Scan

The journal for educators

NSW
GOVERNMENT

Citizen science in the classroom

Nurturing student readers and writers

Passive programming for school libraries

Contents

Scan is a leading refereed journal, published between February and November. Scan aims to bring innovative change to the lives and learning of contemporary educators and students. Through Scan, teachers' practice is informed by critical engagement with peer reviewed research that drives improved school and student outcomes across NSW, Australia and the world. Scan aims to leave teachers inspired, equipped and empowered, and students prepared.

Changes ahead for Scan
Thank you for completing our recent subscriber survey. Your input helps shape our content and future directions.

As a result of this feedback, Scan will be returning to quarterly publication after this issue. Stay tuned for our Term 3 and Term 4 issues!

We're also working through your other valuable suggestions and look forward to implementing some of them soon.

Citizen science:
crowd sourcing and crowd-pleasing STEM activities for schools

Dr Judy Friedlander
Founder and director of Planting-Seeds Projects

Nicole Lewis
Environmental Educator at Planting-Seeds Projects

Dr Judy Friedlander and Nicole Lewis explain the notion of Citizen Science and show how active engagement in this community activity has valuable learning and teaching outcomes for school students K-12.

Citizen science

In the parlance of contemporary colloquial language, citizen science is now a 'thing', and it is inspiring experts and amateurs to engage in scientific quests and discoveries. Citizen science demonstrates how science, the public, and practical methodologies can entwine to inform and inject fun and discovery into technology and data gathering.

The unprecedented global growth of interest and involvement in citizen science over the past decade has been facilitated firstly by advances in smartphone/tablet functionalities including their sophisticated cameras; and secondly by apps, websites and databases that gather and synthesise data and observations.

This extension of research into the public domain certainly has the seal of approval from those in scientific authority. For instance, encouraging citizen science is a key recommendation of Australia's Strategy for Nature 2019-2030, and Chief Scientist's communications and papers, including Building Australia through citizen science and Planting the seeds of citizen science, and State of Environment reports.

Resources supporting citizen science

A stand-out resource for facilitating an involvement in citizen science is iNaturalist. This website enables everyday people to help identify species and inform biodiversity strategies. iNaturalist is a social network of naturalists, citizen scientists, and biologists built on the concept of mapping and sharing observations of biodiversity across the globe. It features 105 million observations of plants, animals, fungi and other observations worldwide to date – and is growing! 'iNat', as it is affectionately known, began in 2008 as a UC Berkeley Masters project and is now a joint initiative between the California Academy of Sciences and the National Geographic Society.

Another notable resource is the Atlas of Living Australia (ALA). It is the Australian node of the global biodiversity initiative and is hosted by the Commonwealth Scientific and Industrial Research Organisation (CSIRO).

Given access to websites like these, young citizen scientists are making headlines. Stories such as the experience of 14-year-old Luke Downey, of Canberra, offer inspiration to others to record and upload images to biodiversity databases. Earlier this year, Luke discovered a rare beetle, *Castiarina testacea*, last seen in the ACT in 1955. His observation was recorded in the Canberra Nature Map, an online repository of rare plants and animals.

Links to curriculum

Citizen science engages with multiple parts of the Australian Curriculum. Involving students in citizen science projects can help to:

- connect scientific knowledge to everyday life and the world around us
- create maps
- develop longitudinal analyses for observation-rich continuous datasets over time
- understand uncertainty and risk
- identify scientific questions, investigate and draw evidence-based conclusions
- create a sense of community
- involve individuals and communities meaningfully in science to contribute benefits that give purpose.

Citizen science has many valuable links to the school curriculum and to other educational priorities. Connections can be made to the F-10 curriculum:

Science
Students:

- take part in sampling, data collection and observing the environment
- ask questions, make predictions and review evidence
- identify species
- use scientific equipment
- communicate scientifically
- undertake research and conduct experiments
- understand how science is a human endeavour.

Mathematics
Students:

- use counting skills/tally marks and other recording methods
- make predictions, consider inaccuracies and error
- conduct statistical analyses
- discuss probabilities.

Humanities and social sciences: geography
Students:

- research environmental issues
- discuss climate and weather and how they impact living things
- use maps to interpret data.

Technologies: Information and Communication Technology (ICT)

Students:

- use mobile devices and apps to collect data and make identifications
- present findings, write research-based reports.

In addition, citizen science supports the general capabilities of Literacy and Numeracy and the cross-curriculum priorities of Sustainability and Aboriginal and Torres Strait Islander Histories and Cultures. It also fosters community communications as students can work with local groups on local issues and cooperate with other schools or organisations in conducting research or holding a BioBlitz.

Citizen science activities

The Atlas of Living Australia (ALA) website contains a variety of activities to use in the classroom. The activities have been designed to align with the requirements of the Australian Curriculum and cover levels from F-12. Resources can be accessed via the Community and schools section of the ALA website. Suggestions on using the available resources are outlined in the different activities which follow.

Science activities for Years 5 and 6

There is a good deal of bird data on the Atlas of Living Australia website. Birds are relatively easy to see and identify, and younger students tend to be

> **Citizen science demonstrates how science, the public, and practical methodologies can entwine to inform and inject fun and discovery into technology and data gathering.**

quite familiar with them. These factors all make birds a good example to use to demonstrate some of the functions of the ALA website. (Teachers can substitute any native species in the place of the birds or focus on anything you think the students might be interested in or are studying at the time.)

Observation and research

Teachers can take students outside and ask them to look around the schoolyard for birds. If possible, students can take photos of the birds and record the number and names (if known) of the birds that they see. Ask students to think about some similarities and differences between the birds they see.

Activity 1

Students create a table and record the names and numbers of birds they saw outside. A template for recording and graphing birds seen in the schoolyard is available on the ALA website. Students could also use Excel to produce a column graph.

Young researchers can use the Atlas of Living Australia to see which birds have been recorded

Figure 1: Australian birds with different beak types
(Images: 'Cockatoo' by Kyle Hinkson, Eastern Spinebill [untitled] by Stephen Tafra, and Pelican [untitled] by Valeriia Miller. All available under the Unsplash License.)

in their local area. Information is available at User Guide 1 – Finding the species located in your area. Teachers then discuss with the students whether the information from the ALA matches what they saw in the school yard.

Ideas for discussion

Look closely at the beaks of the birds you observed and suggest what you think they might eat from looking at their beaks. You can find this information on the ALA website, as well as a number of other websites.

More images of the birds can be found on the Atlas of Living Australia. (See User Guide 6 – Finding information about a species.)

Using the ALA's images and other images of the birds you saw in the school yard, look at the beaks of various other birds. Figure 1 contains images of 3 Australian birds with very different beak types.

Discuss the differences. Why do you think these birds have different beak shapes? Do you know what they eat? Have you seen any of these birds before? If so, where?

Activity 2

Ask students to draw the beaks of each of the birds. Write the name of the bird, and choose one to write a sentence about matching its beak to its food type.

Activity 3

Students choose some of the birds from their local area. Using the ALA and other sources, they research information about the bird and, in a table, write a sentence about what it eats. They then write another sentence to say how their beak shape helps them collect that food.

Log the sightings from your schoolyard in the ALA. For instructions on how to do this, see How to record a sighting: User guide 4. Have the species you have logged been sighted in the area previously?

Mathematics activities

The mathematics activities using the ALA fit into two areas of the Australian Curriculum: the statistics and probability content strand (chance and data

representation and interpretation sub-strands) and the measurement and geometry content strand (location and transformation sub-strand). The content descriptions covered are listed at the end of each activity.

Activity A (adjust for Stages 1 to 4)

Discuss with students which birds they have seen in the school yard in the past, then go out into the school yard and look for birds.

- Record the bird name and note the number of those seen in a table (see Table 1 for an example).
- Use the data to prepare a picture graph showing the bird numbers.
- Use the data to prepare a column graph showing the bird numbers.
- Use the data to prepare a pie chart showing the bird numbers.
- Which type of graph do you think represents the data best? Why?
- Write the bird names from your table in order from most common to least common.
- Using the ALA, check the bird data in your area. (See User Guide 1 – Finding the species recorded in your area.)
- Write a few sentences to outline the similarities and differences between the bird data you gathered and the data from the same area from the ALA. What are some possible reasons for the differences?

Species	Frequency
Eastern Spinebill	3
Australian Goshawk	1
Red Wattlebird	1
Black-faced Cuckoo-shrike	1
Australian Magpie	4
Misteltoebird	1
Galah	2
Australian Hobby (Little Falcon)	1
Red-rumped Parrot	1
Satin Bowerbird	1
Pied Currawong	1
Common Myna	1
Blackbird	1

Table 1: Sample bird data from an area within a 1 km radius of Theodore, ACT (ALA: Explore your area. Licensed under CC BY 3.0 AU.)

Links to Curriculum

Depending on the stage and the parts of the activity you choose, the following content from the [Australian Curriculum Mathematics](#) (as presented in the [NSW Mathematics K-10 Syllabus](#)) can be covered by Activity 1.

Stage 1

A student gathers and organises data, displays data in lists, tables and picture graphs, and interprets the results (MA1-17SP).

- **Data 1**: Represent data with objects and drawings where one object or drawing represents one data value. Describe the displays ([ACMSP263](#)).
- **Data 2**: Collect, check and classify data ([ACMSP049](#)). Create displays of data using lists, table and picture graphs and interpret them ([ACMSP050](#)).

Stage 2

A student selects appropriate methods to collect data, and constructs, compares, interprets and evaluates data displays, including tables, picture graphs and column graphs (MA2-18SP).

- **Data 1**: Collect data, organise into categories and create displays using lists, tables, picture graphs and simple column graphs, with and without the use of digital technologies ([ACMSP069](#)). Interpret and compare data displays ([ACMSP070](#)).
- **Data 2**: Construct suitable data displays, with and without the use of digital technologies, from given or collected data. Include tables, column graphs and picture graphs where one picture can represent many data values ([ACMSP096](#)). Evaluate the effectiveness of different displays in illustrating data features including variability ([ACMSP097](#)).

Stage 3

A student uses appropriate methods to collect data and constructs, interprets and evaluates data displays, including dot plots, line graphs and two-way tables (MA3-18SP).

- **Data 1**: Construct displays, including column graphs, dot plots and tables, appropriate for data type, with and without the use of digital technologies ([ACMSP119](#)). Describe and interpret different data sets in context ([ACMSP120](#)).
- **Data 2**: Interpret and compare a range of data displays, including side-by-side column graphs for two categorical variables ([ACMSP147](#)). Interpret secondary data presented in digital media and elsewhere ([ACMSP148](#)).

Stage 4

A student collects, represents and interprets single sets of data, using appropriate statistical displays (MA4-19SP).

- **Data Collection and Representation**: Construct and compare a range of data displays including stem-and-leaf plots and dot plots ([ACMSP170](#)).

Activity B (adjust for Stages 1 to 4)

This activity uses the ALA data, rather than personal data collection. If you would like to use data from your area, see [How to find the species recorded in your area](#).

The following is a table from the ALA containing the mammal species numbers recorded in the area surrounding the suburb of Theodore in the ACT.

Species	Frequency
Gould's Wattled Bat	1
Bindjulang	7
Cat	5
Water-rat	1
Brown Hare	1
Eastern Grey Kangaroo	52
Lesser Long-eared Bat	2
Platypus	4
Rabbit	11
Common Wallaroo	16
Smoky Mouse	1
Black Rat	1
Pig	1
Short-beaked Echidna	7
Common Brushtail Possum	14
Southern Forest Bat	1
Common Wombat	21
Fox	14
Swamp Wallaby	7

Table 2: Sample mammal data from an area within a 5 km radius of Theodore, ACT ([ALA: Activity 3 – Graphing and probability](#). Licensed under [CC BY 3.0 AU](#).)

- Using this table, write the common names of the 9 mammals with the most records, starting with the one with the highest number recorded.
- Draw a column graph to represent these 9 mammals.
- Generate a pie chart showing these 9 mammals.

- Which graph do you think represents the information best? Why?
- What fraction of the mammals recorded in this table are Eastern Grey Kangaroos?
- What fraction of the mammals recorded in this table are introduced species?
- You are visiting this area. Using your column graph data, what is the percentage probability that the first mammal you see will be a rabbit?
- Do you think it is correct to say that the most common mammal species in Theodore is the Eastern Grey Kangaroo?

Curriculum links

Depending on the year level and the parts of the activity you choose, the following content can be covered by this activity.

Stage 1

A student gathers and organises data, displays data in lists, tables and picture graphs, and interprets the results (MA1-17SP).

- **Data 2**: Collect, check and classify data ([ACMSP049](#)). Create displays of data using lists, table and picture graphs and interpret them ([ACMSP050](#)).

Stage 2

A student selects appropriate methods to collect data, and constructs, compares, interprets and evaluates data displays, including tables, picture graphs and column graphs (MA2-18SP).

- **Data 1**: Collect data, organise into categories and create displays using lists, tables, picture graphs and simple column graphs, with and without the use of digital technologies ([ACMSP069](#)). Interpret and compare data displays ([ACMSP070](#)).
- **Data 2**: Construct suitable data displays, with and without the use of digital technologies, from given or collected data. Include tables, column graphs and picture graphs where one picture can represent many data values ([ACMSP096](#)). Evaluate the effectiveness of different displays in illustrating data features including variability ([ACMSP097](#)).

A student describes and compares chance events in social and experimental contexts (MA2-19SP).

- **Chance 2**: Describe possible everyday events and order their chances of occurring ([ACMSP092](#)).

Stage 3

A student uses appropriate methods to collect data and constructs, interprets and evaluates data displays, including dot plots, line graphs and two-way tables (MA3-18SP).

- **Data 1**: Construct displays, including column graphs, dot plots and tables, appropriate for data type, with and without the use of digital technologies ([ACMSP119](#)). Describe and interpret different data sets in context ([ACMSP120](#)).
- **Data 2**: Interpret and compare a range of data displays, including side-by-side column graphs for two categorical variables ([ACMSP147](#)). Interpret secondary data presented in digital media and elsewhere ([ACMSP148](#)).

A student conducts chance experiments and assigns probabilities as values between 0 and 1 to describe their outcomes (MA3-19SP).

- **Chance 1**: List outcomes of chance experiments involving [equally likely outcomes](#) and represent probabilities of those outcomes using fractions ([ACMSP116](#)). Recognise that probabilities range from 0 to 1 ([ACMSP117](#)).
- **Chance 2**: Describe probabilities using fractions, decimals and percentages ([ACMSP144](#)).

Stage 4

A student collects, represents and interprets single sets of data, using appropriate statistical displays (MA4-19SP).

- **Data Collection and Representation**: Construct and compare a range of data displays including stem-and-leaf plots and dot plots ([ACMSP170](#)).

A student represents probabilities of simple and compound events (MA4-21SP).

- **Probability 1**: Assign probabilities to the outcomes of events and determine probabilities for events ([ACMSP168](#)).

Consider a BioBlitz

A BioBlitz is an excellent way to engage students with citizen science. A BioBlitz is a concerted effort to discover and record as many living things as possible within a set location over a limited time (usually 24 to 36 hours). The main scientific aim of a BioBlitz is to generate or extend biodiversity data at chosen locations.

As explained on the [Nature Play QLD, BioBlitz](#) webpage, BioBlitzes cannot be complete biological

surveys but they do create significant species' lists and have facilitated the discovery of new species, the rediscovery of rare species and the identification of species where they are not usually found.

Through recording the names and locations of species, a BioBlitz can generate biological species' records that can be used to help scientific research, as well as to inform conservation practice and policy, local planning and land management in a variety of ways.

Thanks to the Australian Citizen Science Association Queensland for the following curriculum links relating to BioBlitzes (mapped to Year 6 curriculum requirements):

- The growth and survival of living things are affected by physical conditions of their environment (ST3-4LW-S) (ACSSU094).
- Science involves testing predictions by gathering data and using evidence to develop explanations of events and phenomena and reflects historical and cultural contributions (ST3-1WS-S) (ACSHE098).
- Identify, plan and apply the elements of scientific investigations to answer questions and solve problems using equipment and materials safely and identifying potential risks (ST3-2DP-T) (ACSIS103).
- Construct and use a range of representations, including tables and graphs, to represent and describe observations, patterns or relationships in data using digital technologies as appropriate (ST3-2DP-T) (ACSIS107).
- Communicate ideas, explanations and processes using scientific representations in a variety of ways, including multi-modal texts (ACSIS110).

The B&B highway

The B&B highway project creates 'Bed and Breakfasts for birds, bees, bats, butterflies ... biodiversity'.

Schools have proven to be fertile B&Bs, with garden beds able to be established or enhanced using pollinator plants, and opportunities for schools to be hubs for wildlife corridors. Importantly, the practical and educational B&B teachings aim to help our threatened birds, bees, plants and other species.

At a time when environmental issues seem overwhelming, the B&B highway project engenders knowledge and skills in participating students, teachers and school communities. Participants become aware of local and broader biodiversity and environmental issues and are empowered to collaborate and apply the skills and learnings at home in simple ways to make positive and practical environmental changes.

The B&B education program has the support of the NSW Department of Education with curriculum resources relevant to English, mathematics and science and technology for Stage 3 students.

With its strong focus on scientific literacy, mathematics, numeracy, problem solving, digital technologies, geography and connections to community, the B&B highway program can be adapted to cater to age groups from preschool to high school and adult learners.

B&B BioBlitz in September 2022

Stay tuned for the B&B BioBlitz planned for September 2022 as part of National Biodiversity Month. This citizen science communal activity will work with the regenerative educational and practical B&B Highway biodiversity corridors linking schools and habitats for birds, bees and other pollinators.

The B&B BioBlitz will involve schools interested in citizen science and is being promoted and steered by PlantingSeeds projects, The NSW Department of Education, the CSIRO's Atlas of Living Australia, and the Australian Citizen Science Association. For more information, contact the PlantingSeeds' team at info@ps.org.au.

References and further reading

Atlas of Living Australia. (2022).

Atlas of Living Australia. (2022). *ALA for Community and schools*.

Australian Citizen Science Association. (n.d.).

Australian Curriculum & Reporting Authority (ACARA). (2022).

Australian Curriculum & Reporting Authority (ACARA). (2022). *Mathematics (Version 8.4)*.

Australian Curriculum & Reporting Authority (ACARA). (2022). *Science (Version 8.4)*.

Canberra nature map. (2022).

Commonwealth Scientific and Industrial Research Organisation (CSIRO). (2022).

NSW Education Standards Authority (NESA) for and on behalf of the Crown in right of the State of New South Wales. (2012). *Mathematics K-10 syllabus*.

NSW Education Standards Authority (NESA) for and on behalf of the Crown in right of the State of New South Wales. (2012). *Science 7-10 syllabus*.

NSW Education Standards Authority (NESA) for and on behalf of the Crown in right of the State of New South Wales. (2012). *Science & Technology K-6 syllabus*.

Outdoors Queensland. (2020). *iNaturalist: Nature Play QLD BioBlitz*.

PlantingSeeds Projects & NSW Department of Eduaction. (n.d.). *B&B highway*.

The State of Queensland (Office of the Queensland Chief Scientist). (2022). *Citizen science school teacher resources*.

How to cite this article – Friedlander, J. & Lewis, N. (2022). Citizen science: crowd sourcing and crowd-pleasing STEM activities for schools. *Scan, 41*(5).

Writing for Scan

Interested in writing for Scan?
Is your school - or someone you know - doing something innovative or inspiring? We're currently sourcing content for Scan - standard articles, research, and SPaRKs (Shared Practice and Resource Kits).

How to reach us
Check out the Writing for Scan section on our website to view our writer and research guidelines. Then email us with your article idea!
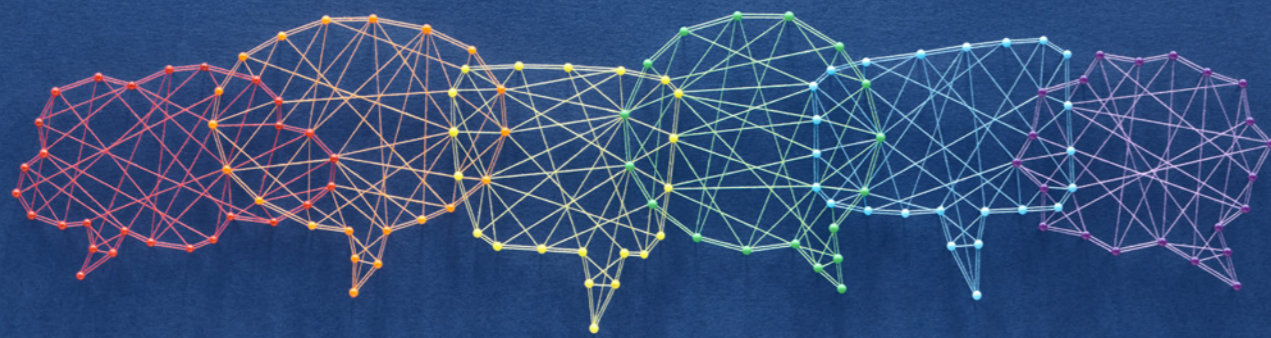
EduChat
Insights across the educational landscape

The magic of stories

How to engender a love of sharing stories

Ursula Dubosarsky
Author and Australian Children's Laureate, 2020-2021

Gabrielle Wang
Author, illustrator and Australian Children's Laureate, 2022-2023 (Photograph: James Braund, State Library of Victoria)

Every two years the Australian Children's Laureate Foundation selects a laureate to be an ambassador promoting the 'transformational power of reading, creativity and story in the lives of young Australians'. Scan wishes to congratulate the wonderful writer and illustrator of children's books, Gabrielle Wang, as she begins her laureateship for the 2022-2023 biennial.

In this EduChat Ursula Dubosarsky, children's laureate for 2020-2021, passes the baton to Gabrielle Wang. During this handover, Ursula reflects on her experiences as Children's Laureate and Gabi expresses her delight at having the opportunity to begin her laureateship.

What is a children's laureate?

Initiated by the Australian Children's Laureate Foundation (ACLF), the laureate role began in 2012. Since then, creators of children's literature including Alison Lester, Boori Monti Pryor, Jackie French, Leigh Hobbs, Morris Gleitzman and Ursula Dubosarsky have undertaken the promotion of children's literature in Australia. This year, Gabrielle Wang joins the ranks of these treasured ambassadors.

In response to questions, put by the Scan editorial team, Ursula and Gabi share their thoughts and observations.

Reflections and projections
What have been the highlights of the past two years for you, Ursula?

On looking back, it's a funny kind of memory as it became mixed with the COVID restrictions and lockdowns. Initially, there was the building up of resistance in the expectation of a busy schedule, and of being in many different places. However, in the light of the pandemic, anticipated public events needed to change and the laureate role required a different kind of energy.

The team involved with Children's Laureate had to think differently and we worked together to explore other opportunities. The confinement opened other options that we may not have tried otherwise. It led to greater involvement with electronic and digital communication which are so much a part of the contemporary world.

It's hard to describe the highlights as the whole time was an adventure with so much to discover.

For instance, it is wonderful to realise how many individuals and organisations across the country, and indeed across the world, focus on the importance and significance of reading and children's literature. Obviously, it is a priority across governments and across cultures, and this gives a Children's Laureate a far-reaching voice.

Gabi, your chosen theme for the next two years is 'Imagine a story'. Could you tell us more about this theme and how you plan to bring your passion for reading and imagination into the lives of Australian children and young people?

When I was asked about taking on the Laureate role, I started thinking about imagination and that night I wrote out a mission statement 'in my head'. I felt that imagination is our most treasured possession. All children have wonderful imaginations but, as they get older, they tend to become caught up with schoolwork and computers and that sort of brings them back into the real world and they lose that ability to just imagine.

'Imagine a story' poster (free download via the Australian Children's Laureate, PDF 13.9 MB). Reproduced with permission.

Imagination involves so many activities like reading, drawing, and inventing things. So, I thought 'Imagine a story' would be an appropriate theme for my time as Children's Laureate. As you know, one of my other passions is art, which is also something that often is discarded as children get older. They become self-critical and think they can't draw, but I believe everyone can draw and it should be fostered throughout school, including through high school. It is an important skill that, like reading, exercises the right side of the brain.

Another area I'd like to promote is diversity in children's literature and put more diverse books into the hands of children who might not read them otherwise. Although I loved reading when I was young, none of the main characters in the books I read were Chinese. If Chinese people did appear in books, they were minor characters who were either there as villains or used for comic relief. Given my Chinese background, such characters made me feel ashamed rather than empowered. All children having access to literature with protagonists from different cultures is necessary for self-development and understanding of others.

Nurturing readers

A question for both of you Gabi and Ursula. What advice can you give to teachers and teacher librarians about growing students, imagination and cultivating this love of reading? Gabi first and then Ursula.

For me, a teacher reading a class text aloud is really valuable. Through this activity every child, no matter their reading ability, is able to enjoy the story. I always loved it when the teacher read a whole book aloud to us in class and I'm sure most children enjoy hearing stories. It also enables all students to be a part of class discussions about the story, its characters, setting and ideas behind the story.

Children also like to make predictions about a book from the cover image. This is a useful way to activate their power of imagination and see what the image on the cover means to them. After hearing the story, they can discuss how closely their predictions aligned with what the story was actually about.

Another activity to stimulate the imagination is to explain that the action in a story comes from somewhere and goes somewhere else and ask students to consider what happened before or after the story. This could be the basis of a writing/drawing/telling activity for the class.

Thank you, Gabi. Ursula?

As you know my theme was 'Read for your life', with a focus on encouraging children to join their local library and/or use the school library. The reason behind this was that libraries have a huge array of books, and this encourages experimentation and a sense of freedom. You can close your eyes and pull a book off the shelf and take a look. You may or may not like it. If you don't like it, you can just put it back. It's not a test. Childhood is a time of intense exploration and reading is part of the adventure.

Libraries encourage a sense of adventure. Children do not need to feel ashamed or embarrassed because they chose to read this and don't read that. They are free to find those books that interest them and thereby develop their own taste.

In terms of teachers and teacher librarians, it's important to encourage children to read widely and to be adventurous readers. I think if you want to encourage children to read widely, you have to encourage it in yourself. Teachers could model this with their own playful approach to reading and selecting reading material they know nothing about.

Fostering writers

Would you like to offer some comments about writing, Ursula?

In terms of writing, while I can't talk about it from a teacher's perspective, from experiences of providing writing workshops for children, I can suggest it is very

much like what Gabi was saying about activating and encouraging the pleasure that comes from using the imagination. So, I'm very non-prescriptive about structure or spelling and paragraphing in the initial stages of writing.

I often use stimulus such as drawings, art or sound. For instance, sometimes I'll get the children to close their eyes and I'll play music for them to picture a story in their head. When the music stops, they write down whatever they have imagined. This often takes the anxiety out of thinking what to write about. Storytelling and imagination should be intensely joyful things. Generally, that is how I write a story. I just have free falling notions that I will scribble down things I'm excited by, and then afterwards the hard work of the structure begins.

It seems you are both very observant of people and places and situations. Do you think it's important to encourage children to be aware of such details, Gabi?

Yes. That's why I think reading aloud to children is so important. They can close their eyes and visualise what is happening in the story. Although some teachers may be reluctant to read aloud, they should do it whenever possible and master the skill. Telling stories is ages old and occurred long before the written word. Listening to a story is just wonderful. I understand that not all people are visualisers, but 'seeing' a story when I'm writing is important to me.

Future challenges

Gabi, are there upcoming ACLF events for teachers and schools that we should mention?

The Australian Children's Laureate Foundation website will soon contain a list of Laureate events to inform people about what will be happening over the next 2 years.

And Ursula, what do you have coming up that we need to know about?

I don't have any appearances coming up at present, but I've just had a new book published. It is for young readers and is titled, *Mary and Marcus: The Crazy Dance and Other Stories* and includes wonderful illustrations by Andrew Joyner.

Latest releases by Ursula Dubosarsky and Gabrielle Wang: *Mary and Marcus: The Crazy Dance and Other Stories* (ABC Books AU, 2022) and *Zadie Ma and the Dog Who Chased the Moon* (Penguin, 2022)

Lastly, Ursula, as you're passing on the baton of laureateship, what advice do you have for Gabi?

Like anything, there are moments when you feel that everything happens at once and there's so much going on. But the time goes in a flash, so make the most of it. Get enjoyment out of it and you will bring so much pleasure to so many children and adults across Australia. Obviously, you have to pace yourself, but you know all of that. There are things I'd never done before, alarming things, like a keynote address! But now I've done it I see it for what it is. I found nothing is really as daunting as it sounds.

… and Gabi?

Well, yes! Advice on a keynote address will be useful. I've been asked to speak at a conference, and they want me to be the opening speaker! It's a bit scary. We spend most of our time alone in our writing rooms with our imaginations, then all of a sudden, we find ourselves out there … performing! Adult audiences can be a bit unsettling but talking to children isn't so bad. You just warm to them. They're so honest. I'm looking forward to this new adventure.

Scan thanks you both so much for your time. Speaking to you has been a real highlight and honour. We wish you all the very best with your future projects.

How to cite this article – Dubosarsky, U. & Wang, G. (2022). EduChat – The magic of stories: how to engender a love of sharing stories. *Scan, 41*(5).

Passive
programming in the library

Amber Sorensen
Teacher librarian, Cherrybrook
Technology High School

Amber Sorensen describes the benefits and opportunities provided by passive programming at Cherrybrook Technology High School.

> 'You see, I don't believe that libraries should be drab places where people sit in silence, and that's been the main reason for our policy of employing wild animals as librarians.'
>
> **Gorilla Librarian, Monty Python's Flying Circus**

School libraries and student wellbeing

Today's school libraries are more than simply somewhere for students to find and get lost in a great book. They are busy, vibrant, multipurpose spaces where teacher librarians develop innovative teaching and learning programs, encourage a love of literature, stimulate creativity with makerspaces, engage students in technology, and so much more. School libraries are many things to many people and each school library is unique, catering to its school's context and needs. Passive programs can be a part of this mix.

Amongst all the learning and literature, school libraries have always been a place of refuge for students. As Margaret Merga (2022) points out, 'we know that libraries can be positioned as valued safe spaces within the school' (p 118). The recent pandemic has only served to highlight the function of school libraries in enhancing and supporting student wellbeing. In line with the department's Strategic Plan 2018-2022, we provide a sense of belonging for students who might be feeling socially isolated or who are struggling with anxiety, escaping bullies, or looking for a quiet space to read or recharge. By providing a welcoming space, inviting mindfulness, and shaping gentle opportunities to establish relationships, passive programs are one more tool in the school library's arsenal that can add to our support of these students.

What is passive programming?

Passive programs are activities that students (and teachers) can participate in with little or no assistance from library staff. They are essentially self-directed and allow students control over their level of participation. Many teacher librarians are probably already running passive programs, possibly without realising it. The beauty of passive programs is their flexibility. They can be whatever you want them to be and can range from the simple to the complex. For example, they can be connected with teaching programs or purely diversionary. Similarly, they can be linked to library displays or work as standalone activities. Passive programs can also be digital or 'IRL' (in real life), and can be incentivised with rewards – or not.
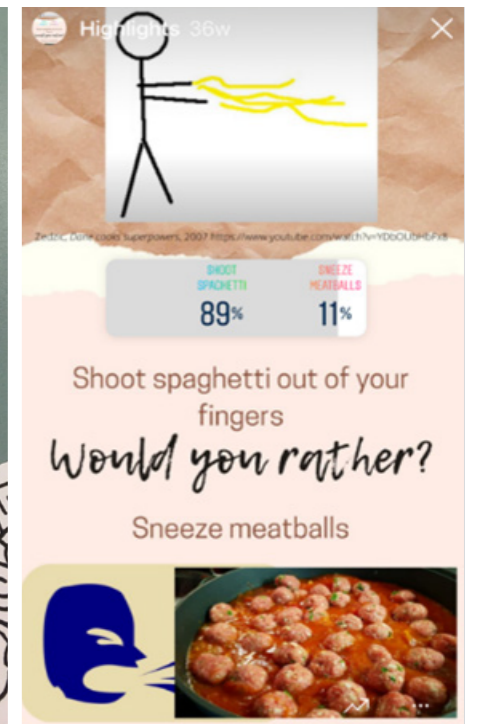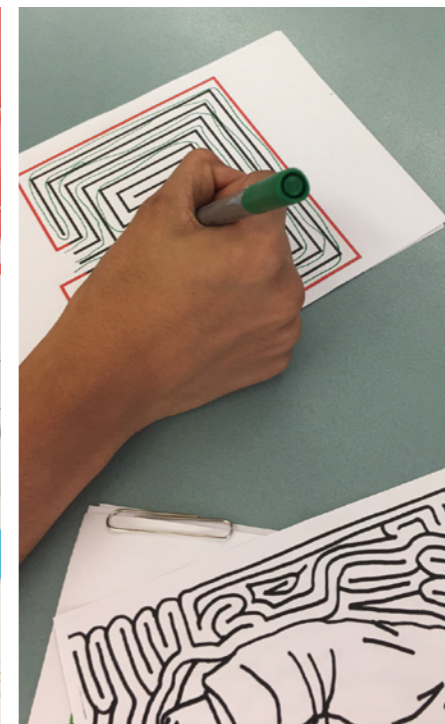
Why run passive programs?

Passive programs could be used to:
- engage students who might not otherwise use the library
- facilitate guerilla learning
- celebrate and explore literature, books and reading
- reflect school wide themes and activities, such as Harmony Day
- provide stress relief for students – our seniors love colouring in, especially during exam periods
- support student wellbeing and inclusion.

Passive programs at Cherrybrook Technology High School

Several years ago, I visited a colleague and was impressed by her lateral thinking puzzles on the windows*. With her permission, we started doing the same thing in our school library. Over time, we have gradually added to our passive program portfolio. For instance, we added a book selection system that sits at the library help desk. This changes every now and again. Currently, it is a miniature spinning wheel we purchased from IKEA to which we added some book suggestions ranging from 'book with a red cover' to specific titles and genres. Another version was a jar with folded pieces of paper containing titles and their location. A couple of years later, we began to occasionally put out colouring pages on a table with some colour pencils. Now, we have a set area for our passive programs (a desk, pinboard and a couple of chairs), positioned in a relatively high-traffic area. Last year, to avoid staleness and keep students engaged, we started updating the passive programs fortnightly.

During remote learning in 2021, we transferred our passive programs online via the library's Instagram account. For example, the 'Would you rather …?' activity was posted as an Instagram story and used the poll feature to collect votes. In 'Guess the shelfie', we asked teachers to take 2 photos of their bookshelf
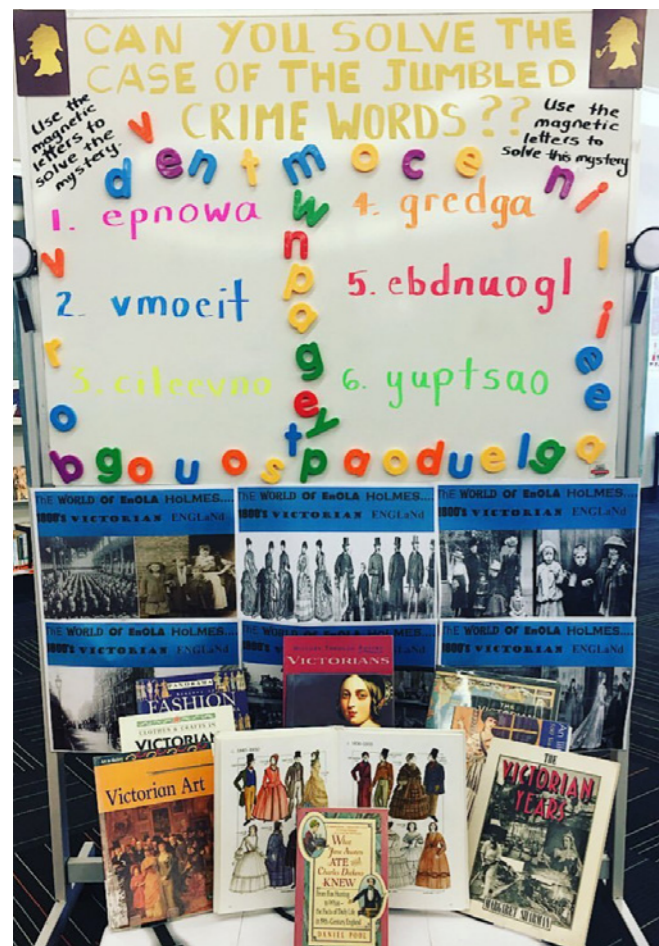

Passive programming at Cherrybrook Technology High School: a drawing activity, mazes for mindfulness, and an Instagram poll: 'Would you rather …?'

at home – one just of the shelf, the other with them posing near it. On the first day, we posted the bookshelf with a list of 4 possible teachers. Participants direct messaged their answers. On the second day, the second photo was posted to reveal the answer. These online passive programs provided a level of connection for our staff and students during a period of disconnection and disruption.

Passive programs can also be linked to book displays. For instance, our library holds an ongoing competition, encouraging students and staff to recommend books. Each week, we display a recommended title from a

Students create blackout poetry

teacher and a student. To enter, students submit a slip containing their nomination. They can enter as many times as they like but the recommended books must be different. At the end of each month, 2 student entries are drawn, and the students receive a book shop voucher.

Similarly, when the Enola Holmes movie was first released on Netflix, we had a display running. Alongside the display was a whiteboard with jumbled magnetic letters. Students had plenty of fun trying to make the related mystery words and we were resetting the magnets several times a day.

Linking passive programs to classroom teaching

As a next step, I would love to collaborate with classroom teachers and bring what is happening in classrooms into our passive programs. For example, a couple of years ago, I facilitated some blackout poetry activities with my Year 9 English class. This was subsequently transformed into a passive program by creating a poetry station in the library. There were 2 poetry activities. In the first, students composed blackout poetry using pages from disposed books. In the second, we provided individual words (again, cut from disposed books) that could be strung together to create a poem. Even a teacher or two took part. Going forward, I would like to link some of the passive programs we run with topics being taught concurrently by classroom teachers across various key learning areas.

Library display and Enola Holmes word scramble activity

Where to find passive programs

A quick internet search for 'passive programming' will pull up stacks of results. Pinterest also contains a wealth of ideas. Here is a list of some passive programs we have used in our library:

· joke jar
· word puzzles
· codebreaking
· fun with numbers
· missing book titles
· would you rather ...?
· giant sudoku
· finish the drawing
· what am I? (using magnified images)
· quote of the day.

Acknowledgement

*Thanks to Wendy Quarmby, formerly of Girraween High School, for sharing her lateral window puzzles with me.

References and further reading

Cherrybrook Technology High School Library [@cherrybrooktechhslibrary]. (n.d.). CTHS Library [Instagram profile]. Retrieved May 15, 2022.

Merga, M. (2022). School libraries supporting literacy and wellbeing. Facet Publishing.

NSW Department of Education. (2017). Strategic Plan 2018-2022.

Stoness, H. (2021). There's nothing passive about it! Canadian School Libraries Journal, 5(1).

How to cite this article – Sorensen, A. (2022). Passive programming in the library. Scan, 41(5).

![Scan - The journal for educators]

Writer biographies

Dr Judy Friedlander

Dr Judy Friedlander is the founder and director of the environmental not-for-profit organisation, PlantingSeeds Projects, whose flagship program is the B&B Highway. The B&B Highway (Bed and Breakfasts for Bees, Birds and Biodiversity) is an educational and practical program that links B&Bs at schools to form regenerative corridors. Skills and knowledge are generated in biodiversity, plants and pollinators and citizen science. Judy is a UTS Adjunct Fellow, awarded a PhD through the Institute for Sustainable Futures at UTS, and has had an extensive media and journalism career in newspapers and television.

Nicole Lewis

Nicole Lewis is a PlantingSeeds Projects' Environmental Educator. She has been an environmental educator for 25 years and is passionate about instilling awe and respect for nature in everyone through education and hands on experiences. Completing a Bachelor of Education (Secondary Science) and a Master of Science in Environmental Studies and Certificate III in Early Childhood has enabled her to follow her passion through a number of avenues including working for State and Local Government, schools and community groups educating across all ages from pre-school to adults.

Ursula Dubosarsky

Ursula Dubosarsky was the Australian Children's Laureate for 2020-2021. She has published over 60 books for children and young adults and has won several national prizes, including the New South Wales, Victorian, South Australian and Queensland Premier's Literary Awards. Ursula has been nominated for the international Hans Christian Anderson and Astrid Lindgren awards for children's literature.

Gabrielle Wang

Gabrielle Wang is an author and illustrator born in Melbourne of Chinese heritage. Her maternal great grandfather came to Victoria during the Gold Rush and her father from Shanghai. Her stories are a blend of Chinese and Western culture with a touch of fantasy. She has written more than 20 books for young readers, with many of them shortlisted for awards, from the Prime Minister's Award to children's choice awards such as the Yabba and Koala Awards. One of Gabrielle's most popular books *A Ghost in My Suitcase* won the 2009 Aurealis Award. Gabrielle is the current Australian Children's Laureate for 2022-2023. (Photograph: James Braund, State Library of Victoria)

Amber Sorensen

Amber Sorensen has been a teacher librarian at Cherrybrook Technology High School since 2014 and is a member of the Professional Learning Sub-committee, School Library Association of NSW. She started her career as a corporate librarian before retraining as a secondary teacher. Amber worked as a history and geography teacher at a western Sydney sporting high school for several years before starting at Cherrybrook Technology High School.

Want more innovative ideas and inspiration for learning and teaching?

Register for new issues of Scan to be delivered free to your inbox.

We'll never share your email address and you can opt out at any time.

· ·

Browse our past issues – a compendium of educational ideas to enhance your teaching practice.