School leaders and executives play an important role in ensuring their schools bring about 21st century teaching and learning and successful integration of digital skills. School leadership teams make important decisions about the purchasing and implementation of equipment; including hardware, software and devices, as well as the distribution of technology, training, access for students, policies and community involvement.

The 5 Ps school leaders can do to support ICT capabilities in teachers and students

**# PLANNING**

Have a clear direction as a school leadership team as to how and why technology is going to be implemented to enhance teacher and student capabilities. This may include mapping out a 12 month to 5-year plan for ICT implementation and inclusion in the school's strategic directions and school plan. Making staff and the community aware and/or involved in the development of the plan also helps create a clear focus as a school as to how ICT is going to be beneficial for all involved. Planning also needs to involve key stakeholders who will be responsible for the purchasing and funding of equipment as well as the setup of devices, rooms and classrooms.

**# PEDAGOGY**

School leaders need to promote the concept that technology is a tool and it does not replace the importance of quality teaching and the use of effective pedagogy. ICT should not be seen as a way to replace teaching but rather to enhance the effective teaching and learning sequences provided by teachers. For many, technology could be seen as another add on to their increasing work load. A shift in pedagogy across the school needs to be driven by leaders to promote the teaching of skills needed to live, learn and thrive in the 21st century.

**# PROVIDE A VISION**

The school executive plays a crucial role in promoting a vision for technology use across the school setting. A focus on forward thinking needs to become embedded into daily school practices, including building awareness around access, security, equity and usage of technology. It is from the school leaders that an approach to accepting and adopting technology in schools is upheld.

A common vision is to strive to integrate technology using the SAMR model: Substitution, technology is a direct substitute for what you do already (e.g. typing an assignment rather than using pen and paper), Augmentation, there is a functional improvement in the substitution (e.g. using online dictionaries and spell check), Modification, technology allows you to significantly redesign the task (e.g. written essays are shared online and feedback is received), and Redefinition, technology allows you to do what was previously not possible (e.g. a lesson is videoed and shared online for students to re-watch and comment on).

A vision could be to shift ICT in schools from Substitution to Redefinition. To read more visit: [http://hippasus.com/blog/archives/373](http://hippasus.com/blog/archives/373)

Another framework that could be provided by school leaders is the TPACK approach that looks at the integration of Technological Knowledge, Pedagogical Knowledge and Content Knowledge in ICT. To read more visit: [http://www.tpack.org/](http://www.tpack.org/)

**# POLICY**

Schools with successful integration of ICT have clear policies for the safe and effective use of technology. If you are introducing BYOD, a policy for BYOD needs to be in place. For many students, policies can exist to guide safe cyber practices and address concerns with passwords, mobile devices, filming, and an awareness of a student’s ‘digital footprint.’ Staff can also benefit from clear policies about the appropriate use of DET purchased equipment and advice on personal security, use of social media and mobile phones. Computer Coordinators, Technical Support Officers, Regional ICT staff and other staff members can be utilised in the purchasing, storage, set up and supervision of devices. School leaders need to make decisions about access, security, equity, borrowing
procedures, home and school use and maintenance of equipment. School leaders may need to allocate roles to staff across faculties and school areas to assist in the day to day processes involving ICT.

# PROFESSIONAL LEARNING

Let's face it, technology available to school staff and students is ever evolving. Skills and tools that are implemented and mastered are soon replaced by new and more exciting ideas. In a 21st century school, TPL for teachers needs to be ongoing and embedded into regular practice, not seen as a one off event. Teachers (and students) need to be provided with time not only to have training and exposure to new ICT tools and approaches but also to practise, provide feedback and adapt their skills (often before anyone is expected to competently integrate these into classroom practice). Principals and school executives need to ensure all staff receive intensive ICT TPL in regular sessions and in a variety of formats; such as staff meetings and presentations, small faculty group workshops, online individualised training, peer mentoring and of course, a safe environment for trial and error.

CASE STUDIES

JINDABYNE CENTRAL SCHOOL

Jindabyne Central School is a K-12 environment where all staff are adopting and exploring ICT. The school uses online collaboration and blogging through the use of Moodle and Blogspot. School executive have carefully planned and implemented procedures that provide students with a wide range of ICT experiences and a high student to computer ratio through the use of bring your own device and skill-based lessons in two computer labs. A shift in pedagogy across all grades has resulted in students coding, using 3D animation and 3D printers, green screen filming and game design. Visit their website for more information http://www.jindabyne-c.schools.nsw.edu.au/blogs-moodle

Read about various projects on the school ICT blog http://ictatjcs.blogspot.com.au/

THE CANOBOLAS RURAL TECHNOLOGY HIGH SCHOOL

At The Canobolas Rural Technology High School, a range of ICT initiatives have been put in place, showing an awareness of changing pedagogy, planning and a change in vision. The school has a successful BYOD program, with policies and guidelines available to families and students. With the inclusion of several STEM projects across the school, executive staff have ensured whole school professional learning has occurred and a clear action plan has been developed across all faculties. Part of the school’s STEM program has included the creation of a designated multi-purpose STEM learning space and involvement in the NSW STEM Action Schools Program.

Read more on their website http://www.canobolas-h.schools.nsw.edu.au/programs
LIST OF REFERENCES & RESOURCES FOR SCHOOL EXECUTIVES:
Use the following resources to assist you with implementing your school’s approach to technology. There are many sites that discuss setting up BYOD, with tips and sample policies. Read more about the Australian Curriculum area of Technologies, as well as the General Capability of ICT. There are links here that will help build pedagogy around the use of technology in your school.

1. An overview of the SAMR model, developed by Ruben R. Puentedura
   http://hippasus.com/blog/archives/227
2. Teaching with Digital technologies, including the SAMR model
3. The TPACK Framework for technology integration
   http://www.tpack.org/
4. Jindabyne Central School
5. Read about various projects on the school ICT blog
6. The Canobolas Rural Technology High School
   http://www.canobolas-h.schools.nsw.edu.au/programs
7. A Knowledge Map on Information & Communication Technologies in Education
   http://www.infodev.org/articles/teachers-teaching-and-icts
8. Beyond the Classroom: A New Digital Education for Young Australians in the 21st Century
9. Australian curriculum for digital technologies
10. Australian curriculum general capabilities – ICT
11. NSW Department of Education - Technology Policies site
12. NSW Department of Education advice for setting up BYOD
13. BYOD policy for The Canobolas Rural Technology High School in Orange
    http://www.canobolas-h.schools.nsw.edu.au/programs/bring-your-own-device
14. BYOD checklist for schools – slideshare presentation
    https://www.slideshare.net/piphowell/nswdec-byod-checklist
15. ICT School Planning support
16. Tips for BYOD Equity – from a Principal’s perspective