to use their phones in class regardless of School policy (89% of students, year13.com.au). Our data however gives further reason for caution, because students use and share device network access in complex and sophisticated ways, for off-task use and for educational activities. Banning phones is likely to merely shift usage pattern with unexpected impact. More importantly, we call on more effective real data-based teacher tools for measuring and guiding educational use of digital devices in class. These teacher tools in conjunction with student education is required to reduce abuse and achieve the elusive benefits of educational technology.

Any School policy must be informed with objective field data to understand the dynamics of educational device use as well as abuse.

Our data shows students already use phones covertly as mobile WiFi hotspot to 'tether' their computers. We observed that multiple students often connect to one phone, and bypass all school filtering and monitoring policies on their laptops. This covert use will most likely increase with a ban on overt use of phones, causing greater interference with educational use of laptops and impede policy enforcement by schools. Banning mobile digital devices of course also impedes the Department's important goal of teaching Internet and Communications Technology (ICT) skills and priming students to be effective and responsible digital citizens. .

Our recommendation is for a combination of partial restriction of phone use together with providing teachers with an existing software which is scalable and follows industry best practice of real time data analytics of student digital device usage. This will not only prevent covert technology misuse, but give teachers the real-time visibility of student engagement and learning processes they have been missing in order to deliver effective technology enabled learning for the 21st Century.

Submission:

FIC Technology is a philanthropic company which addresses the issue of classroom ICT use. We have collected objective data on technology use in classrooms for over 4 years, we work with over 500 teachers across 28 schools in NSW and NZ.

Our experience confirms that technology in schools is a problem and teachers are frustrated. Feedback indicates current tools lack the ability to measure online and offline use of technology. Teachers require better support to better see, understand and engage in student's ICT use. Teachers are tasked with tracking and ensuring on-line engagement and effective learning simultaneously, the impossibility of

which, even with remote viewing tools, is already noted by John Hattie (Visible Learning, Routledge 2008).

Teachers say the lack of visibility of students ICT use limits their ability to facilitate effective ICT learning which consequently leads to higher off-task, ineffective and inappropriate use of digital devices. This invisibility leads to the so called Second Digital Divide, which amplifies the educational inequality between students with good ICT skills who benefit greatly and students who are unskilled and end up distracted by mere consumption of ICT content.

This classroom ICT skills problem is reflected in the low and falling student ICT skills reported in Australian NAP-ICT 2014 and is said to contribute to Australia's falling educational performance in PISA studies, not despite, but because we are the No.1 user of computers in classrooms in the OECD group, where high computer use was found to correlate negatively with outcomes.

FIC Technology has developed the next generation of AI technology to support teachers manage ICT usage and learning. Our solution also helps ICT Admin manage the acceptable use of technology policy. Teacher feedback indicates current classroom management tools are impractical and lack the exposure of student learning holistically. Our AI-aided Learning analytics tool, requires little teacher effort and gave more detailed indication of engagement, distraction, resource use, ICT literacy for reflection. Our technology is also capable of identifying when a student circumvents via mobile device tethering. This new teaching approach, brings for the first time, university-developed computer Learning Analytics into K-12 classrooms. We found teachers use this data to improve ICT learning simply by accessing objective live data when students are online in class.

Our recommended and implemented solution is simple in principle:

- Install our application on student laptops which transmits continuous lesson based computer activities. Application use and internet sites (both online and offline).
- Use AI to educationally categorize activities, saving teacher's time from identifying if a student is on-task or off-task.
- Provide the classroom teacher with a real-time glance-able colour coded red-green-blue map of the on-taskness of each student in the lesson.
- Teacher now 'sees' at a glance student engagement allowing proactive adjustment of lesson or intervention where needed.
- Give the teacher the ability to reflective and analyse student learning through reports for review and reflection
- By positively guiding student engagement through real-time insight, students are unlikely to spend time off-task.
- Any observed inappropriate phone-tethered computer use is shown to the teacher facilitating in correcting usage
- Additionally, give students access to their own data, giving them ownership and ability to self-govern.

Analysis of our data for this submission is from 2115 students from years 6-12 in 26 non-government schools between July and September 2018, most with no phone policy. Data showed that 46% of lessons used computers for > 1 minute, and in those lessons, the computer was actively used 61% of lesson time. We found teachers using our tool improved positive engagement by 92%.

However, despite phone bans, 61% of students still connected to non-school networks, 21% was via tethering to their smartphones (remaining via VPN including Psiphon and Proxies). 66% percent of these students accessed off task activities, including Youtube and Netflix streaming, but 79% also accessed on-

task resources, such as MS Word via a non-school network. Feedback from schools indicates tethering to smartphones may be used with permission in WiFi blackspots or during network congestion.

In conclusion, the issue of mobile device usage and technology in general is a complex mix of positive and negative access. Smartphones are used regardless of School bans. Student education in combination with effective teacher tools to oversee proper, safe and educationally effective use of technology is necessary. If mobile digital device use is to benefit the majority of students and remain safe, reliable, then objective data seems essential for formulation and monitoring of school policy. Furthermore, real time AI-analysed feedback of classroom ICT use is also essential for teachers to assure student engagement and measure and teach 21st Century skills. Such tools must be formative, cheap, scalable, compatible and easily accessible to all stakeholders.

FIC Technology above software, trademarked 'edQuire', is used and available in Australian, New Zealand and Singaporean schools. The software caters for MS Windows, OSX, Android and Chromebook, school-managed or BYOD. FIC Technology is also delighted to share our data with educational and academic interested parties for educational purposes, subject to strict privacy protections.

Dr Michael Cejnar, MBBS, FRACP
CEO, FIC Technology Pty, Ltd
m.cejnar@edquire.com
m: 0417 662206,
t: 02 9787 3352