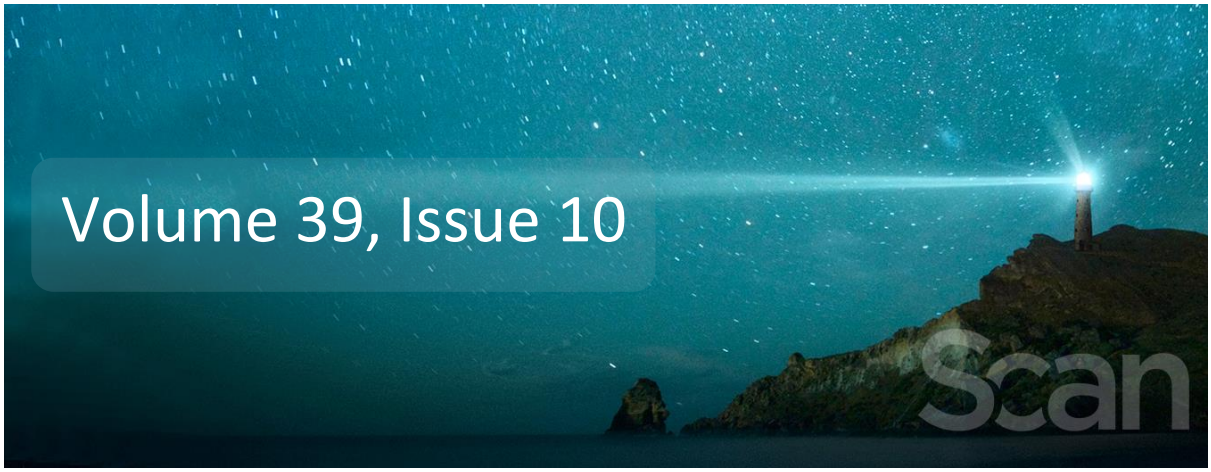


In this issue:

Scan is a leading refereed journal that focuses on the interaction between information in a digital age and effective student learning. Scan offers engaging professional support for all educators.

 ISSN 2202-4557 SCIS 1547886

Collaboration, innovation and adaptation: Quality teaching in a changing environment

Carole Hansen, Quality Teaching Rounds (QTR) Project Advisor, outlines the QTR process and its expanding evidence-base, and offers opportunities for teachers to participate in 2021.

What do we take away from 2020?

Earlier in the year, I wrote about the challenges and changes of operating within a global pandemic and the new and reimagined ways of teaching that had emerged through the learning from home period in NSW schools. As we near the end of 2020, this experience has irrevocably impacted ways of working and thinking within schools. Online learning, technology and face-to-face learning are now tinged with the steep learning curve of 2020. There have been immense challenges and there have been great opportunities for innovation and thinking outside the box. New knowledge acquired throughout this year informs reflection on a consistent consideration in public education – quality teaching. The question now is – **where to from here?**

Using quality teaching rounds to refocus for 2021

The challenges of this year have highlighted the level of innovation and in-house knowledge our teachers bring to work every day. As such, Quality teaching rounds (QTR) offers formal opportunities to harness this rich, collective pedagogical expertise within our communities to improve teaching practice.

QTR empowers teachers. It contributes to an environment which fosters trust, collaboration and improvement among colleagues in schools. QTR powerfully builds a teacher's capacity to enrich student learning through collaborative, teacher-driven analysis and refinement of practice. As the video [1:41] below explains, QTR utilises the quality teaching (QT) model as

a lens for facilitating discussion and analysis of teaching practice. The approach applies across all subjects and year levels and builds the confidence and capacity of teachers at all career stages.

YouTube video: Quality teaching rounds – introduction by NSW Department of Education

After participating in a QTR workshop, teachers return to their schools and form professional learning communities to conduct a 'set of rounds'. Over the course of the 'rounds' process, each educator teaches a lesson and is observed by the other teachers who code the lesson using the QT model and materials to guide the observation, feedback and discussion. Teachers benefit from robust discussions with colleagues and draw upon knowledge and experiences within their own schools.

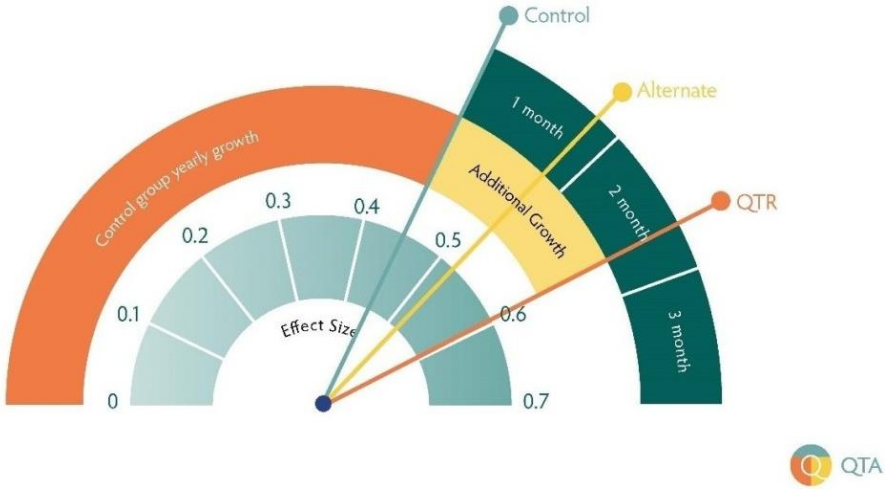
How effective is QTR? Current research

QTR makes a significant difference for teachers and students. Previous research has shown that QTR has a demonstrated, sustained impact on teaching quality, teacher morale and school culture (Gore et al., 2017). A recent study (soon to be published by Gore, Miller, Fray, Harris and Prieto-Rodriguez) also indicates that it can improve student achievement in mathematics by 25 per cent.

In 2019, the department built upon its significant partnership history with the University of Newcastle by collaborating on the research project, Building Capacity for Quality Teaching in Australian Schools. This ongoing project aims to rigorously investigate the impact of QTR on students and teachers on a wide scale and in a range of contexts, with a specific focus on overcoming disadvantage nation-wide.

A major component of this project was a 2019 randomised controlled trial which included more than 5,000 students from 126 department schools. Researchers from the University of Newcastle conducted 33,407 progressive achievement tests (PATs) and 791 whole lesson observations, as well as 11,924 surveys with students and 803 surveys with teachers and school leaders.

The results of the study, recently announced by the Teachers and Teaching Research Centre (and soon to be published formally), found that the students whose teachers participated in QTR achieved 25 per cent additional growth in mathematics, with greater improvements demonstrated in disadvantaged schools. The figure below illustrates this impact on maths achievement.



Impact of QTR on maths achievement

These are exciting and compelling results – especially in the context of the disruption caused by COVID-19. The Grattan Institute estimated in June that disadvantaged students probably lost around a month of learning during the learning from home period (Daley et al., 2020). QTR offers a potentially significant opportunity to reduce these impacts, particularly for disadvantaged students.

Get involved!

Schools, leaders and teachers in NSW public schools are encouraged to get involved in QTR in the following ways.

Attend a two-day QTR workshop

Due to the impact of COVID-19, QTR workshops were swiftly moved to an online format and have been successfully operating in this way since Term 2. Workshops are open to **all** schools. Interested? Register for a QTR online workshop.

As part of its partnership with the NSW Department of Education, the University of Newcastle's Teachers and Teaching Research Centre, led by Laureate Professor Jenny Gore, has offered two teachers from every department school the opportunity to participate in a QTR workshop at no cost. This opportunity continues in Term 4 and into 2021, with limited places remaining.

Engage with us via media channels

- Follow our Twitter hashtag - #QualityTeachingRounds.
- Visit the department's QTR website.
- Look out for our SchoolBiz (staff only) announcements about upcoming opportunities for schools.

Keep reading

Dive deeper into QTR by engaging in professional reading, using the sources below. In particular, read more about the recent QTR study by Gore, Miller, Fray, Harris and Prieto-Rodriguez – and keep an eye out for their full paper: 'Improving student outcomes through professional development: Results from a randomised controlled trial of Quality Teaching Rounds' (due for imminent release).

Teachers can also monitor the Teachers and Teaching Research Centre website to view other current research opportunities for schools.

If you have any questions or would like to discuss QTR further, please get in touch with the QTR project team, led by Allan Booth – QTR Project Leader.

References and further reading

Collins, L. (2017). Quality teaching in our schools. *Scan, 36*(4), 29-33.

Daley, J., Wood, D., Coates, B., Duckett, S. Sonnemann, J., Terrill, M. & Wood, T. (2020, June). The recovery book: What Australian governments should do now (Grattan Institute).

Gore, J., Lloyd, A., Smith, M., Bowe, J. Ellis, H. & Lubans, D. (2017). Effects of professional development on the quality of teaching: Results from a randomised controlled trial of Quality Teaching Rounds. *Teaching and Teacher Education, 68*, 99-113.

Gore, J., Miller, D., Fray, L., Harris, J. & Prieto-Rodriguez, E. (2020). Improving student outcomes through professional development: Results from a randomised controlled trial of Quality Teaching Rounds. (Due for imminent release – publication details TBA.)

Hansen, C. (2020). Learning in the time of COVID-19 – reimagining normal. *Scan, 39*(5).

NSW Department of Education – Learning Systems. (2019, July 11). *Quality teaching rounds – introduction* [Video file].

NSW Department of Education & University of Newcastle. (n.d.). Quality teaching online (NSW DoE staff). This website includes links to the Classroom Practice Guide, videos, articles and other resources supporting the quality teaching model.

University of Newcastle. (2020). Quality teaching rounds.

How to cite this article – Hansen, C. (2020). Collaboration, innovation and adaptation: Quality teaching in a changing environment. *Scan, 39*(10).

Getting real: Learning with (and about) augmented reality

Trisha Templeton, teacher librarian at Daramalan College, defines augmented reality (AR), explores its role in education, and suggests some basic considerations for teachers getting started with AR.

The technology revolution, pervasive use of the internet, and plethora of personal devices have changed the way society engages in employment, recreation, education and personal endeavours. With these changes manifesting in all parts of society, educators need to adapt their pedagogical practices to ensure students are equipped with the necessary digital skills and strategies to thrive in the 21st century (Wolz, 2019). The integration of emerging technologies, such as augmented reality, is being trialled in classrooms to improve engagement, bolster ICT acuity, and meet the needs of the modern student. This article seeks to explain augmented reality, understand its role in schools, and suggest some practical and pedagogical considerations for teachers getting started with AR.

What is augmented reality (AR)?

AR overlays computer-generated images, sounds, 3D models, videos, graphics, animated sequences, games or GPS data on real-world environments (Townsdin & Whitmer, 2017; Oddone, 2019). These combined 3D visual representations require specific software that can be downloaded onto either smart-glasses, tablets or smartphones (Wu, Lee, Chang & Liang, 2013). AR information is triggered by a QR code, image or illustration using a mobile application to release the interactive content (Levski, 2018).

AR is already present in military equipment, flight navigation, the entertainment industry and various mobile applications, such as Pokemon GO (Pope, 2018; Townsdin & Whitmer, 2017). It differs from virtual reality (VR), which is more fully immersive and utilises a headset to navigate a computer-generated environment.

YouTube video: AR 101 – The basics of augmented reality by HowStuffWorks (2:19)

Applications in classrooms

The most sizable and unique benefit AR has on educational practices is its ability to use 3D images to illustrate complex concepts (Zak, 2014). Abstract or theoretical concepts (such as the solar system or 'light years') can be challenging to explain and conceptualise. By using AR resources, such as Galactic Explorer for Merge Cube, students can manipulate holograms, like the solar system, observing the comparative sizes of the planets and the distance between them. This manipulation creates an engaging and realistic experience which increases the frequency and depth of connections made between the student, the content and the real world (Hannah, Huber & Matei, 2019, p 278; Wu et al., 2013, p 44).

YouTube video: Galactic Explorer for Merge Cube by AR Critic (2:29)

AR can be used successfully in inquiry learning, recreational and informational reading, and visual arts, and can support the development of skills in literacy and numeracy, STEM and ICT (Saidin, Halim & Yahaya, 2015). By expanding learning beyond the classroom walls, it also provides opportunities to develop the critical digital literacy skills necessary for life after school (Wolz, 2019, p 3; Wu et al., 2013). In these ways, AR has relevance in the 'design and technologies' and 'digital technologies' learning areas, and the general capabilities: ICT capability, critical and creative thinking, and ethical understanding.

By supporting interaction between the real and virtual worlds, AR also increases engagement and boosts information retention (Saidin, Halim & Yahaya, 2015; Wolz, 2019). Its individualised interaction means that AR is self-paced and promotes independent learning. AR resources can be embedded into print or digital resources, and can be used across disciplines. Its multimodal nature gives diverse learners multiple entry points into the content (Levski, 2018).

Inquiry learning

Oddone (2019) and Foote (2018) both suggest that greater educational benefits arise from students creating their own interactive images and overlays, rather than using supplied ones. Tools such as Metaverse or Augment can be used in this way. Metaverse Studio is intuitive, with a simple storyboard function to frame transitions. Users can create a new experience from scratch or draw from the existing bank of public experiences. AR tools like these could support engaging inquiry tasks in any discipline, and have specific curriculum value within the science, history and geography inquiry skills sections.

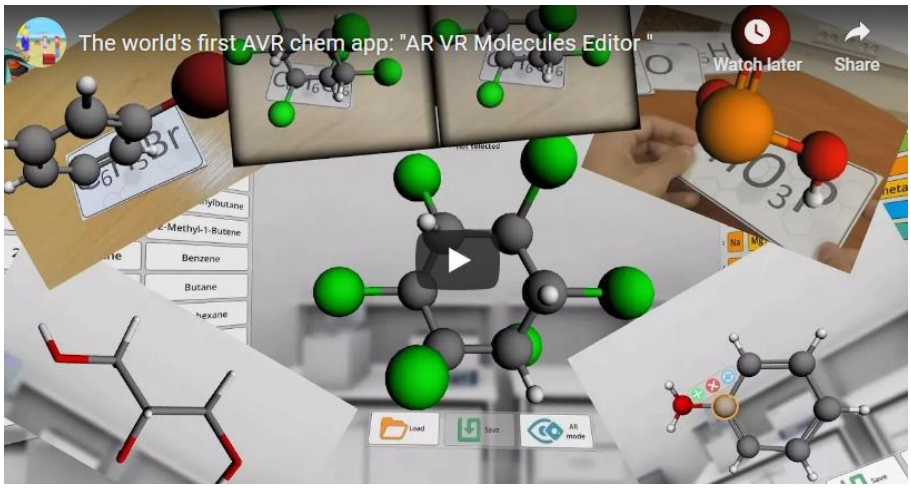
YouTube video: Metaverse is everywhere! by Metaverse AR Platform (0:59)

Metaverse Studio enables students to create interactive augmented reality learning experiences. These experiences – games, quizzes, tours, scavenger hunts, choose-you-own-adventure stories and more – can be viewed via the Metaverse app. Both resources are free, and various online tutorials are available. Teachers and students in NSW public schools can access Metaverse Studio via their department G Suite for Education account (ages 13+). Further information is available via the department's Digital Learning Selector.

Abstract concepts and STEM

Abstract ideas and content such as chemical structure, bonds and particle chemistry can be problematic for some students due to the challenge of visualising theoretical postulations (Furio et al., 2017, pp 2-3). Tactile, visual tools may strengthen understanding and comprehension, as students gain a better view of the content and use their sensory faculties while constructing new knowledge (Magana, Serrano & Rebello, 2018). For example, the AR

VR Molecules Editor app provides opportunities for students to explore, build, analyse and manipulate 3D molecules to improve understanding of the key concepts. Merge Cube and the Merge Explorer app allow students to manipulate an animated figure for a more immersive learning experience of human anatomy (Wu et al. 2013). Google's 3D and augmented reality search results also offer similar three-dimensional models of human body systems, as well as cellular structures and various other concepts in chemistry and biology.



YouTube video: The world's first AVR chem app: 'AR VR Molecules Editor' by STEM Island (0:38)

Reading

The emergence of augmented reality books is a growing trend in children's publishing, with publishers seeking to supplement traditional texts with AR features (Levski, 2018; Zak, 2014). AR books are viewed as a way of reaching a generation accustomed to interacting with screens and digital content. Offering engaging content, they've been cited to improve reading rates in children and adolescents (Levski, 2018; Zak, 2014). While these texts can be found across genres, they're most commonly found in fiction and informational resources for children and young adults. Titles range from classics such as Alice in Wonderland and Little Red Riding Hood to more modern young adult fiction, such as Jack Hunter - The French connection.

Vimeo video: Jack Hunter trailer by Jack Hunter (1:17)

Other books containing augmented reality features include:

- ‘Sleep Sweet’ by Julianne DiBlasi Black
- ‘The Archmage Tower’ by Søren Jønsson, Brian Bak Jensen and Leslie Crislip Nielsen
- ‘Ocean Monsters: Interact with Lifesize Sea Predators!’ by Nicola Davies
- ‘iStorm: Wild Weather and Other Forces of Nature’ by Anita Generi
- ‘An Elephant in our Garden’ by Patrick E. McLeod and Jeffrey A. Arnold.

Numeracy

Numeracy skills can also be enhanced using AR. Wu et al. (2013) suggest that students can learn geometry, trigonometry, spatial relationships and collaborative problem-based learning by using AR to supplement their understanding. For example, GeoGebra’s augmented reality app allows users to place objects on a surface, examine them from different positions, take screenshots and perform mathematical modelling. The app can be used to investigate logical construction, coordinate geometry, and area, volume and surface area of polygons/polyhedra. Similarly, using tools like MeasureKit – AR Ruler Tape adds a real world element to measurement activities, allowing students to more easily apply their theoretical knowledge of concepts in measurement.

YouTube video: Getting started with GeoGebra Augmented Reality by Brzezinski Math (2:12)

Visual arts, history and geography

An interesting use of AR is the ability to access and engage in an authentic exploration of real objects in an artificial space (Wu et al., 2013). For example, MERGE’s 3D Museum Viewer allows students to access life-size 3D artifacts from curated collections in the classroom. Apps like Google Expeditions and Google Arts & Culture allow students to interact with historical artefacts and visit real or fictional sites around the world, including museums, galleries and geographic landmarks. Google Arts & Culture can be used with Google Street View and Google Expeditions, and then all embedded into G Suite. On site, many art galleries and museums also offer embedded AR to give visitors access to additional information about displays.

From an assessment viewpoint, students could support their own creative pieces by embedding their rationale using QR codes on their paintings, sculptures, photographs or collages (Zak, 2014). Extending this idea, teachers could also use QR codes, in any discipline, to facilitate differentiated learning for a diverse classroom.

YouTube video: MERGE Edu 2019 by MERGE (1:27)

Location based learning

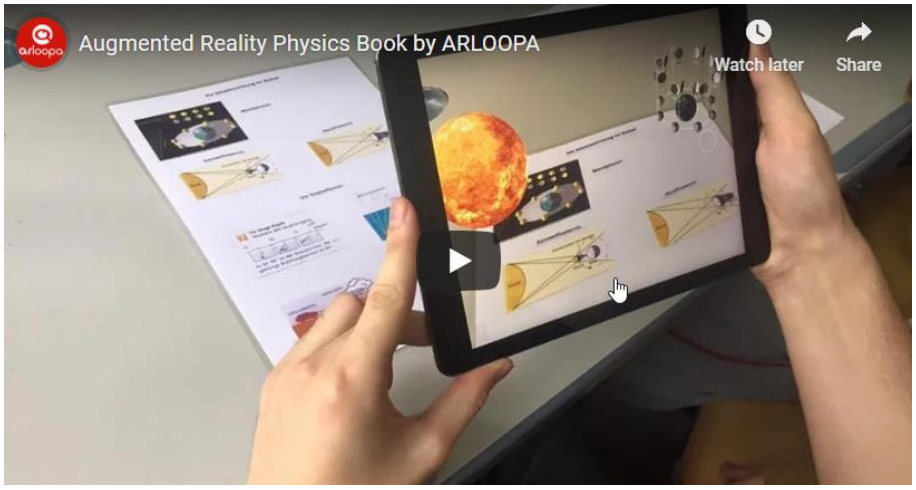
As Wu et al. (2013) suggest, location-based learning (such as field trips and excursions) can also be augmented by AR. This technology has been adopted by some organisations and national parks to enhance their education programs. Visitors can use their devices and inbuilt GPS systems to access pertinent information about the site they are visiting (Townsdin & Whitmer, 2017). For example, in Queensland, the MyRanger mobile app can be used within Springbrook National Park and David Fleay Wildlife Park to discover more about these areas, and to experience their animals come to life via AR. Students and teachers can also create their own virtual field trips or immersive tours using tools like Google Tour Creator.

AR in the library

As with technology access broadly, school libraries play a pivotal role in enabling access to augmented reality to support learning. There are several ways in which a school library can introduce emerging technologies such as AR to their patrons. These include:

Augmented reality texts

Augmented reality texts are one of the most cost-efficient ways of introducing AR technology to students, enabling learners to experience the technology without the associated setup costs for hardware and software (Brigham, 2017; Foote, 2018). Magana, Serrano and Rebello (2018, p 526) report increased student understanding when multimodal resources (like information texts embedded with AR) are used, compared to traditional texts. This is especially true for subjects with abstract concepts like physics. AR texts are currently offered in many schools and academic libraries, and some libraries offer a smart device loan scheme to assist with offsite learning using AR.

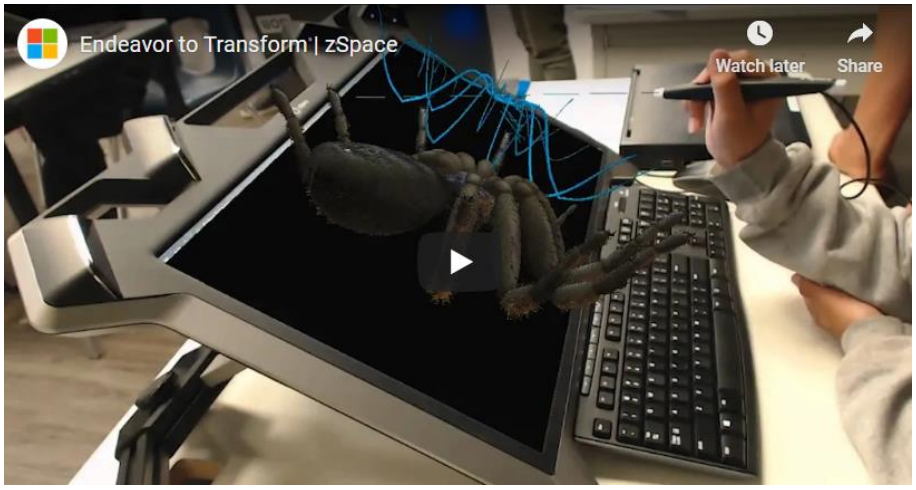


YouTube video: Augmented reality physics book by ARLOOPA Augmented/Virtual Reality (1:26)

Makerspaces and AR installations

Makerspaces convert students from users of content to creators of knowledge as they allow students to pursue individual projects in and out of class time, and facilitate independent and cross disciplinary learning. Many libraries have designated makerspace areas to facilitate creativity and critical learning and free play. These areas also allow teachers to experiment with new technology for their own personal benefit or to embed into their teaching practice (Slatter & Howard, 2013).

An extension of makerspaces are AR installations. These areas, known as sandbox programming, are permanently devoted to experimentation, exploration and demonstrations of AR/VR technology (Townsdin & Whitmer, 2017). Some examples of AR installations include TinkerLamp and zSpace. TinkerLamp was the forerunner of AR technology and required a screen, a projector, experimentation board and an interferometer (Furio et al., 2017, p 3). Whereas the more modern zSpace consists of a computer, stylus and specialised glasses (Foote, 2018).

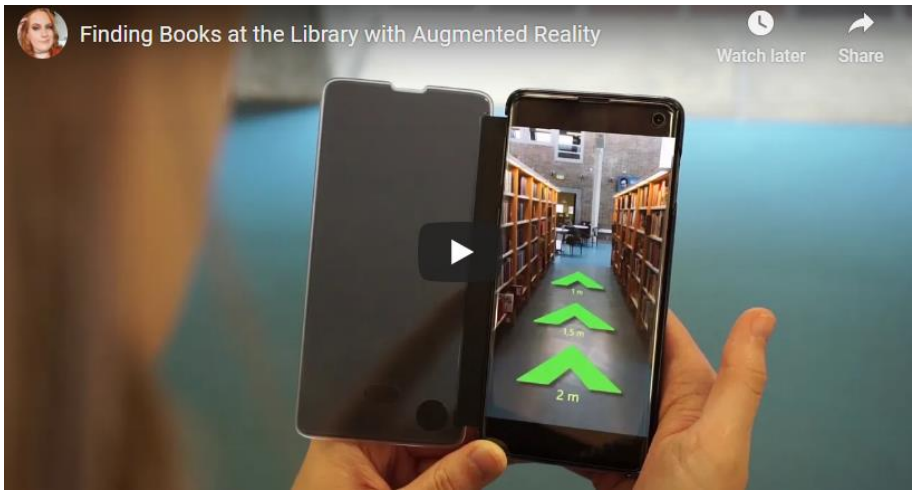


YouTube video: Endeavour to transform | zSpace by Microsoft Education (4:35)

At this stage, sophisticated installations are not yet common in schools, due to their cost. In contrast, Merge Cubes may provide a more accessible entry point for schools, as they are less expensive and more flexible for group use (Pope, 2018).

Library outreach and marketing

Library tours, displays and other promotional programs have an immense capability for AR. AR embedded posters and displays are an innovative method to engage students, and to convey useful information about seasonal events, special collections, library skills and services (Townsdin & Whitmer, 2017). It's also possible to gamify library maps with embedded GPS tagging as a method of incentivising students to explore the various library spaces and facilities (Balci, 2017; Townsdin & Whitmer, 2017).



YouTube video: Finding books at the library with augmented reality by Clara Sofie Rose (1:57)

Creation of school specific AR models

Ultimately, students need opportunities to create their own 3D objects and AR resources, aligned to the curriculum. As part of this approach, Hannah et al. (2019) propose that images are curated and integrated into the library management system. This method allows all the resources that are created in the school, by both staff and students, to be stored for future use, while acknowledging the authorship and intellectual property ownership of the images. However, the curation of 3D images requires new vocabulary and ontology and further exploration of the relevant literature. Therefore, it makes sense that AR installations, and associated AR hardware and software, are centralised in the library, and the teacher librarian could work with staff to develop appropriate retrieval terms for the school community.

Getting started with AR

While AR technology is still slowly maturing, opportunities increasingly exist for free and low-cost AR to support student learning in novel, engaging ways. As Southgate et al. (2019, p 66) advise, teachers should consider the following when selecting and using AR resources.

1. **What is the educational value of the AR resource?**
    - What does it offer that is superior to other educational tools?
    - Does it facilitate an experience that students cannot access in real life?
    - How will the AR resource improve my lesson?
    - Do students and teachers have the required devices or technical infrastructure?
2. **Is the AR experience developmentally appropriate?**
    - How will students respond to the content and format?
    - What might be the challenges and potential barriers to learning?
3. **Are there any ethical, legal or safety considerations?**
    - For example, how will risks of injury be mitigated if students are walking around holding devices?
    - Are there any privacy, cultural or copyright considerations when producing and publishing new AR content?

With these considerations in hand, teachers are well positioned to experiment, building their own capacity – and their students' – to learn about and through AR.

References and further reading

Balci, L. F. (2017, November 17). Using augmented reality to engage students in the library [Web blog post].

Brigham, T. (2017). Reality check: Basics of augmented, virtual, and mixed reality. *Medical Reference Services Quarterly, (36)*2, 171-178. doi: 10.1080/02763869.2017.1293987

Coates, C. (2020, September 17). How museums are using augmented reality [Web blog post].

Cuendet, S., Bonnard, Q., Do-Lenh, S. & Dillenbourg, P. (2013). Designing augmented reality for the classroom. *Computers & Education, 68*, 557-569. doi: https://doi.org/10.1016/j.compedu.2013.02.015

Foote, C. (2018). Is it real or is it VR? Exploring AR and VR tools. *Computers in Libraries*, *38*(3), 33-36.

Furio, D., Fleck, S., Bousquet, B., Guillet, J. P., Canioni, L. & Hachet, M. (2017). *HOBIT: Hybrid optical bench for innovative teaching*. [Paper presentation]. 2017 CHI Conference on Human Factors in Computing Systems, Denver, CO, United States. doi: https://dx.doi.org/10.1145/3025453.3025789

Hannah, M., Huber, S. & Matei, S.A. (2019). Collecting virtual and augmented reality in the twenty first century library. *Collection Management, 44*(2-4), 277-295. doi: 10.1080/01462679.2019.1587673

K. A. (2019, May 21). Augmented reality in education [Web blog post].

Levski, Y. (2018). 10 augmented reality books that will blow your kid's mind [Web blog post].

Magana, A., Serrano, M. & Rebello, N. (2018). A sequenced multimodal learning approach to support students' development of conceptual learning. *Journal of Computer Assisted Learning, 35*(4).

Oddone, K. (2019). Even better than the real thing? Virtual and augmented reality in the school library. *SCIS Connections, 110*.

Pope, H. (2018). Virtual and augmented reality in libraries. *Library Technology Reports - American Library Association, (54)*6.

Sagar, P. (2018, December 22). The impact of augmented reality in education [Web blog post].

Saidin, N. F., Halim, N. D. A. & Yahaya, N. (2015). A review of research on augmented reality in education: Advantages and applications. *International Education Studies, 8*(13).

Santos, J. F. & Esposo-Betan, S. M. (2017). Advantages and challenges of using augmented reality for library orientations in an academic/research library setting, *Proceedings of the 2017 IATUL Conference*.

Slatter, D. & Howard, D. (2013). A place to make, hack and learn: makerspaces in Australian public libraries. *Journal of the Australian Library and Information Association, 62*(4), 272-284.

Southgate, E., Blackmore, K., Pieschl, S., Grimes, S., McGuire, J. & Smithers, K. (2019). *Artificial intelligence and emerging technologies (virtual, augmented and mixed reality) in schools: A research report*. Newcastle: University of Newcastle, Australia.

Spina, C. (2014). Keeping up with… augmented reality.

Townsdin, S. & Whitmer, W. (2017). Implementing augmented reality in academic libraries. *Public Services Quarterly, 13*, 190-199. doi: 10.1080/15228959.2017.1338541

Thisideablog. (2018, August 21). Day 9: Merge Cubes in the makerspace [Web blog post].

Wolz, K. (2019). *Building faculty competence and self-efficacy for using ZSpace virtual reality (VR) software in the classroom* (Thesis). Retrieved from ePublications at Regis University. (920)

Wu, H., Lee, S., Chang, H. & Liang, J. (2013). Current status, opportunities and challenges of augmented reality in education. *Computers & Education*, 62, 41-49.

Yeh, H. C. & Tseng, S. S., (2020). Enhancing Multimodal Literacy using Augmented Reality. *Language Learning & Technology, 24*(1), 27–37.

Zak, E. (2014). Do you believe in magic? Exploring the conceptualisation of augmented reality and its implication for the user in the field of library and information science. *Information Technology and Libraries, 33*(4).

How to cite this article – Templeton, T. (2020). Getting real: Learning with (and about) augmented reality. *Scan, 39*(10).

Aboriginal Language and Culture Nests: Teaching and learning Aboriginal Languages and culture in NSW

Dr Rowan Savage is a proud Kombumerri man living on Gadigal Land who works in the field of Aboriginal education. In this article, Rowan outlines the Aboriginal Language and Culture Nest initiative and suggests principles to guide schools seeking to establish Aboriginal Language and culture programs.

One of the most important aspects of learning and engagement for Aboriginal students is for a school to be not only a place of cultural safety, but a place where Aboriginal culture is taught, is visible, and is respected by staff and fellow students. Various studies have drawn a link between the teaching of Aboriginal Language and culture in schools and:

- increased participation and retention
- improved educational performance and outcomes for Aboriginal students
- improved health, wellbeing, and economic status amongst Aboriginal people and communities
- decreased racism.

Given this, the department's Aboriginal Education Policy commits the department to working, in partnership with the NSW Aboriginal Education Consultative Group Inc. (NSW AECG) and Aboriginal communities, to implement Aboriginal Languages programs in schools.

An important way in which this happens in government schools in NSW is through the Aboriginal Language and Culture Nest initiative (as well as through Aboriginal Languages teaching more generally).

A Nest is a network of communities bound together by their connection through an Aboriginal Language. Each Nest creates learning pathways for Aboriginal students, teachers and community members. The size, shape and form of the Aboriginal Language and Culture Nests are community driven.

A range of methods is used to facilitate language and culture teaching, including face-to-face learning in classrooms, On Country excursions (where possible), and online and digital delivery and resource creation. Strategies adopted in Nest schools and other schools teaching language and culture provide positive models which are available for all schools, whether or not they are formally within the Nest program areas.

Aboriginal Language and Culture Nests – history and structure

The department leads the implementation of the Nests initiative in partnership with the NSW AECG (the peak advisory group on Aboriginal education in NSW), local and regional AECGs, and local Aboriginal Language groups. The teaching and learning of Aboriginal Languages in schools across the Nests is also supported by the NSW Education Standards Authority (NESA) which provides syllabus content, as well as programming and assessment information, for the Aboriginal Languages courses.

The Aboriginal Language and Culture Nests emerged under OCHRE, the NSW Government's plan for Aboriginal affairs. Under OCHRE, Aboriginal Language and culture is a major initiative, with Aboriginal peoples' fundamental right to reawaken, revitalise and maintain their language and culture recognised.

The NSW Ministerial Taskforce on Aboriginal Affairs surveyed 427 people from Aboriginal communities in the state and found very strong support for offering Aboriginal Languages in schools, using flexible and locally driven designs.

Under OCHRE, five Aboriginal Language groups were identified, and Nests launched, in the period 2013-2014. All were established following extensive local Aboriginal community consultation. In selecting these language groups, consideration was given to the number of language speakers, availability and accessibility of language speakers and resources, pre-existing language revitalisation activity in schools, and accessibility to wider resources such as infrastructure, TAFE NSW and local AECG networks.

These Nests are Bundjalung, Gumbaynggirr, Gamilaraay/Yuwaalaraay/Yuawaalayaay, Paakantji and North West Wiradjuri. There are also two satellite Nests – Dunghutti (established in 2019) and Gomeroi (in the process of establishment over 2020).

Each Nest has a footprint area spanning the relevant Aboriginal Language nation. Public schools within the Nest area are eligible to receive Aboriginal Language and culture teaching funded through the initiative.

Each Nest also has a Keeping Place. A Keeping Place is a location for the Nest, providing a point of contact relating to the local Aboriginal Language, and housing language resources and materials for use by communities and partnered organisations. A Keeping Place may be physical, virtual or both.

Principles for teaching Aboriginal Language and culture

Nests are designed to provide a continuous learning pathway for Aboriginal students. The language skills and knowledge of Aboriginal Language and culture holders and/or speakers from local Aboriginal communities is critical to the continuing development of teaching and learning in the Nests.

An important principle is that Aboriginal communities make their own decisions about how their language and culture will be taught. Those decisions are supported by the department – rather than the department employing a top-down approach. For example, Nests may choose whether only Aboriginal students should learn language and culture or whether non-Aboriginal students may also participate.

For this reason, each Nest has a reference group. Reference groups discuss and set direction and priorities for their Nest footprint area. They are community groups which have the right to self-determination as to their functions and processes. Membership of the reference group is open to all relevant community members and relevant community organisations.

Each Nest also has a cultural protocol which was developed in collaboration with NSW AECG, local AECGs, and local Aboriginal communities. These protocols outline and determine how Aboriginal Language and culture should be taught in schools.

The department has agreed to respect Indigenous cultural and intellectual property rights by following Indigenous cultural protocols, as outlined in the Protocols for Working with Indigenous Artists, published by the Australia Council for the Arts.

Teaching in Nests

Each Nest has an Aboriginal Language Teacher who is responsible for coordinating language activity, developing resources and teaching plans, and assisting educators to deliver language services.

The department contracts the NSW AECG to deliver services in the Nests. That is, to employ educators to work in schools delivering language and culture lessons. NSW AECG project officers support language teaching and learning, resource development and sharing opportunities, and support the reference groups.

Educators are Aboriginal people who have received endorsement from the local community to teach language. Educators may hold a Certificate I, II, III or IV from TAFE NSW, and/or may be recognised as Elders and/or language speakers within their community. The importance of this is that educators are people who, whether or not they have formal qualifications, are recognised by their communities as being language holders in a position to pass this knowledge on.

Classroom teachers in each school where language and culture are taught are responsible for classroom management and are active participants in the lessons delivered by educators.

A vital teaching principle demonstrated by this structure is the need for different organisations and individuals to work together to put into place teaching and learning structures which are directed and approved by the relevant Aboriginal community – these will not always conform to typical Western teaching models.

Teaching in Nests is primarily face-to-face, and Nest staff may also organise On Country excursions (following all relevant policies and procedures). This honours the importance of languages which were originally oral, not written, and where learning would not have taken place in a Western-style classroom setting.

The department and the NSW AECG have also been developing online resources, teaching materials and delivery methods, including live delivery through Zoom. During COVID-19 disruption, these have been developed further and have proved invaluable. It is also important to note that not all students, especially in remote locations, will have reliable internet access at home. For this reason, the department has worked with the NSW AECG to develop physical resources (such as paper booklets) and deliver them to students in these circumstances.

The department is currently preparing a professional learning pilot to further develop whole-of-school approaches. This pilot recognises that, to be fully effective, language and culture perspectives need to be embedded into teaching and learning programs across all key learning areas – not solely taught in discrete classes. Through this initiative, non-Aboriginal teaching staff and school executive will be supported to embed Aboriginal Language and culture throughout the school and will develop networks across their Nest area to share best practice and resources. Once the pilot has been evaluated, similar programs may be rolled out across other Nest areas.

Aboriginal Languages outside the Nests

Separate from the Nests, schools have the flexibility – and are encouraged – to work with their local Aboriginal community in establishing and implementing an Aboriginal Language program using their School Budget Allocation. (The teaching and learning of Aboriginal Languages and cultural studies is also mandatory at Connected Communities schools.)

The abovementioned principles – both ethical and relating to teaching and learning – that guide Nests are also applicable to the teaching of Aboriginal Language and culture outside Nest footprint areas.

More information on the Nests, and about establishing an Aboriginal Language and culture program outside Nest areas, is contained in the Aboriginal Language and Culture Nests Guidelines.

Conclusions

The Nests initiative aims to exemplify a number of important principles for teaching and learning Aboriginal Language and culture across NSW. These principles may be useful to consider for any school working to put the Aboriginal Education Policy into practice and embedding respect for and understanding of Aboriginal culture across their school.

These principles include:

- Schools should develop and deepen meaningful relationships with their local and/or regional AECGs, as well as local Aboriginal communities and organisations.
- Teaching of Aboriginal Language and culture should be led and approved by the local Aboriginal community/ies.
- Appropriate methods of teaching and learning Aboriginal Language and culture will not always look the same as the typical methods which non-Aboriginal school staff may be familiar with in schools.
- Discussion with the community about the way in which language and culture is taught is an ongoing dialogue, not a 'tick-a-box' exercise.
- Non-Aboriginal staff should understand the importance of Aboriginal Language and culture and look to embed practice in all areas. Finding effective ways to ensure this is done should take place via formal professional learning and in day-to-day practice.
- The different needs of all Aboriginal students and communities should be considered. In recognition of this, a diverse range of delivery methods should be employed, ensuring no students are left out or disadvantaged.

References and further reading

Aboriginal Affairs NSW. (n.d.). About OCHRE.

Australia Council for the Arts. (n.d.). Protocols for Working with Indigenous Artists.

NSW Department of Education. (2008). Aboriginal Education Policy.

NSW Department of Education. (2019). *Aboriginal Language and Culture Nests Guidelines*.

NSW Department of Education. (2020). Connected Communities.

NSW Department of Education. (2020). Language, culture and communities: Aboriginal Language and Culture Nests.

How to cite this article – Savage, R. (2020). Aboriginal Language and Culture Nests: Teaching and learning Aboriginal Languages and culture in NSW. *Scan, 39*(10).