



Australian First Nations Peoples snapshots

Connection through language



Figure 1: Conceptual framework for the Aboriginal and Torres Strait Islander Histories and Cultures priority

Relevant organising idea –

Country/Place

Aboriginal and Torres Strait Islander Peoples have holistic belief systems and are spiritually and intellectually connected to the land, sea, sky and waterways. (OI.3)

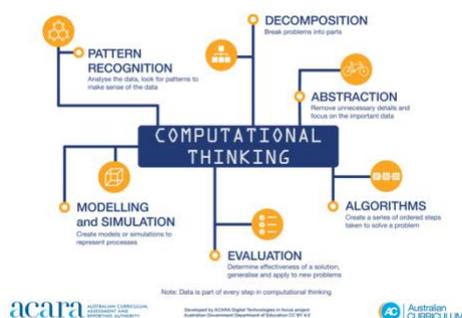
Storytelling

The Digital Technologies in focus project curriculum officers worked with 160 schools across Australia. Storytelling was found to be a good hook for both teachers and students to engage with Digital Technologies especially in schools with high populations of First Nations Australian students.

Australian First Nations Peoples' storytelling is a long-established tradition with many stories being told to teach facts and lessons. Some cultural stories provide survival tips for navigation on land and water through songlines which provide memory aids along the journey.

There are different types of stories which are communicated through dance, song, body painting, rock and sand art, carvings and message sticks. Stories can be collective histories, spiritual narratives, cultural practices, life histories or fiction stories which are passed from generation to generation and are specific to groups and Country/Place.

Some stories are sacred and cannot be shared with others unless through ceremony or ritual. Some stories can only be shared by those who have authority, such as Elders. It is essential to seek permission and advice from local First Nations Australian Elders of authority before recording traditional stories. See [Useful links](#) for further information.



Computational thinking and storytelling

Storytelling provides many opportunities for teachers to explicitly teach computational thinking strategies. For example, we use decomposition when we break stories into component parts of beginning, middle and end. We create algorithms when we tell the sequence of the story. We use abstraction to leave out unimportant details. Computational thinking strategies can help prepare students to create engaging animated stories through visual programming.

Visual programming with Scratch Jr

One visual programming tool the DTiF curriculum officers have found particularly motivating for students is [Scratch Jr](#). The app is useful in EAL/D or low literacy environments as it doesn't rely greatly on students' reading skills. The app uses horizontal visual programming blocks which emulate the grammar of left to right languages (such as English) and there is very little written language. This enables students with low English literacy to accomplish storytelling, recount, procedural or persuasive texts tasks along with all students in the class without being inhibited by the lack of English skills.



Figure 1: The Scratch Jr interface with example of horizontal visual programming blocks.

The app is useful for non-English speakers, or to assist in developing tools to learn or preserve lost languages and great to build concepts of computational thinking. Scratch Jr can also be used with inexperienced older students to build games for younger ones.

Snapshots of DTiF schools

The following snapshots detail ways DTiF schools incorporated storytelling through visual programming. The first two snapshots show what can be achieved with Scratch Jr. The examples show what schools and Curriculum officers did with students to teach English with non-Indigenous story contexts. The third snapshot details a whole-school bilingual approach to digital storytelling including the use of [Scratch](#) and [Minecraft](#).

Snapshot 1 – Scratch Jr for literacy learning in Western Australia

DTiF Curriculum Officer, Dee Poole worked with teachers in Western Australia to help them make connections between writing and Digital Technologies. Using the [Talk for Writing](#) framework Dee guided teachers and students through a series of activities to incorporate Scratch Jr into their English writing programs. Schools used Scratch Jr in a variety of ways:

- Students retold a story through the creation of icons to depict the words. Each icon was then used to develop an action. The students retold the story through symbols and movement (codes) and transformed the story by replacing icons with alternatives. Students innovated on the text, 'How to Catch a Dragon' by Adam Wallace to create their own animated versions using recorded voice to tell the story. One student created a story, 'How to Trap a Stone Unicorn'.

- Year 3 students, at a Goldfields school, designed an interactive spelling game in English and Wangkatja for students in the Year 1 classroom.
- teachers scaffolded writing using picture books with post-it notes used for speech bubbles to aid retelling of stories using Scratch Jr. The example shown in Figure 2 shows the book 'There was an Old Lady who Swallowed a Mozzie' by P. Crumble with the use of speech bubbles in Scratch Jr.



Figure 2: Post-it notes stuck on a picture book to as speech bubbles (not shown) and for brainstorming ideas are used to scaffold learning for students to then apply in Scratch Jr (as shown).

Snapshot 2 – Scratch Jr for teaching in language and English

The [Groote Eylandt Language Centre](#) on Anindilayakwa is using Scratch Jr software on iPads to help teach the orthography (spelling) and correct usage of Amamalya Ayakwa language. The Aboriginal teachers, Elders and Language Centre staff are enthusiastic about this project, loving the connection for teaching the language as well as the student engagement. They see this as important in recording written language as well as spoken language. Students are using characters with visual speech bubbles showing written language along with recordings of spoken language. They are also using digital tools to tell stories of totems in language and in English.

Curriculum officers Steve Grant, Simon Collier and Martin Levins worked with EAL/D Pitjantjatjara speaking students at Mutitjulu School on Anangu Country in Central Australia using Scratch Jr to teach them skills for telling stories in English to practice their English speaking. A story sequence was decided upon with the students and then storyboarded on a whiteboard. The students wanted to show a dog walking over to a tree, jumping and walking back to where it started. Code blocks were added to the storyboard to assist students with the algorithm for their animated story sequence. See Figures 3 and 4. The students have recently been learning to read and write in Pitjantjatjara and will be able to apply their Scratch Jr skills to telling stories in language.

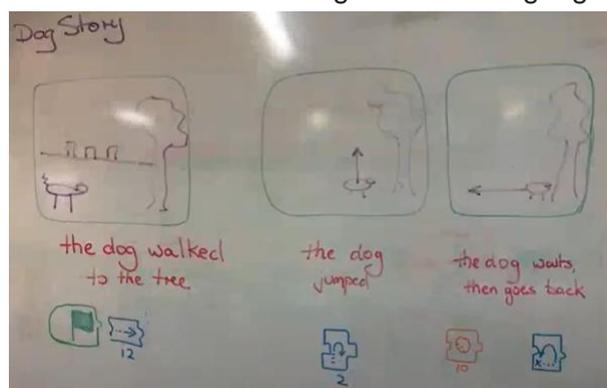


Figure 3: Storyboarding the dog story and algorithm with Scratch Jr code blocks drawn on a whiteboard.

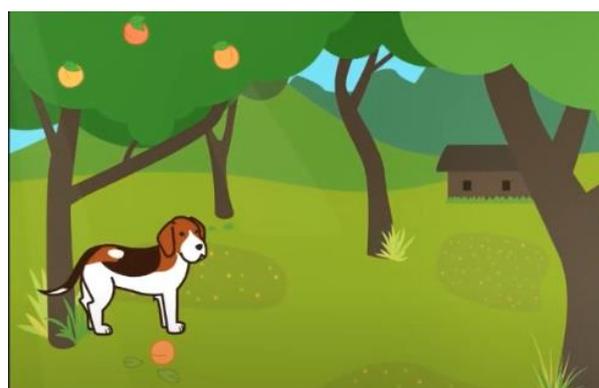


Figure 4: Static image of the animated dog story in Scratch Jr.

Snapshot 3 – Embedding Digital Technologies at Shepherdson College Centre of Cultural Excellence

[Shepherdson College](#) is located in Galiwin'ku on Elcho Island in the North-east of Arnhem Land on Yolŋu Country in the Northern Territory. The school supports education of children

from birth to Year 12 through playgroup, kindergarten, and school. They have adopted a 'Learning on Country' approach to educating the students and they teach through a bilingual or 'Both-ways' Yolŋu and Balanda program where the traditional Rom (lore) gives meaning and context for Australian Curriculum content.

Literature Production Centre

Shepherdson College has its own [Literature Production Centre](#): Yolŋu Matha Resources, where books are produced in in the local languages to teach reading skills. The library has books on many topics including Country and land, Culture, History, Natural environment, and People and Kinship.

The Teacher-Librarian, Marion Hooper, has developed [YM Rirrakay quiz](#) on Scratch to reinforce the sounds and letters of the Djambarrpuynngu language. See Figure 5.



Figure 5: YM Rirrakay Quiz on Scratch
Credit: Marion Hooper
creativecommons.org/licenses/by-sa/2.0/

Programs that promote connection through language

Shepherdson College has given students many opportunities for learning through language during the DTiF project and continue to craft innovative ways to engage the students. Some of their actions include:

Shepherdson College Writing Festival

Shepherdson College ran a writing festival to celebrate the joy of storytelling and give students the opportunity to share their work with others digitally through the school's website. As there are no bookstores on Elcho Island, the school put out a call on social media for donations of children's books to extend students' exposure to English language stories. Books were bundled and given to students as take-home packs. Donations are still welcomed.

Minecraft

Students are building their own worlds in [Minecraft](#). The students have developed agreed protocols (rules) for others to follow when interacting in their online world. Students were given scaffolded instructions to aid the login process. Students are now adept at accessing Minecraft and interacting with their own and other worlds.

Dance party

Song and music have significant cultural value for the students. The students really enjoyed engaging with the [Code.org Dance party](#). They found the music and dancing very motivating and it was a great way for them to learn computer programming.

Scratch

Students created animated Christmas cards using Scratch and shared these with their families. Here's an example of one animated Christmas card:

scratch.mit.edu/projects/253114277/ Credit: Marion Hooper creativecommons.org/licenses/by-sa/2.0/
Animated Scratch programs were also created by students to celebrate their love of music and dance.



Figure 6: Scratch project: Who Sank the Boat?

Credit: Marion Hooper creativecommons.org/licenses/by-sa/2.0/

Students created animations based on the story 'Who Sank the Boat?' by Pamela Allen. See Figure 6. Here's the teacher made task used as a model for the students:

scratch.mit.edu/projects/244222178/ Credit: Marion Hooper creativecommons.org/licenses/by-sa/2.0/

This Scratch studio contains tutorials developed for the students:

scratch.mit.edu/studios/697520/ Credit: Marion Hooper creativecommons.org/licenses/by-sa/2.0/

Resources

Using Digital Technologies processes and production skills to preserve a record of written language

A discussion which explores the usefulness of Digital Technologies to capture and present native language in both written and oral form. It also explores the local language as a cultural tool to express concepts that have no English equivalencies. More context can be found by watching the YouTube video below.

<https://soundcloud.com/user-545610962/using-dt-process-and-production-skills-to-preserve-a-record-of-written-language/s-WelnVSH2VQr?si=146f527e25854401b2ae3f6512e0aa2c>
(3:32 minutes)

Embedding a literacy and writing framework in Digital Technologies learning

Demonstration and illustration of practice – Using Scratch Jr to tell the story of a dog working with an Arrante speaker in an EAL/D context. The video depicts the work the student achieved after teacher modelling. www.youtube.com/watch?v=QAXFRh6f1Pw
(3:26 minutes)

Useful links

Talk for Writing Resources www.talk4writing.com/resources/

Storytelling in Aboriginal and Torres Strait Islander cultures www.qcaa.qld.edu.au/about/k-12-policies/aboriginal-torres-strait-islander-perspectives/resources/storytelling

Understanding and respecting creation stories
indigenousknowledge.unimelb.edu.au/curriculum/resources/understanding-and-respecting-creation-stories

First Nations Bedtime Stories www.commonground.org.au/firstnationsbedtimestories

Virtual Songlines www.virtualsonglines.org/

Narragunnawali early years and primary resources (free to join and log in)
www.narragunnawali.org.au/curriculum-resources

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