Digital resources and strategies to support the Geography Curriculum

By Karen Bonanno

Biography

Karen Bonanno is Managing Director of Eduwebinar Pty Ltd. Karen literally lives online as an educator and consultant. She is involved in planning and hosting webinars that cover primary and secondary education with specific focus on innovative teaching and learning strategies and resourcing as it applies to curriculum design and delivery. Her work at Eduwebinar helps teachers and teacher librarians attain their hours of professional learning in a virtual, stress-free environment in the comfort of their home.

Abstract

This article focuses on a selection of digital resources and portals to support the development of geographical knowledge and understanding, and geographical inquiry and skills for the F–10 year levels. A range of teaching strategies will be presented within the context of inquiry-based learning. Evidence to address the *Australian Professional Standards for Teachers* (AITSL 2014) will be addressed in the context of sourcing and disseminating digital resources to support students and by selecting and applying teaching strategies that help students develop their knowledge and understanding of the content area.

The core concepts addressed across F–10 Geography are place, space, environment, interconnection, sustainability, scale and change. In the early years (F–2), the main emphasis is on developing an understanding at the personal and local level, and how people are connected. In Years 3 to 6, the concepts are expanded to consider regional, national and global scales, with the introduction of sustainability and change. Students begin to question the way their world is and how they relate to this situation now and in the future. In Years 7–10, all the concepts are further developed, with an emphasis on applying their understanding across a range of places and environments and

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from local to global. Students' knowledge and understanding are sequentially developed in geography as they explore the integration of natural sciences, social science and humanities (ACARA, *Geography Overview: Rationale*).

In the curriculum, an inquiry approach is adopted to help students make meaning of their world. Key elements for building capacity in inquiry are observing, questioning and planning; collecting, recording, evaluating and representing; interpreting, analysing and concluding; communicating; reflecting and responding (ACARA, *Geography Overview: Rationale*).

General resources

Bureau of Meteorology

The *Bureau of Meteorology* (Australian Government 2015) is Australia's national weather, climate and water agency. It covers curriculum topics about environment, natural disasters, climate and weather information for all year levels, with particular emphasis for Year 3 onwards. Topics can be found via their search facility, services section and topic collations, for example, tropical cyclones, marine and oceans, climate variability and change.

National Geographic
National Geographic Education
National Geographic for Kids

The *National Geographic* website (National Geographic Society 2015a) is an information-rich environment that aims to inspire us to care about the planet. One of its interests is geography, with the site covering curriculum content on the environment, travel and adventure. If you burrow down into the site you will find the *National Geographic Education* section (National Geographic Society 2015b). All year levels will find resources on this site useful; it just takes time to explore and identify the specific Australian Curriculum content description connections. You will find teaching resources (ideas, activities, lessons and units) for each year level (F–12), an interactive globe (topics covered change regularly) and mapping resources. Each item has some metadata to provide you with specifics such as relevant year level, subjects, length/time for the activity, and brief information about the task. A wonderful web link on the education site is the *National Geographic for Kids* (National Geographic Society 2015c), which will definitely appeal to the younger students.

National Geographic Channel
National Geographic Kids

If it's videos you are keen to find in general resources, then the National Geographic Channel (National Geographic Channel) would be a good starting point. Probably the best channel to view is the National

Geographic Kids (2014). The videos and, in particular, the playlists hosted on YouTube cover a wide range of curriculum topics, including geographic content relevant to the Australian Curriculum. Again, you will need to explore the titles to identify the connections to the specific content descriptions for geography.

Skwirk Online Education

Skwirk Online Education (2010) is also hosted on YouTube and is the video channel for Skwirk, an award-winning, cross-curricular education resources service that aligns with the Australian Curriculum. Unfortunately, their video channel does not allocate the curriculum or year level, so you will need to search for videos relevant to the Geography

c) Search via the Find Resource (great for teachers) as filters can be applied, such as subject, year level and format.

By applying the filters you can quickly and successfully identify relevant digital resources to match the curriculum content. The formats include videos, digibooks, audio, web links, games and teacher resources. The metadata attached to each resource helps you to be very specific and also makes it easier to develop or curate a digital collection for your teachers and/or students.

In addition, the video resources include learning activities and tasks that students can do before they view, as they view, after

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Curriculum. One useful feature is the link to similar videos with the same content, so it is possible to source multiple videos to support the curriculum.

Curriculum categorised resources

ABC Splash

An extremely popular site is *ABC Splash* (ABC 2015). It hosts high-quality digital educational content that is highly relevant to the Australian Curriculum. There are multiple pathways to access the content on this site:

a) Search for a topic via Topics A–Z, or

b) Search via the year level and a chosen topic (great for students), or

they view, and the next steps for increasing student engagement. These activities open up the opportunity to explore a blended learning approach.

ABS Education Services

Bringing data to life in the classroom is the focus for the Australian Bureau of Statistics Education website (Australian Bureau of Statistics 2009). The aim of the education service is to assist teachers in helping students to understand the importance of quality statistical data. Statistical data and activities are sorted by year level and then by subject, so it is easy to find the Geography Curriculum, especially with the content description coding hyperlinked to the Australian Curriculum website

and elaborations (ACARA, *Geography: Curriculum*).

Asia Education Foundation

You can search for curriculum resources very easily on the *Asia Education Foundation* website (The University of Melbourne and Education Services Australia Limited 2014). Access to the resources via keyword, subject, year level and country are the search options. A brief description with reference to the year level and topic are provided for each resource in the first layer search results and then, for each resource, a very detailed Australian Curriculum alignment description is provided. You cannot go wrong in knowing the specific content description connection when using this site. For some resources, learning activities are also provided, whilst other resources are hosted on a curated publishing platform (http://asiaeducation.edu.au/curriculum/geography/details/geography-curated-digital-resources).

Scootle

Scootle (2015) is an Australian digital learning repository that provides access to more than 20,000 digital learning resources, tools and items. It is closely aligned to the core areas of the Australian Curriculum. Each content description listed in the Geography Curriculum (ACARA, *Geography: Curriculum*) is coded to initially link to elaborations of the descriptor with access to Scootle to source digital learning items specific to the curriculum. The list of items can be viewed, but you will need a login to view the metadata and gain access to the resource. The portal does allow you to organise, annotate and share your digital collection, created in *Scootle*, with students and staff.

In *Scootle* you will find digital and interactive resources like *My Neighbourhood* http://www.landcom.com.au/mini-sites/my_neighbourhood/, which covers curriculum content in the F–5 Year levels. It has five components that allow students to explore the neighbourhood, from sights and sounds through to designing neighbourhoods and town planning. *Gapminder* http://www.gapminder.org/ is an interactive resource that virtually plots statistical data from over 200 countries. This resource can be incorporated into the Geography Curriculum for Years 6–10. Mapping resources can be found at *ArcGIS* https://www.arcgis.com/home/ and is relevant for Years 1–6. *Scootle* is truly a digitally rich environment and well worth exploring.

Sharing Stories

Twelve Canoes

In the Geography Curriculum across all year levels, an aspect of the Aboriginal and Torres Strait Islander (ATSI) Peoples is addressed within the core concepts of this subject. The *Sharing Stories* website (Sharing Stories Foundation 2014) hosts digital storytelling recordings by young people in remote Indigenous communities. It is through their voice that students can develop an understanding of the ATSI culture and community. *Twelve Canoes* (2008) is about the seasons of the Yolngu people of north-east Arnhem Land. To really get the most out of this site, which includes a link to a Google map, an introduction to the people, a list of word meanings, a gallery of artworks, vocal and instrumental works and photographs, you do need to download the *Twelve Canoes: a study guide* (Lewis). The study guide provides some suggestions of how to use the pictorial menu with students.

Inquiry approach to engage with the resources

Inquiry-based learning is a process where students are involved in their learning, formulate questions, investigate widely and then build new understandings, meanings and knowledge. That knowledge is new to the students and may be used to answer a question, to develop a solution or to support a position or point of view. The knowledge is usually presented to others and may result in some sort of action
(Alberta Learning 2004, p. 1).

Inquiry is strongly evident in the Geography Curriculum. The resources mentioned in this article can be easily aligned to the following inquiry and skills elements within the curriculum.

- Observing, questioning and planning
- Collecting, recording, evaluating and representing
- Interpreting, analysing and concluding
  (ACARA, *Geography: Curriculum*)

If adopting the Guided Inquiry Design approach, as advocated by Kuhlthau, Maniotes and Caspari (2012), then the resources mentioned can be easily aligned to the following phases of learning.

- Open — stimulate curiosity;
- Immerse — build background knowledge, connect to content, discover interesting ideas;
- Explore — explore interesting ideas, look around, dip in;
- Gather — gather important information, go broad, go deep.

At an early age, the resources can be utilised to stimulate curiosity in topics relevant to the concepts of place, space and environment. As students interact with information and resources, they can observe and pose basic questions to assist classroom discussion to help build background knowledge and to reflect on things that matter to them. They can list and describe familiar features of personal and local places, spaces and environments as they explore their ideas. Collaboratively and with assistance, they can consolidate their observations and discussions to plan a simple inquiry into a given topic.

As their inquiry and skill capabilities develop from year to year, they will be able to engage in the inquiry process at a more complex level, accessing and using a wide and diverse range of information and resources. They will work independently and interdependently through an inquiry approach to develop knowledge and understanding of their world and how change and sustainability can be applied at the local and global level.

Teaching strategies to support interaction with the resources

In a previous article in *ACCESS*, Frangenheim (2014) talks about the need for students to decode the topic to successfully engage in inquiry by identifying the 'verb or implied verb'. His 'Thinking Skills Framework', which incorporates Bloom's levels, associated verbs, activity starters and thinking tools, is a great starting point to help you source teaching strategies to help students embrace geographical inquiry and skills.

For example, when students are asked to define, list, recall or remember facts, information and data they could use 'KWHL' (ITC Publications 2013, p. 83).

K: What do I already know?

W: What do I want to know?

H: How will I find out?

L: What have I learnt?

This metacognition tool is an effective strategy for engaging students, especially at the start of a unit. It captures their background knowledge, stimulates curiosity and enables reflection.

When asked to explore, discuss and investigate various elements about a topic, without necessarily coming to a conclusion,

against various components of the main topic to then consider the issue and make a judgement of the value or worth of the information gathered. For example, when Year 7 focuses on water in the world, the students could use the matrix to compare Australia with other continents. As they are immersed in a range of information and data, the matrix provides a framework for gathering important information that will be relevant to their inquiry and final decision.

If the students are asked to describe, identify, list and outline to give a detailed account of various aspects of a topic, an

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they could use 'PCQ' (ICT Publications 2013, pp. 51–55).

P: Pros

C: Cons

Q: Questions

This thinking tool allows students to clearly organise their findings and thoughts from different perspectives. For example, when interacting with a resource item about the environment, they could take on different points of view or roles, to collect and record important ideas and thoughts.

To engage in collecting and evaluating information and data, the students could use a 'Decision-Making Matrix' (ITC Publications 2013, pp. 57–59). The matrix helps them to collect relevant information

'Attribute Listing Organiser' would be a useful thinking tool (ICT Publications 2013, pp. 45–49). This tool helps to organise different characteristics of something. For example, when students are considering natural disasters and the impact on human and environmental characteristics of places (Year 5), the list organiser helps them to be consistent in the capture of key points that provide a good description.

In Year 3, the students engage in comparing, contrasting, differentiating and distinguishing; looking at what is similar and different. A thinking tool like 'Double Bubble Map' (ITC Publications 2013, pp. 29–31) or 'Contrast T Chart' (ITC Publications 2013, pp. 32–33) allows them to take the information they have gleaned from resources and record the distinctions (differences) and

the overlaps (similarities) in a dynamically visual way.

The 'Fishbone Diagram' (ITC Publications 2013, pp. 23–27) is useful when needing to classify, categorise, arrange and sort similar information in a structured way. The students can graphically map different elements of a topic into specific categories to help them organise their information.

Evidence to address teacher standards

Two focus areas of the *Australian Professional Standards for Teachers* (AITSL 2014) can be addressed by sourcing and disseminating digital resources to support student learning (3.4 Select and use resources), and by selecting and applying teaching strategies that help students develop their knowledge and understanding of the content area (3.3 Use teaching strategies).

The *Evidence guide for teacher librarians in the highly accomplished career stage* (ASLA 2014, p. 11) clearly identifies examples of evidence to support the two focus areas within the Standards.

By accessing the resources identified in this article and adding them to your digital collection, or a pathfinder, or a website, for staff and student use, you are demonstrating evidence to support Standard 3.4. By incorporating the thinking tools into your program planning or by demonstrating the relevance and application of these tools to help students develop their knowledge, understanding and skills, you are demonstrating evidence to support Standard 3.3.

The resources and tools referred to in this article are only a tip of the iceberg, but

the process of identifying them and then sharing them with colleagues can easily be replicated to continue to add value to the teacher librarianship community.

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