Evaluation Case Study

Building capacity in assistive technologies

MSSD Output 1: Providing assistive technology
MSSD Output 2: Training in assistive technology

Northern Territory Department of Education

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Abstract
The Northern Territory Department of Education (DoE) provided assistive technology to support the teaching and learning of students with disability, and teacher training in integrating this technology in the classroom. A professional learning consultant was recruited in October 2012 with responsibility for researching and sourcing appropriate resources based on an evaluation of the needs of students, and facilitating professional learning programmes in the use of assistive technologies. Support was targeted at providing access to the curriculum for students with speech, language and communication needs.

Key elements and actions
The geographic isolation of Northern Territory communities, combined with issues of significant social and economic disadvantage, particularly in remote communities, creates particular challenges in delivering educational services. With the assistive technology initiative, the overarching approach of DoE was to implement change in teaching and learning for students with disabilities by making available appropriate assistive technology for students, strengthening teacher capability in its use and increasing the capacity of schools to introduce and manage learning technologies.

Following consultations with a diverse range of stakeholders, the decision was made to place priority on addressing the needs of students with Autism Spectrum Disorder and speech, language and communication needs. Consultations indicated that the system did not have sufficient capacity to meet the needs of this cohort of students, which were increasing in numbers and complexity. School staff reported that they did not have the requisite skills to differentiate the curriculum to meet the learning needs of this identified cohort of students, and that they were not ‘tech savvy’ or confident about their ability to use assistive technology in the classroom.

Professional learning consultancy services
A professional learning consultant was appointed in 2012 and commenced the groundwork for the initiative. By 2013 attention was focused on researching suitable assistive technology resources and equipment to support students with disabilities, and implementing a school grant process.

This specialist position is a multi-faceted role in leading and managing the initiative in assistive technology. There has been a concentrated effort on integrating assistive technology through a whole school approach to building capability and capacity. The initiative also established and embedded professional networks, enabling shared professional learning, disseminating effective practices, and creating a mechanism for ongoing communities of practice and collegial support.

Frameworks were put in place based on a model designed by the United States Centre for Applied Special Technology. The expected benefit of this model was to improve learning opportunities particularly for students with disabilities, through Universal Design for Learning to assist schools to select appropriate devices and software so that students could access the curriculum. The TPACK model (Technological Pedagogical and Content Knowledge) was used...
in the early phase of the initiative to help teachers develop an understanding of how assistive technology could be used to promote access, participation and learning for students with disabilities.

**Assistive technology and professional learning grants**

A competitive grant process encouraged schools to use assistive technologies to support student access to the curriculum. The strategies for delivering the outputs involved two components: grants to purchase assistive technologies for the targeted group of students with disability; and funds towards professional development. Schools were expected to adopt a whole school model of introducing assistive technology to ensure sustainable outcomes. The grant process required applicants to demonstrate how they would achieve school level sustainability, as opposed to support at the individual student level.

An Australian supplier of special needs software and inclusive learning technologies, Spectronics, provided school staff with face-to-face and on-line professional learning support to ensure effective use of the technologies. For instance, schools were provided with school specific support for setting up iPads, how to use an iPad, using iPads in the classroom and selecting appropriate apps and software to meet the needs of students. Devices were purchased to facilitate professional learning events and for teachers to borrow to trial technology with specific students.

In addition, every school in the NT received a subscription to Spectronics online. This now enables all schools full access including point in time professional learning, resources and forums. The successful grant schools also received tailored professional learning and video conferencing, follow up work, teaming up of schools implementing assistive technologies with similar software, and joint problem solving within and across schools. A log-in facility was available for parents to access the Spectronics site for information, blog entries, and video.

Train the Trainer days in assistive technology were designed to build a critical mass of trained teachers, to then work within their schools to increase capacity in assistive technology. Interstate consultants from Spectronics presented workshops in 2013 and 2014, as part of the professional learning component of this initiative. A group of teachers focused on Autism Spectrum Disorder and complex communication needs at an Inclusive Learning Technologies Conference, hosted by Spectronics in Queensland in May 2014.

**Creating a critical mass of learning technology users**

In some schools, decisions were made to place students with disabilities with teachers who demonstrated a commitment to differentiating the curriculum, were motivated to ‘have a go’ and were early adapters of assistive technology. These teachers motivated and mentored other teachers, and in some schools, initiated co-operative planning teams, to create a critical mass of teachers using assistive technology and supporting each other in their practice.

For example, one school attributes its success to taking the time to bring together external specialists with school staff members with their important contextual knowledge and teaching skills. A whole school professional learning day with Spectronics was followed by one half day of the Spectronics specialist working in classrooms. This initiative resulted in the school developing a plan for assistive technology, as well as specific projects, such as a meaningful AUSLAN picture library for one student.

The range of teacher IT readiness has presented challenges, as has the period of time taken for teachers to learn how to use the technologies prior to their introduction to classrooms.
Where there is a critical mass of teachers involved across a school, or concentrated activity in a particular area of the school (for example, early childhood), early adapters to the technology have supported and encouraged other staff. This has made a difference in the uptake of the technologies, and in creating a shared collegial learning environment.

Lessons learned

Key observations

The initiative was linked at the outset to a key strategic direction of the Northern Territory Department of Education (DoE): to improve the quality of support services across a vast geographic area, and to maximise educational opportunities for students with disabilities. The DoE strategy — to build on current structures and improve systems and processes — has been critical in advancing outcomes from this initiative and is expected to impact in the longer term.

The approach of DoE has been to cast a very wide net to encourage school participation across a range of contexts. What has emerged could perhaps be described as a ‘partnering and professional learning community’ approach, which is showing evidence of increasing capacity within and across schools. For example, one school, which has successfully implemented a whole school approach, explored ways to partner with other schools that have experienced challenges in implementing this approach. School personnel who have accessed networking opportunities are initiating collaboration with other network schools which have given presentations to the network on their approach and practice.

The main factors contributing to programme success are school leadership, a whole school approach, and staff access to professional learning and networks. A strong foundation, through a planned approach to the use of assistive technology, created a more rigorous approach to programme planning and implementation of a differentiated curriculum.

Leadership engagement is essential

A whole school approach is crucial, with the executive leadership team fully engaged, developing knowledge about assistive technology, and fostering integration of assistive technology in the classroom. The greatest improvements appear to have occurred in schools where leaders have facilitated a whole of school initiative. Teachers in these schools report that they have been able to achieve more effective approaches to differentiation in the classroom. Staff are better able to cater for the students in the classroom, there is increased collaboration and consultation between classroom teachers and the special education staff, and a greater shared understanding of ways to address student needs and communicate with families. Teachers observed that families have more awareness of their children’s needs and ways of helping at home. For students, assistive technology has enabled more active participation and learning, in both mainstream and special school settings.

Impact on mainstream teaching and learning

The impact of the initiative has been far-reaching and in some cases, surprising. For instance, the support work with some students has extended into the area of gifted education, with co-coaching and professional learning in curriculum differentiation being applied in an informed way. Similarly, there have been notable benefits of the technologies extending beyond the identified cohort of students with disability to mainstream students and influencing the nature of their interaction in the classroom.
Collaboration builds momentum

Collaboration is a key to building momentum within and across schools. A significant contributing factor to the momentum from the MSSD initiative has been professional learning and sharing of effective practices about the use of assistive technologies to enable better student learning outcomes. The coordination work of the professional learning consultant in DoE has been vital in establishing and maintaining the focus on professional learning and fostering a climate of collaborative practice. Release time to enable teachers to collaborate across professional learning/networks — sharing practice, reflecting, reviewing and problem solving — has been a highly valued aspect of this initiative. This has had major benefit for teachers in remote schools, who have been supported to travel from isolated communities and actively participate in programme activities. An unanticipated consequence of these meetings is their contribution to improvements in teacher practice in urban communities.

Shift in perspectives on the use of devices

There has been an observable shift in the focus of schools working from an assistive technology framework over the life of the initiative. They have moved from regarding assistive technology as an add-on in the classroom, to an integrated approach where technologies facilitate and enhance not only meaningful classroom learning for students with disability, but also, potentially, their lifelong learning opportunities. For students, the introduction of devices and apps has created significant change not only to enable them to communicate in the classroom, but also to empower them beyond the classroom: ‘The devices are not just used in the communication class, but they are devices for life... They are life changing.’

For staff, this targeted approach has brought major learning. The focus has been on encouraging teachers to firstly know their students, and to make informed decisions on ‘where they need to be next’ by having access to professional learning and ongoing support in assistive technology. Teachers reported on their enhanced ability to think about and work out how to make the processes of learning more accessible through assistive technology.

Sustainability

A number of aspects of the programme have set the foundations for sustainable outcomes. There has been an increased emphasis on documentation and recording of whole staff professional learning, so that this can be accessed via the DoE ‘iSupport’ website, and used in the future to continue capacity building. In particular, the ‘iSupport’ focus has been on the ways in which Assistive Technology can be integrated into the curriculum.

The DoE service model with its accountability structures and reporting frameworks addresses risk management through a planning, monitoring, review cycle. The approach of DoE is to lead change through school level projects with systemic guidance, placing responsibility and accountability on schools, and cultivating collaboration with DoE Disability Services. To address the risk of potential inconsistent MSSD coverage of schools across the vast, diverse area of the NT, DoE’s approach was to identify capacity building needs within particular regional contexts and to implement professional learning to build capacity, region by region.

Potential for adoption in other contexts

For those considering adopting/adapting this approach in other contexts, the most important element is visionary and inspiring school leadership that is committed to inclusive and collaborative practices, is engaged in a planned approach to integrate assistive technology in the school, and demonstrates enthusiastic and consistent support for assistive technology.
within the school. The second element is sustaining professional learning communities and networks to share and disseminate information, knowledge, strategies and skills in assistive technology.

**Notes**

In Phase 1 of this case study (April-August 2013) interviews were conducted with relevant DoE support staff, Director Disability Services and Special Education, the Manager Disability Services, and the newly appointed professional learning consultant. Phase 2 (March - September 2014) included follow-up interviews with DoE staff, including principals, classroom teachers, special education co-ordinators and teachers, and specialist advisory staff.