

# **LEAPing into the Digital Future: Increasing digital literacy for teachers and students in low SES regional and remote schools**

Maimuna Musarrat, Carolina Morison, Ruth Tregale, Rebecca Turnbow  
Widening Participation Unit, Macquarie University

## **Abstract**

*As technology becomes increasingly ubiquitous in societal and educational settings, digital literacy capabilities are acknowledged as essential for students to successfully engage in community, and develop key skills for future employability. However, students from schools in low socioeconomic status (SES) regional and remote areas are disadvantaged in this key aspect, reflecting limitations to their access to resources and the fact that sometimes teachers lack appropriate digital skills essential for 21<sup>st</sup> century learning. Foundational digital literacy is increasingly regarded as an assumed pre-requisite for students pursuing further learning at universities, at which point equity students often enter higher education under-equipped with these key skills. This project aims to identify and remediate areas of inequality by building the digital competencies of teachers engaged with students in low SES regional and remote schools. Thus, students will be equipped with the key digital skills required for future employability and smooth transition to higher education.*

## **Background/Literature Review**

### *Digital Literacy and its importance in today's world*

Digital literacy is often understood differently depending on the discipline. However, a common interpretation of digital literacy is an individual's capacity to competently navigate digital information resources to arrive at a point that adds value to their perspective; whether it be social, educational, economic or ideational.

Digital literacy is a key skill for employability in today's world, and being able to understand, disseminate and thrive across both print and digital environments requires more than the ability to use the literacies of 20 or 30 years ago. Research shows that 90% of all future jobs will involve digital literacy, yet 27% of 15-year-old students are not digitally literate (Foundation for Young Australians [FYA], 2016). It is therefore imperative that both teachers and students reinforce the foundation of their digital competencies to better equip students for the future.

### *Why Digital Literacy for Equity Students?*

With the expansion of digital technologies, concern is being voiced of a growing 'digital divide' in and amongst sectors and populations of the community. While more research into long term impacts of this divide is needed, sufficient literature points to higher levels of social and economic exclusion, as well as civic disengagement (Australian Council of Social Service [ACOSS], 2016). In the case of Australian society, Walton, Kop, Spriggs, & Fitzgerald (2013) consider there to be a "strong correlation between socio-economic

disadvantage and those digitally excluded”. As a result, conversations regarding ‘digital inclusion’ are now being had amongst government agents associated with social services, education providers and industry representatives.

The ‘digital divide’ commonly refers to the ‘haves’ and ‘have nots’ in digital technologies (Anderson, 2015), and the ‘digital inclusion’ discourse is about bridging the ‘digital divide’. It incorporates providing access to high-speed broadband, ensuring affordability and engagement by supporting users to overcome adoption barriers to become empowered with digital competency skills (Walton et al., 2013).

Australia’s Digital Inclusion Index 2016 (Thomas et al., 2016) reveals significant differences in digital inclusion between rural and urban areas. Nationally, digital inclusion is now 6.6 points higher in capital cities than in country areas. This ‘geographic digital divide’ is largely due to widening gaps in digital ability and affordability. In quantifiable terms, the 2014 National Assessment Program-ICT Literacy (NAP-ICT) results reflect metropolitan (Year 10) secondary students continue to outperform regional and remote students in ICT national proficiency levels. NAP-ICT evaluations (now collected from four cycles of testing on year 6 and 10 students in the years 2005, 2008, 2011 and 2014) indicate regional and remote student ICT literacy has failed to thrive.

To address the ‘digital divide’, it is important to introduce programs that increase the accessibility of resources, and in particular, providing cost-effective training for teachers to empower their students to develop skills in the classroom environment (Anderson, 2015). Not having sufficient resources or access to teachers with necessary digital skills, irrespective of location, will prevent students from fully realising the Education Council’s aim to produce ‘successful learners’ who are “confident, creative and productive users of new technologies, and understand the impact of those technologies on society” (Australian Curriculum, Assessment and Reporting Authority [ACARA], 2015).

Near-term implications of this divide will potentially be seen when students transition into institutions of higher education, where there appears to be an assumption that students coming into universities are predominantly ‘digital natives’ and have a comparatively universal and uniform digital upbringing (Kennedy, Judd, Churchward, & Gray, 2008). Identifying this gap provides researchers with an important initiative for focusing resources to help students transition successfully. The long-term impacts of the ‘digital divide’ may see individuals encounter barriers to employment opportunities and the capacity to contribute effectively to the economic society (FYA, 2015).

### *Why Train Teachers?*

Research shows increased access to technology does not necessarily translate into digital equality (Journell, 2007). Students develop skills, opinions and attitudes based on the content and method of instruction they receive. Therefore, giving teachers the skills around digital literacy should, based on Journell’s research, impact positively on the students’ digital literacy.

Phillips (2015) supports efforts to “recognise that technological knowledge is not an ‘add-on’ to be left to individual negotiations and arrangements in every school around the country”. Investing in programs that support teacher’s ICT knowledge and their ability to effectively

translate learnings to students will likely minimise the digital divide amongst regional and remote students. This is the aim of LEAP – Links Digital Literacy Program.

Further articulation on the subject is presented by Ala-Mutka, Punie, & Redecker (2008), who make key recommendations to improve student digital literacy and competency, by improving teacher training and ensuring that teachers know how to embed digital competence within context.

This is one reason why teachers, particularly those in regional and remote schools are targeted for further training, so as to integrate digital technologies in their teaching to build competencies and provide students with digital skills.

### **The LEAP – Links Digital Literacy Program**

The Widening Participation Unit (WPU) at Macquarie University has received a National Priorities Pool (NPP) Grant enabling the LEAP (Learning, Education, Aspiration, Participation) Links Digital Literacy Team to run a program for high school teachers and students in regional and remote areas in NSW (namely in the Far West, Central West, Riverina, and New England/North Coast regions).

#### *Project Goals*

The LEAP- Links Digital Literacy Program has two key objectives:

- to enhance support to regional and remote low SES students by identifying and addressing digital skill gaps for teachers and students
- to assist regional and remote low SES students to build digital competencies needed to succeed in school and transition to higher education

These will be achieved by:

- identifying and addressing digital literacy needs of teachers and students
- providing support and NSW Education Standards Authority (NESA) accredited professional learning workshops to teachers in regional and remote high schools
- facilitating an online unit of work for students to engage with and use new digital literacy skills and tools
- disseminating outcomes to various relevant channels

#### *Future impact on students*

In higher education, incoming students are assumed to have foundational digital literacy skills, reflecting their access to technology in schools and at home (Kennedy et al., 2008). While benchmark tracking for ICT proficiency in primary and secondary school students is conducted and monitored by ACARA (via NAP-ICT), evidence of benchmark practice or evaluation is not apparent in university institutions. The likely outcome is a gap in understanding of incoming students' actual ICT preparedness, versus assumed skill levels.

Furthermore, while this assumption covers all incoming students, it may lead students from low SES regional and remote backgrounds to feel alienated or left out from university culture and learning; which at its worst may impact retention or completion levels. Many students are beginning university without the appropriate ICT skills to navigate through the basic tools

required for a smooth transition into higher education. The LEAP – Links Digital Literacy program aims to provide future students from low SES regional and remote areas with the confidence and skills to effectively bridge the ‘digital divide’.

### **Originality/Practicality**

There are digital literacy frameworks in other universities across Australia, but these mainly aim to develop the digital literacy of staff and students *after* they arrive at university. Currently, one other program to enhance digital literacy of secondary school students only addresses students from refugee backgrounds<sup>1</sup>.

The LEAP – Links Digital Literacy program is unique as it focuses on students from low SES backgrounds in regional and remote areas and aims to enhance their digital literacy skills while they are still at school by training teachers.

In the first phase of research, this project seeks to identify the digital literacy competency gap between students entering university from regional and remote areas and those from metro areas of NSW. This research will help develop a unique program that narrows the ‘digital divide’ and enables students to a smoother transition into tertiary education.

This project addresses the STARS themes of strategies for broader social inclusion and increased tertiary education participation, in particular by students from low SES regional and remote areas.

### **Issues and Discussion**

#### *Issues regarding training teachers*

A possible challenge to the program may be teacher ‘resistance’ to technology use and/or training. This may be potentially due to teachers’ lack of confidence in using technology and/or their belief that time taken to learn modern technology could otherwise be used teaching students new skills and content (Howard & Mozejko, 2015). This can be addressed by providing accredited training sessions to ensure workshops contribute to the teachers’ professional learning goals.

#### *Issues regarding timing*

Another critical issue while working with teachers is to identify the most appropriate time to conduct workshops. Workshops during school terms would require teachers to arrange substitute teachers, and may dissuade their participation; however, workshops held during term breaks would need teachers to attend schools during holidays.

#### *Key questions for discussion*

1. How can we best measure digital literacy competency?
2. Are there any digital literacy benchmarks students are required to attain prior to university admission?
3. What are other digital literacy projects that participants are aware of or involved in?

---

<sup>1</sup> Monash University’s program on *Improving refugee students’ access to digital literacies: integrating transmedia storytelling in an EAL (Year 7) classroom*

## References

- Ala-Mutka, K., Punie, Y., & Redecker, C. (2008). *Digital Competence for Lifelong Learning*. European Commission Joint Research Centre.
- Anderson, N. (2015). Digital Technologies and Equity: Gender, Digital Divide and Rurality. In *Teaching and Digital Technologies: Big Issues and Critical Questions* (pp. 46-56). Port Melbourne, VIC: Cambridge University Press.
- Australian Council of Social Service (ACOSS). (2016). *Staying connected: the impact of digital exclusion on people living on low-incomes and the community organisations that support them*. Redfern, N.S.W.: ACOSS.
- Australian Curriculum, Assessment and Reporting Authority (ACARA). (2015). *National Assessment Program - ICT Literacy Years 6 & 10*. Sydney: ACARA
- Foundation for Young Australians. (2016). *New Work Mindset: 7 new clusters to help people navigate the new work order*. Retrieved from <http://www.fya.org.au/report/the-new-work-mindset-report/>
- Howard, S. K., & Mozejko, A. (2015). Teachers: technology, change and resistance. In M. Henderson, & G. Romeo (Eds.), *Teaching and Digital Technologies Big Issues and Critical Questions* (pp. 307-318). Port Melbourne: Cambridge University Press.
- Journell, W. (2007). The Inequities of the Digital Divide: is e-learning a solution. *E-Learning*, 4(2).
- Kennedy, G. E., Judd, T. S., Churchward, A., & Gray, K. (2008). First year students' experiences with technology: Are they really digital natives? *Australasian Journal of Educational Technology*, 24(1), 108-122.
- Newhouse, C. P. (2015). When Does Technology Improve Learning? In *Teaching and Digital Technologies: Big Issues and Critical Questions* (pp. 197-213). Port Melbourne: Cambridge University Press.
- Phillips, M. (2015, November 18). *Helping students bridge digital literacy gap will be no quick fix*. Retrieved from Sydney Morning Herald: <http://www.smh.com.au/national/helping-students-bridge-digital-literacy-gap-will-be-no-quick-fix-20151117-gl1jyo.html>
- Thomas, J., Barraket, J., Ewing, S., MacDonald, T., Mundell, M., & Tucker, J. (2016). *Measuring Australia's Digital Divide: The Australian Digital Inclusion Index 2016*. Melbourne: Swinburne University of Technology, for Telstra.
- Walton, P., Kop, T., Spriggs, D., & Fitzgerald, B. (2013, November). A Digital Inclusion: Empowering all Australians. *Australian Journal of Telecommunications and the Digital Economy*, 1(1), 9.1-9.17. doi: 10.7790/ajtde.v1n1.9