

gtaq

QUEENSLAND GEOGRAPHER
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geographical resources and news.

Our Facebook profile can be found in the sidebar of the
GTAQ homepage at www.gtaq.com.au

Our Twitter name is @GTAQLD.

Message from the > PRESIDENT

FELLOW GEOGRAPHERS,



Term 3 has been busy with Australian Curriculum: Geography responses, our annual conference, and active strategic planning. The theme for our third Journal for the year is "Skills and Inquiry". There are always opportunities for us to learn from each other and share ideas and resources and I wish to thank all contributors to this journal.

On 11 July an ACARA teleconference was held with all AGTA affiliates to discuss the July version of the

Australian Curriculum: Geography. Feedback was given on the draft, with Queensland being very active in the discussion. You now have an opportunity to respond to the final draft (see GTAQ website for details).

The 2012 GTAQ conference: "Geography in the 21st Century" was held at the University of Queensland on 28 July. PowerPoint presentation slides and other materials from the conference are available for review on the GTAQ website.

Pre-conference field workshops were well attended and provided an opportunity for pre service, primary and secondary teachers to refine field skills, develop support networks and gather additional resources and ideas. The photograph was taken while teachers were collecting primary data in the field around Toohey Forest Environmental Centre.



Approximately 30 people attended a conference dinner held at Kapsali's. The dinner provided a wonderful opportunity for teachers to informally discuss the field workshops and socialize with members from non metropolitan areas.

The conference was a hive of activity with 190 people attending including over 160 delegates coming from as far afield as Mt Isa and Cairns, plus trade and publishers, and a variety of presenters for the workshops, and keynote speakers. Once again a primary strand was available

Thank you to everyone who was involved with the preparation and functioning of the conference, in particular our convener Bec Nicholas

for her organization of the program, and Shane Albertson for web management. A huge thank you to all who attended. By supporting your association you have made this year's conference a great success and feedback was extremely positive.

GTAQ has initiated strategic awareness workshops for state council to try to prepare our organization for anticipated future needs of GTAQ members in this environment of changing curriculum and technology. This process is explained in more detail in the governance article of this issue.

The AGM will be held on 22 November. Please consider nominating for committee positions - nomination forms are available on the website. *For 2013 we are investigating the possibility of holding meetings electronically to enable anyone from Queensland to actively participate in GTAQ.*

I trust verification went smoothly and you all enjoy your break, and I look forward to working with you in term 4.

**REGARDS, LERECE ROBERTS
PRESIDENT**

GTAQ: > NEW DIRECTION

HAVE YOU EVER WONDERED WHAT GTAQ IS

ALL ABOUT? Why we get together to talk Geography, what we contribute to our communities, or what is the future of our organization?

With changing curriculum, technologies and operating requirements it is time to address these types of questions, and develop a plan for a sustainable future for GTAQ.

On 12 August Lerece Roberts, Russell Smerdon and Mick Law represented GTAQ at an Advanced Governance and Strategic Awareness Workshop held by JCQTA (Joint Council of Queensland Teacher Associations) and facilitated by Steven Bowman, a leading international advisor in nonprofit strategy, governance and leadership.

The workshop was informative and thought provoking with an emphasis on raising consciousness of the 'Committee of Management' of nonprofit organizations to plan future direction, and have an appropriate Constitution governing the operations of the organization in place. For non profit organizations to make a difference in the future, Steven suggested that firstly, a Vision Statement was required. Strategic planning techniques were also discussed and suggested management strategies presented. Succession planning, clear role statements for committee members, and induction to the Boards were some of the many requirements recommended for a healthy organization.

This Governance workshop reinforced the need for conscious decision making and change. At the GTAQ August meeting, council decided to rise to the challenge of planning a sustainable future for GTAQ, and began a strategic planning process (refer figure 1), beginning with a three hour planning afternoon held on 1 September. Nine committee members and three preselected stakeholders were in attendance.

The workshop was to initiate 'strategic analysis' by focusing on:

- identifying what makes GTAQ different to other organizations and why it is important (this is the basis of developing a Vision)
- developing a matrix of where the GTAQ is 'now' and where we would like to see GTAQ and Geography in 4 years time

- undertaking a SWOR analysis (Strengths, Weaknesses, Opportunities and Risks - refer table 1)
- identifying 4 Strategic focus areas.



Figure 1: Stage 1 of the Governance Process

Overall the activities proved useful and all attendees were engaged in the process and contributed in identifying where we are currently at as an organisation, and what our future might look like. The thoughts of the workshop attendees are reflected in the SWOR analysis (Table 1), and from this analysis, the following four key strategy areas were identified:

- SUPPORT - for members implementing the Australian curriculum, professional development, conference, journal, website
- PROFILE - promote GTAQ and Geography- raise status, market ourselves
- COMMUNICATION - newsletter, website, forums, blog
- STRUCTURE – financial, succession planning, strategic planning.

Table 1 GTAQ SWOR analysis

STRENGTHS (what we do well, what we have that others don't)
• Conference/ professional development/ connect to many young teachers
• Hard working committee and people who help you / skilled- links to academic institutions
• National organisation (active)
• Basic infrastructure already present
• 52 years with over 200 members
• RGSQ- links to us- has history profile
• Provide resources- Website/ Journal
• Good constitution
• Moving in the right direction – thinking about the future
• Fiscally sound
• High credibility
WEAKNESSES (what we do poorly, what could be better, what we should avoid)
• Limited regional member support
• Communication (changing)

• Meetings too operational
• Time poor Committee
• Low profile
• Don't tap into members talents
• Networking with new teachers
• Professional development – mostly SE Queensland – quality and regularity
• On-line models
• Don't budget/ don't have a business plan
• Lack of succession planning
• What does a GTAQ member get?

OPPORTUNITIES
• New curriculum allows for revitalisation providing better relevant services.
• Spatial technologies are part of the Australian curriculum- links with 'Destination spatial'
• Provide new workshops/materials/ inservice based on new curriculum
• Online PD available : including access to Geogspace
• Links with Primary
• Working with middle school (7-10) TARGET particular teacher groups
• Possibly employ a part time administrator
• Seek new funding sources (sponsors who share the vision)

RISKS
• Declining number of students/ teachers/membership based leading to more ill-informed citizens
• Unknown/ Uncertain political decisions
• Not having teachers trained teaching geography (school not employing specialist geo teacher
• Public perception of geography
• No action= no GTAQ (need to change how we structure and organise our self)
• Sectorization salary for PD person? administrator –home office-premises?

With new curriculum, new technologies and new opportunities, this is an exciting time to be involved in GTAQ, and planning for our future as a valuable and sustainable organization. This new strategic direction process is only in the early stages. Next term you will be notified of a survey where all members can contribute to our Strategic plan and influence our future.

If any members have experience in this type of process or are keen to be involved with any aspects of council, your input or assistance will be very welcome. At this time we are particularly looking for members who have a financial background and some time to assist with financial processes. Don't let location deter you from becoming involved. Remote meetings are possible.

GTAQ is about you and geography. To be sustainable we need to set clear goals and develop a supporting Governance framework. This is an exciting time to be part of the organization. GTAQ's direction is in your hands.

From the >EDITOR

Continuing this year's theme of linking our journal to the Australian Curriculum, our third edition for 2012 focuses on 'Skills and inquiry'. The impending release of our new curriculum is stirring up some debate on what is 'good' geography and it gives us a chance to reflect on and revitalise the way we teach geographical skills.

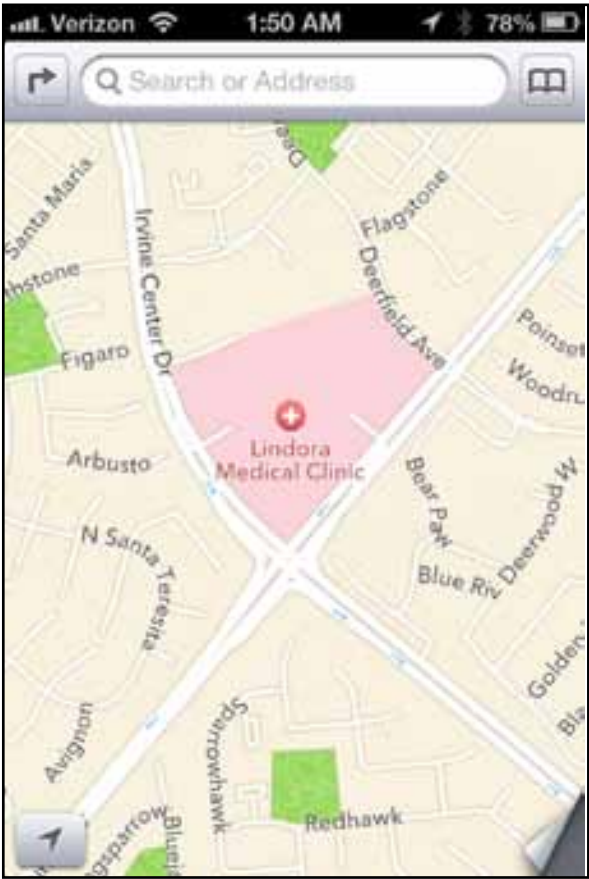
If the recent launch of Apple's mapping application is a guide, maps, and thus spatial literacy and skills, have never been as important to as many people as they are right now. Imagine tearing to the 'medical clinic' (pictured) in an emergency only to find it is a weight-loss clinic in the middle of a shopping mall? Most of us carry a map in our pocket that we access all the time; searching for the next bus into town, getting driving directions to dinner and locating a store are handy to us but the same technology and skills are helping allocate fire fighting resources in bushfire emergencies, track critically endangered wildlife to monitor population levels, record changes in the health of the Great Barrier Reef and plan our cities and urban developments. Never has the teaching of good geographical skills been as important as now, so that those who create and interpret maps to share information can do it quickly, clearly and efficiently.

To many teachers, in particular those teaching our wonderful subject having not trained in the area, geographical skills can seem pedantic, mysterious and possibly threatening ("what if I teach them the wrong axis to plot rainfall on a climate graph?"). Primary teachers in particular are not often trained in the field so finding reliable sources of geographical information is critical.

There are numerous resources available for teachers in print and digital form that give some direction to the teaching of geographical skills. The GeogSpace project championed by the Australian Geography Teachers' Association (AGTA), set for release in early 2013, will provide a website dedicated to applying geographical thinking to the Australian Curriculum:

Geography. This very journal has articles from some of Australia's most respected geographical educators all bringing you their thoughts, ideas and perspectives. For their contributions we are very grateful.

Hopefully our journal can get you started and we are always sharing resources, articles and ideas via our Facebook and Twitter accounts. There really are some fantastic teachers out there sharing amazing resources that you will never find on Google. See you there!



Source: <http://theamazingios6maps.tumblr.com/post/31990026990/this-is-not-a-hospital-its-a-shopping-center>

>GTAQ AGM and PD Opportunity

The GTAQ AGM will be held on Thursday 22nd November at the Bleeding Heart Café, 166 Ann Street, Brisbane.

The PD opportunity and AGM will begin at 5:30pm and finish at 7:30pm. The AGM will take on a different format this year, with two guest lecturers on topics associated with the current Geography curriculum, and a certificate of attendance for two hours of professional development. This will be followed by the AGM and a networking opportunity for teachers. The Bleeding Heart Café is a very fitting location for the next GTAQ event, as all profits made from our event goes towards funding charitable and community enterprise in Brisbane. For more information, go to their website - <http://www.bleedingheart.com.au/>. Therefore, to cover venue hire costs, there will be a small cost for attendees. Please look on the website or check email updates for further information on the speakers and how to register for this PD opportunity.



GTAQnews

CONFERENCE COMMENTS

The 2012 GTAQ Conference, 'Geography in the 21st Century' proved to be a highlight once again for Queensland Geography teachers. The GTAQ Conference was held at the University of Queensland in 2012 and again we had a full house! The conference attracted over 200 primary and secondary teachers to UQ on Saturday 27th July for a day of Geography. For the first time in a number of years, we also ran fieldwork days on the Friday. Fieldwork options included a visit to Toohey Forest Environmental Education Centre, a look at intercultural understanding and fieldwork and a look at spatial technologies from an industry perspective. Highlights of the conference were the keynote speakers; Steve Jacoby from the Department of Natural Resources and Mines discussed the fascinating and critical role played by spatial technologies in the 2011 flood response and recovery, Dr Margaret Robertson from University of La Trobe advocated for embracing our student's digital lives and embedding technology into the curriculum wherever possible and Dr Judy Smeed demystified the amazing contribution Geography can have to a schools performance and data. As well there were many great workshops on the imminent Australian Geography curriculum and as always, the barbeque lunch hit the spot. Many thanks to those who attended and created such a collaborative and collegiate atmosphere, we all benefit immensely just by getting together and talking about our subject. It was also wonderful to see the attendance from pre-service teachers much higher than previous years. I look forward to seeing you again in 2013 for our next big professional development.

STRATEGIC PLANNING AND LOOK

The GTAQ Committee has recently been working on updating our vision, constitution and our executive structure. At a half-day strategic planning session the GTAQ Committee began the process of revising and documenting these changes and implemented a series of sub-committees that will advise the GTAQ Committee in key areas such as finance, spatial technologies, professional development, the journal and the conference. Our main aim is to ensure that the Association best meets the needs of its members. Given the changes we have experienced in education in recent years, and in anticipation of the changes to come, we felt that a fresh look at our organisation 'from the ground, up' was best. Lerece Roberts has provided an update on our progress in this edition of the journal and we can elaborate at the upcoming Annual General Meeting.

ANNUAL GENERAL MEETING

The GTAQ is an organisation undergoing some huge internal changes in order to best promote geographical education in Queensland. Like any organisation, we live and die on the support we get from our members. If you want to be part of these changes and help to shape the future of geography in our state, come along to our Annual General Meeting, nominate to be on the executive and make a real difference. We have an amazing team but we really believe our members are knowledgeable, talented, multi-skilled and have much experience to offer. Our new structural changes mean we are running a more efficient ship and we are confident we can continue to get better. We have a number of really interesting speakers who will share their knowledge. Keep Thursday the 22nd of November free and come along and be part of it! Look out for the AGM advertisement with all of the details.

ACARA RELEASE

In early September ACARA released the latest public version of the Australian Curriculum: Geography. There are plenty of encouraging signs

including increased content in the content descriptors, incorporation of spatial concepts in the Geographic Inquiry stream and a general smoothing of rough edges. This is not the final version and is subject to change so perhaps it is worth providing ACARA with some feedback? <http://www.acara.edu.au/geography.html>

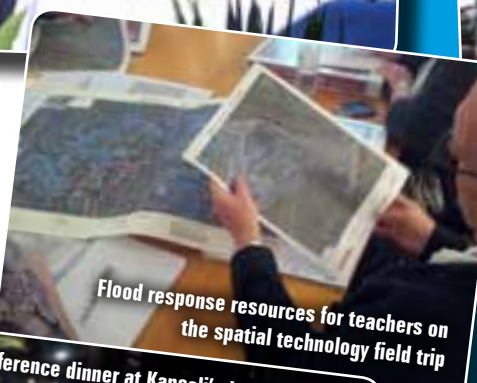
MT ISA PD

GTAQ have an upcoming professional development event in Mt Isa on Saturday the 17th of November. The day will focus on introducing spatial technologies in the context of the Australian Curriculum (as it stands). It will be a continuation of the Simple Spatial Technologies workshops that we have run in South East Queensland, Townsville, Gladstone and Toowoomba in the past few years. For information on the day and to register, go to the GTAQ website www.gtaq.com.au.

QSSC AWARDS

Finally, the GTAQ is fortunate to have on our executive geography educators with a wealth of talents. Our very own Rebecca Nicholas was recently awarded the Surveying and Spatial Sciences Institute's Queensland Teacher of the Year for her work advancing the cause of spatial technologies in education. Congratulations Bec, you're a star!

Conference > SNAPS



Inquiry:

> THE HEART OF GEOGRAPHY OR JUST ANOTHER BLIND ALLEY?

Nick Hutchinson

The wheels of change turn exceedingly slowly in the geography classroom. And, sometimes they get stuck in a deep rut. At one stage the inquiry mode of teaching and learning was exciting and innovative in geography classrooms but for a long time now inquiry approaches have been reduced to a familiar mantra of rather vacuous questions. There is a certain irony in this because some of our best geographical educators observed that question identification is the key to successful learning through geography. Further, in school curriculums inquiry approaches have been widely adopted throughout the whole field of social education, the humanities and the sciences. It is argued that it is the questions that geographers ask that distinguish geographical inquiry from general models of inquiry learning. Sadly, the questions have all too often been pruned down to a short list of geographic generalities.

Geographic educators have asserted that the content of geography should determine the concepts that underpin the discipline and the questions that geography poses. Arguably, the abbreviated list that has developed in Australian geography curricula is based on a spatial view of geography that is dependant on the philosophies of logical positivism. There was a move to depart from this truncated list in the 1980s when geography educators became engaged with phenomenology, in the guise of humanistic geography, and, in values, environmental and even peace education and in a wider concern for how power is wielded and how political decisions are made. There were moves to incorporate questions that reflected this geography of concern in 1988 and there was a deserving attempt in 2008 to include the values education approaches to geography that had been trialled in the UK in the 1980s. But, again they were largely premised on a spatial view of geography.

There many other currents that contributed to the compilation of geography's inquiry questions from a desire to reinvigorate school geography in the USA in the 1960s, the ground breaking ideas developed in Victoria in the 1970s, the efforts of Queensland geography teachers to develop innovative inquiry approaches in the 1980s. Sadly, this wave of innovation has shuddered to a halt. We are in danger of stultifying geographical curiosity in the classroom by the adoption of a one-size meets all approach to inquiry. What is argued here that we should engage with contemporary currents in geography and reinvigorate the lists of questions to be posed in the geography classroom. Geography has come a long way from the spatial science era to encompass an increasing array of phenomena, ideas and approaches and these ideas should better reflect notions of inquiry in the classroom.

WHY IS IT SO?

A UK-based study in the 1980s revealed that four-year-old children asked an average of 26 questions per hour (Tizard & Hughes, 1984). Upon entering school their level of conversations fell to 10 per hour with majority of the questions and ensuing conversation initiated by teachers. Alarm bells rang in 2008 when the government watchdog, Ofsted (The Office for Standards in Education, Children's Services and Skills), reported that too much teaching and learning of the subject was mediocre, leading many 11 to 14 year-old students to view geography as "boring" and "irrelevant" (Ofsted, 2008).

Consider the views of one Australia school student:

'I hate my geography lesson!
It's nothing but nonsense and names,
To torture me so every morning
I think it the greatest of shames.

The brooks they flow into rivers,
And the rivers flow into the sea;
For my part I hope they enjoy it,
But what does it matter to me?'

(Fien, Cox & Fossey, 1989, 1).

Contrast this with an acrostic poem from an English student, Molly:

'Waterfall acrostic poem
Whooshing, pushing, gushing over rocks
Attacking every thing in sight
Thrashing, bashing, crushing rocks and things like that
Error, terror, hear the power
Recking, decking, pecking in and out of rocks
Faster, crashier, bashier all around the place
Arting, darting, carting all the rocks around
Looking, cooking, booking in and out like a meander
Lushing, sushing, mushing every-where'

(Staffordshire Learning Network, ND)

An inquiry approach to learning should inspire geography students, stimulate their geographical imaginations, reinforce Ofsted's assertion that geographical inquiry encourages questioning, investigation and critical thinking about issues affecting the world and people's lives, now and in the future (Ofsted, 2008, 31). Clearly, Molly had encountered the waterfall at close quarters but one suspects that the Australian student had been taught using a transmission rather than an inquiry approach. What has happened to the unbounded curiosity, inquisitiveness and excitement about all that is around them exemplified by the four year-olds? Dianne Conway and Pam Pointon (1996, 315) maintained that involving young children in inquiry helped them to understand geographical concepts, develop skills and explore the importance of values and attitudes in an effort to make sense of an increasingly complex and rapidly changing world.

How structured should inquiry approaches be in geography classrooms? Should inquiry stem from student's own questions? Should issues-based inquiry involve meaningful student input? Simon Catling (2003) recommends a 'three Es' approach to inquiry in the Primary school. The geography teacher builds on young children's inquisitiveness using a structured approach that enables inquiry, enabling the children to put forward their own questions and develop the means to develop their own responses. The teacher enhances inquiry by challenging their questions and by incorporating geographical concepts. Young people are empowered when they develop their own questions, methods and approaches while the geography teacher offers appropriate scaffolds for inquiry.

Catling and Willy (2009, 71) argue that facilitating geographical inquiry in the primary classroom has a number of benefits. Such inquiries have relevance for and are of interest to them to the extent that they feel that they are valued as participants in the process of their own learning. Their inquiries are related to their own thoughts and feelings and they are

challenged to think and, so, to apply, adapt and develop their geographical understanding, knowledge, values and skills in continuing and new inquiries. By the time they reach High school such students should be well versed in geographical inquiry.

The challenge, in the middle years of schooling, is to maintain this momentum. Perhaps this impetus can be sustained through an examination of question selection. It is instructive to explore this idea by investigating some of the threads in the warp and weft of inquiry approaches in geography classrooms over time.

A TEMPORAL FRAMEWORK

A place to start is Bruner's legendary inquiry-based geography lesson. Bruner, a professor of psychology, chaired a conference at Harvard University in 1959 essentially looking at how subjects could be structured in ways that gave students a sense of the fundamental ideas as quickly as possible. His report was published a year later as *The Process of Education* (Bruner, 1960). He argued that students may forget facts but encouraging them to make connections would enable them to work things out for themselves. They affect transfer, or make the connections, through pursuing their own inquiries.

'Bruner gave this example of a geography lesson he had observed that illustrated learning through enquiry. The children (who were aged 11-12 years) were introduced to the geography of an area by being asked to locate the major cities on a map that contained physical features and natural resources, but no place names. During a class discussion about the problem, the children produced a variety of plausible theories about the sorts of resources a city might need, which included the importance of water transportation, mineral resources and food supply. Consequently, they placed Chicago at the junction of three lakes, another city near the Mesabi Range, and a third on the rich soil of Iowa. Bruner was particularly struck by the high level of interest shown by the children whilst working on this task. But of greater importance to Bruner was the children's attitude to learning. He commented on how for the first time, they saw the location of a city as a problem, and a problem they could discover the answer to through thinking about it'.

(Centre for the Use of research & Evidence in Education, ND)

The geographical educators and geographers that developed the American High School Geography Project (HSGP) in the 1960s were mindful of Bruner's dictum that the basic principle of any subject can be taught to any child in some intellectually honest form, and that students can be guided to discover these principles for themselves (Bruner, 1960, 52). The project aimed to develop teaching materials and methods that would help to close the gap between the then current ideas among geographers and the 'capes and bays' geography that was being taught in high schools. The students were to understand the 'geographer's way' or mode of inquiry (Knight, 1971, 433). These modes of inquiry were based on spatial concepts: location, areal distribution, spatial interaction, causality and areal differentiation. The Portsville map model in the Geography of Cities unit consisted of a base map to which students could attach LEGO bricks and versions of the Game of Farming spread to New Zealand and Australian classrooms in subsequent years. The HSGP had each student assume the role of a homesteader who migrated to western Kansas in 1880 to claim 28 hectares of land. The students had to confront problems such the introduction of new machinery, the perturbations of the Great Depression and the Dust Bowl years.

I fondly remember working with geography classes in the 1970s based on the 'Game of mixed farming: arable agriculture on the Canterbury plain' that was based on the HSGP Game of Farming (Knight, Buckland & McPherson, 1973) and later on using the simulation game 'To market'

set in the Illawarra and South Coast regions of NSW that examined the vicissitudes of dairy farming 1870-1887 (a spirit-based stencil that has long since lost but still treasured).

In the 1970s my Victorian colleagues had been granted freedom to develop their own geography courses and assessment schedules after the abandonment of external exams. Regional and local groups of teachers were free to develop SGEP-PAKs (Secondary Geographical Education Project) using inquiry based approaches to course planning. These units, published by GTAV, were framed by a geographic question with each unit broken down into a series of key questions that emphasised what students were to actually undertake in each unit. Frances Slater (1993, 6) explained that a topic 'poverty' morphed into 'Are their "pockets" of poverty? Why?' thus indicating what the students were expected to learn about poverty.

Slater then presented a rich list of sample sub-questions that could be applied to this inquiry, and, most others in geography:

Where is it?
Where does it occur?
What is there?
Why is it there?
Why not elsewhere?
What could be there?
Could it be elsewhere?
How much is there at that location? Why?
How far does it extend already? Why?
Is there regularity in its distribution? Why?
Where is it in relation to others of the same kind?
What kind of distribution does it make?
Is it found throughout the world?
Is it universal?
Where are its limits? Why?
What else is there too?
Do these things usually occur together in the same area? Why?
Is it linked to other things?
Has it always been there?
How has it changed spatially (through time)?
What factors have influenced its spread? Why?
What is the area likely to become? Why?
How should the area be used?

(Slater, 1993, 6)

Slater (1982) had argued, in an earlier version of her text, that in order to answer geographical questions, geographical investigation requires that individuals practice their skills of observing, defining, classifying, analysing, inferring, reasoning, integrating, and associating phenomena, and doing so will train both the teacher and the students in the use of geographic thinking and transfer their ability to handle the processes which, if followed, can help solve geographic problems in new environments and in new problem situations. One can see the debt to Bruner as well as a predilection for spatial science.

In Queensland, a school-based inquiry learning program, Australian Geographical Inquiries (AGI) under trial in 1980, was evaluated by Leo Bartlett in 1982. The questions followed a now familiar pattern: 'What and where? Why? What consequences? What alternatives?' and the findings from one case study were particularly promising:

'The teacher labours in a country town where students' lives are public property. Most of his students will grow and die in the town. The teacher is told by his pupils that he does not 'belong' to the town unless he votes for a particular political party which was founded in the town in the 1890s. Initially, he avoids political content but focuses on another issue of some importance and meaning to the students – the harvesting of kangaroos. The inquiry is labeled 'Kangaroo, Purse, pouch or Production?' The pupils inquire

through a range of activities – library research, a night hunt with a professional ‘roo shooter, a survey (about kangaroos) of a city class doing AGI ...

Pupils and teachers interact both inside and outside the classroom. This is a classroom without walls and a strong bond between teacher and students develops because of this personal relevance orientation to curriculum (original italics).

(Bartlett, 1982, 45)

In NSW, the Higher School Certificate Examination Committee introduced stimulus material in the form of a Broadsheet in 1970 that reflected a move away from an essay form of examination towards inquiry. The Broadsheets have survived to this day presenting topographic and other map extracts, diagrams, remotely sensed images, aerial and other photographs, statistics and graphs. The students were required to refer to research through fieldwork and other information sources. The Broadsheets became invaluable teaching and learning resources for inquiry learning, one of the most treasured resources in the geography storeroom or map press. The use of Broadsheets has become widespread in all Australian states.

There are other avenues to pursue geographical inquiry. Geography teacher Rob Berry described how his class challenged the material that was presented in textbooks about apartheid in South Africa (Berry, 1985). They were encouraged to examine the following proposition, ‘Do geography textbooks fail to adequately demonstrate the effects of apartheid policies upon the distribution and movement of peoples in South Africa?’ The students convened a ‘Court of Inquiry’ and a ‘Panel of Judges’ to examine the proposition. The students’ personal geographies gleaned from graphic scenes in the media concerning riots and arson, debates about sporting and trading boycotts were brought into the classroom. As Rob observed, ‘No one seemed to notice that the period had ended’ and ‘A number of students set out to evaluate the data presented in text books on other topics or about different countries and regions’ (Berry, 1985, 9-10). Clearly, such an inquiry focus reflected the personal geographies of the students and they focused on spatial science in terms of distribution and movement.

The zeitgeist of the 1980s was one that caused geography teachers to be engaged with inquiry approaches to learning that explored attitudes and values. The UK Geography 16-19 Project, 1976-85, invited students to investigate a question, or, an issue arising from the interaction of people with their environments. At the penultimate stage of inquiry, ‘personal evaluation and judgment’ they were asked,

‘What do I think? Why?: determine what values are important to oneself and so decide the values position one would support in this issue; identify which decisions and which course of action one could accept personally; assess their impact on the situation; consider how one would defend and justify the course of action’

(Naish, 1986, 30).

Eleanor Rawling, reinforced the importance of values inquiry in relation to economic geography when she explained, ‘Developing the ability to critically appraise images and viewpoints is a first step towards appreciating the deep seated values lying behind them’ (1991, 32).

Rob Gilbert presented a strong critique of simplistic inquiries that assumed that a conventional list of factors of location and the ‘hidden hand of the market’ were sufficient to explain the location of industry. He railed against the abstract explanatory tools of spatial science, ‘If we are to help students understand how decisions are made, we must concentrate on the complex historical relationship between the opportunities provided by a location, the political and economic context, and the varying perceptions, goals and power available to the actors involved’

(Gilbert, 1986, 45-6)

The geography of change in the 1980s offered up further avenues for geographical inquiry. Barrie McElroy, concerned with political literacy, explained that neither the explanations and theories of geography and many of our teaching approaches, ‘give the average citizen or student much understanding of how power is exercised in decision making and how they share that power (1988, 31). David Hicks (1988, 16) explained that there had been a culminating geography of concern expressed in terms of welfare geography, humanistic geography and radical geography. Each of these fields opens up another suite of potential inquiry questions. John Fien, and other Queensland-based geographers, introduced a set of inquiry questions under the umbrella ‘How Ought’ questions which evaluate the appropriateness of spatial decisions, consider suitable other decisions and suggest who should implement these decisions’ (AGTA, 1988).

‘What criteria may be used to evaluate the appropriateness of locations, patterns and systems?

What alternatives should be considered in making decisions about changes to patterns, structures and systems?

Who decides and for whom?

Who gains and who loses as a result of the decision?’

The spatial was still emphasized but the direction of inquiry questions had been widened. Fien (1996, 8) maintained that two themes have dominated his work in geographical education. One added ‘How Ought’ questions to a short list ‘What? Where? Why? and So what?’, but more importantly is his presumption that, ‘you have to have a social purpose to your teaching’. This was encapsulated in the 1986 AGTA Conference and the subsequent proceedings ‘Teaching Geography for a Better World’. A further distancing from the spatially based list of inquiry questions was suggested by Bernard Cox (1989, 66) when he constructed two lists of geographer’s questions, one spatially-based the other taking into account geography’s interest in phenomenology, in the guise of humanistic geography:

‘Where are things located?

Why is it there?

With what is it associated?

What are the consequences of its location and associations?

What spatial alternatives should be considered in decision making?

Who decides and for whom?

What is the place or thing we are concerned with?

What are my own perceptions of this place?

What are the perceptions of other people?

What is the language used to describe the place?

What does this place mean to people as evidenced by their reactions to it?

What are the causes and consequences of the perceptions of this place?’

As Joe Powell (1984, 178) explained, ‘ It is fair to say that there has been a widespread re-discovery of place as the hub of geographic inquiry. In humanistic terms ‘place’ is preferred to ‘space’ because it is seen as the centre of action and intention, a focus of where we locate the ‘relevant’ events of our existence. ... The essence of a place can never be said to arise from a mere location or by reference to the ‘functions’ ascribed to it according to one abstract formulation or another’.

Some geographers have argued that humanistic geography is something of a cul de sac in academe but there are others that see a resurgence of it in behavioural geography and in the efflorescence of cultural geography. Certainly, humanistic and cultural geography offer up many opportunities for increasing the repertoire of geography’s inquiry questions in schools.

THE FORMULA

All too often the inquiry questions have been reduced to a formulaic short list in Australian geography syllabuses. Perhaps this has come about because of more top-down curriculum provision of geography in some jurisdictions or maybe it is a result of a lack of incisive thinking in others where National Curriculum # 1 resulted in the proliferation of SOSE. The list offered up in the 1992 NSW Board of Studies Syllabus Years 7-10 Geography (1992, 3) is typical and has persevered in a number of other places:

‘What is there?

Where is it?

Why is it there?

What are the effects of it being there?

How is it changing over time?

Should it be like this?

What action is appropriate?’

Refer, for example, to (Gerlach, 2009, 2 & Berry, 2006 4) where similar sets of questions are put forward as the basis for inquiry learning.

It has to be said that geography teaching in North America has also not progressed much further from such questions, ‘Students need to be able to pose questions about their surroundings: Where is something located? Why is it there? With what is it associated? What are the consequences of its location and associations? What is this place like?’ (Royal Canadian Geographical Society, 2012)

The GTAV has to be commended for extending these inquiry-based questions. They build on the model produced in the Geography 16-19 Project (Naish, Rawling & Hart, 2002, 65) starting with observation and perception to ask the initial question ‘What?’ then summary questions, ‘What do I observe? What are my perceptions? How do others view it?’ and finally a set of more complex, higher order, key questions, ‘What are the issues and problems being studied? What is their scale? What patterns of distributions are there?’

Miles & Ward, (2008, 23)

These questions are usefully teased out with regard to an inquiry based on ‘Fresh water in our World’, with the following higher order questions posed: ‘Are there inequalities in the global use of water? What is the scale of the issues associated with the water cycle? What patterns of distribution are there represented at local/regional/ national and global scales?’ The use of higher order questioning is commendable but the nature of the questions does not stray far from the spatial. It must be accepted that the spatial is an essential part of the geographic imagination but it might be better explored in specific circumstances, and with appropriate geospatial technologies, rather than in the universal adoption of spatially based questions.. Kerski (ND, 3) explains that ‘GIS is a perfect tool to analyze the “what if...” questions. GIS allows for both context and content to be analyzed—both location (where is it?) and place (what is it like?)’.

ISSUES-BASED QUESTIONS

There are different opportunities for inquiry learning in issues-based approaches. South Australian geography teachers and educators reported:

‘Many things on our earth require careful investigation so we can make decisions about our future and our world, we can find answers to many questions – answers that allow us to make sound judgements and act wisely. In order to do this we, we have to know.

- What is the issue is that requires investigation and resolution
- What is at the particular place we are investigating
- Where the aspects of the issue are precisely located and when they occur
- Who is involved in the issue
- How the issue might be resolved and whose interests may be served

by any solution

- How we would respond in this situation and how we would be able to justify our stance?

Further elaborations

- What attracts us to be interested in or give attention to this issue?
- What is the issue?
- What is at this location, Why are things located there?
- Where are the human and/or biophysical phenomena of this place located precisely?
- Who uses this place?
- Who are those involved in the issue?
- How and why has the issue arisen?
- What conflicts are involved in it?
- When do these events most likely occur there? (Chronology and/or sequence)
- What alternative decisions can be made?
- What impacts would each one have?
- How is the issue likely to be resolved?
- How should it be resolved?
- How would you respond? How would you justify this response?’

(Manuel, McElroy & Smith, 1995-99)

QUESTIONS FOR INQUIRY BASED LEARNING IN THE 21ST CENTURY

If, as I have argued, many of the inquiry questions are based on a spatial reading of geography then it would be instructive to emphasise other geographical concepts and to include other world views. Place and sustainability are examined but there is room for the development of inquiry questions around the other major concepts identified in the Australian Curriculum: Geography.

WORLDVIEWS

Barrie McElroy emphasises political literacy,

‘Questions to do with social and economic structure and access to political power are implicit in many geographical studies. Relative access to and control over space, resources and the environment are posed, if often neglected, during studies of urban morphology, energy, transport, or the Third World, for instance’ (McElroy, 1988, 36). Questions that might emanate from political geography might include:

How and why societies allocate and manage territory and why exclusive control over defined areas has become an overwhelming preoccupation?

What has been the impact of globalisation on political structures and on political relationships across the globe?

(Blacksell, 2006).

Susan Hanson explains that certain questions were not on geography’s agenda until women started asking them, with questions about

- ‘the geography of everyday life;
- the links between the unpaid work of caring and work in the paid labor force;
- the impacts of international monetary policy on the lives of women and children;
- the relationship of international migration to child care, domestic work, and the sex trade; and
- women’s role in changing the face of the earth’.

(Hanson, 2004, 19)

Questions from historical geography might be concerned with an imaginative reconstruction of people and places, changes in the evaluation and use of natural resources over time, the changing form and function of human settlements and built environments, the development of

geographical knowledge and the extent to which people exercise power over territories and peoples (Butlin, 1993, 1).

In North America questions pertaining to physical were avowedly spatial according to Peltier (1954, 375) because the geographer asked these types of questions: ‘What landforms exist in a given area? How do they differ? Where are they? What are their distribution patterns? On the other hand, according to Peltier, geomorphology or geology was more concerned with structure process and stage. In Australian schools geography students have been immersed in both traditions. However, there are more innovative and interesting questions to be asked. Roger Trend (2008) suggests the following inquiry questions:

- Why does it get colder as you move vertically up towards the sun?
- Why do we claim bays have been eroded by wave action when we see maximum wave action occurring on headlands, with depositional features (beaches!) in bays?
- Why is the sea salty, since rivers comprise fresh water?
- Why do continents continue to exist, despite sufficient time for them to have been eroded to sea level?
- If the Pacific Plate changed direction 43 million years ago, as evidenced by the Emperor-Hawaii ridge, what happened at all the plate boundaries?

PLACE

In terms of questions about place Michael Storm developed five key questions about place to be used in Primary Schools:

‘What is the place like?
Why is this place as it is?
How is this place connected to other places?
How is this place changing?
How would it feel to live in this place?’

(Storm, 1989, 4)

Two more questions were added in 1992 to accord with the UK National Curriculum Document

‘Where is this place?
How is it similar to/different from another place?’

(Foley, 1999, 83)

Cultural geographer, Jon Anderson wrote about traces, the marks, imprints and remains left in place by cultural life and framed these questions:

‘What cultural traces dominate a particular place? Who and what do these traces stand for? In other words, whose place is this anyway?
Are the traces in this place resisted? If so how?
What do the traces stand for? Whose places do they seek to make, and what would these places be like?’

(Anderson, 2010, 11)

Tim Cresswell offers another suite of questions about place:

‘How are places represented? Who has the power to represent? What is left un-represented?
Who decides that activities, people and objects are out of place? How does transnational trade operate through and in place? How are global senses of place produced through food, music or clothing?
What memories are memorialised in the material landscape?
How does the repetition of everyday activities produce a particular sense of place?

How do politicians promote place through the creation of political territory?’
(Cresswell, 2004, 140-142)

SUSTAINABILITY

John Huckle developed teacher-training materials about sustainability. He identified the following statements about knowledge and understandings of sustainability that can be readily turned into inquiry questions:

- ‘The environment and human conditions are inextricably interrelated.
- How people continually impact on the environment and others, as individuals and as part of wider society, from local to global levels.
- How biological systems operate and support life on earth and are affected by human activity
- How major issues such as poverty, consumption, development, health and loss of species are interrelated.
- How the economy, society and the environment are mutually affecting and interdependent.
- Community action and partnership is necessary to the achievement of more sustainable lifestyles.
- The maintenance of diversity is necessary to the health and sustainability of natural and human systems.
- Inequality, exclusion and injustice persist within and between societies.
- The earth’s resources are finite, precious and access to them is unequal.
- A variety of economic and political forces determine how resources are used and managed.
- A variety of cultural and social values influence how resources are viewed.
- The carrying capacity of any environment, and of the earth as a whole, is limited by natural systems and resources
- How increasing efforts by people around the world are working towards more sustainable development.
- Knowledge about the environment and out relation to it is growing, changing and uncertain.’

(Huckle, 2005, 63-64)

CONCLUSION

Geography has come a long way from the spatial science era to encompass an increasing array of phenomena, ideas and approaches. Brian Berry (1964, 2) had insisted that the geographic point of view is spatial, and to an extent he is right, but our concepts have strayed far beyond his anchoring ideas of spatial distributions, spatial integration, spatial interaction and spatial processes. What I am arguing for is a poetics of geographical inquiry rather than geography as the science of space. Indeed, many contemporary geographers explore socially constructed rather than Euclidian space. There is room to engage more deeply with other geographical concepts identified in the Australian Curriculum: Geography. Interconnection, for example, can be teased out in terms of flows, intensities and becomings rather than through networks, nodes and hierarchies.

Peter Haggett, writing in the Dictionary of Human Geography (Johnston et al, 1981, 136) explained, ‘Geography today represents an amalgam in which the legacy of the past ideas remain strongly embedded but current thinking is still being worked out’. Using a metaphor of the city he referred to new suburbs, older suburbs that have become fashionable, some needing repair, others becoming derelict, some well built, others glitzy facades. He maintained that geography ‘has extended beyond its medieval walls to form a sprawling conurbation with other subjects.’

If we are to engage students with 21st century geography then our inquiry-based questions need to be more carefully constructed. Ron Johnston (2005, 23) likened the practice of geography to a major river. Our school students, incipient rills high up in the catchment come to learn their geography, become curious and involved, as they are encouraged to ask, ponder and answer questions. In the middle reach channel are

the university geography students socialised into the discipline through a search for knowledge. Braiding in lower reach reflects the specialisms that geographers pursue: behavioural geography, welfare geography, radical geography, humanistic geography, post-modern geography and the many new cultural geographies (Kent, 2000, 114). These currents should enrich the school-based inquiry approaches as new graduates enter into geography teaching. We should not be imprisoned in mindset that still pushes spatial science to the fore in our classrooms. We must accept the centrality of space but at the same time open the door for other sorts of inquiry: ‘things do not happen outside of space and time, and always take place’ (Hubbard et al, 2002, 239)

Rather than relying on rather out-dated and restrictive theories traced back to the logical positivism of spatial science it is important to identify some alternative structures. Noel Castree (2005, 300) referred to the insights of German critical theorist, Jurgen Habermas, who argued that Western societies were characterised by three types of knowledge. Instrumental-technical knowledge is based upon empirical investigation and governed by technical rules– the world of spatial science, physical geography and GIS. Interpretive- hermeneutic and critical-emancipatory knowledge types are more likely to be found in English literature, cultural geography and the social sciences, such as political science. Interpretive-hermeneutic knowledge seeks to understand the world, not explain it, involving values and attitudes, empathy rather than logic. Critical-emancipatory knowledge focuses on questioning the world rather taking it at face value, seeking to change the world rather than accept the way that it is, wanting to make it more egalitarian, democratic and sustainable (Huckle,1997, 247). All three types of knowledge can be delivered in the Australian Curriculum: Geography through the choice of appropriate inquiry questions.

POSTSCRIPT

Australian Geography Standards:
2. Fostering geographical inquiry and fieldwork
‘Accomplished geography teachers:

2.1 encourage students to carry out a range of geographical inquiries, from structured to more open ended and active investigations, from prearranged problem solving and open ended discovery to negotiated inquiry. Through these inquiries, students identify topics, generate questions, evaluate the quality of evidence, process and analyse data, select presentation methods to communicate the research findings effectively, think creatively about geographical issues, propose individual or group action in response to the research findings and, where appropriate, take such action;

2.2 make judgements about the essential skills, processes and values that students need to develop to carry out meaningful and ethical geographical inquiries;

2.3 support students to undertake inquiry in the field, to select and use fieldwork tools and techniques, ranging from simple purpose-built equipment to digital and video cameras, GIS and environmental sensors, appropriately, safely and efficiently’.

(University of Melbourne, AGTA, GTAV, & Victorian Institute of Teaching, 2010, p. 3.)

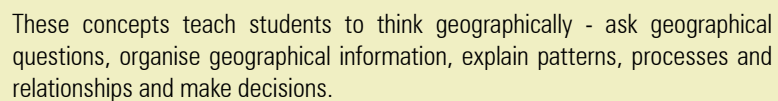
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Jackie Dunk

The Shape of the Australian Curriculum: Geography also identifies seven major concepts that underlie a geographical way of investigating and understanding the world.



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> Geography



Searching for the 21st Century > GEOGRAPHICAL SKILLS

Malcolm McInerney

Some thinking from the Spatialworlds blog at <http://spatialworlds.blogspot.com.au/2012/08/searching-for-skills.html>

Much has been made about the concepts of Place, Space, Environment, Interconnection, Sustainability, Change and Scale in the Australian Curriculum: Geography and their importance in developing geographical thinking. However should we also be working to develop a generic skills list involved in the teaching and learning of geography in the 21st Century.

The Australian Curriculum: History clearly articulated the generic skills of history and embedded them in a developmental manner very effectively in their F-10 historical skills strand. The historical skills identified in the ACARA document are continuity and change, cause and effect, significance, perspectives, empathy and contestability.

The challenge for geography is to identify a list of generic skills that goes to the core of geographical education. When anyone asks a geography teacher; "What skills do you want your students to develop", we should be able to articulate those skills clearly and coherently. We are very good at saying we want our students to understand maps, undertake inquiry, draw graphs, do cross-sections etc, but geographical skills are much more in the 21st Century world of geography.

This piece of writing is not intended to develop a comprehensive and finite list. Rather, it intends to be a starting point for teachers to begin to think about the generic geographical skills to be developed in the teaching of geography. I would also hope that it will provide an opportunity to debate what we are actually trying to develop in our students in terms of skills for citizenship and living. I would suggest that in geography these skills, as is the case with the concepts, make geography geography. Here is a go at making a generic geography skills list!

- 1. Conceptualisation:** to discuss geographical events, phenomena and places using the geographical concepts of place, space, environment, interconnection, sustainability, change and scale.
- 2. Comparability:** to compare and contrast geographical places, processes, features, events and spatial arrangements.
- 3. Cause and effect:** to identify causation and impact of geographical processes, spatial variations and events.
- 4. Contestability:** to discern that there are multiple explanations for geographical phenomena and be prepared to discuss multiple causes, interpretations and futures.
- 5. Empathy:** to be empathetic to the impact of geography on humans and have an

understanding of a variety of views and impressions.

- 6. Futures:** to be able to project forward and suggest possible futures for whatever geography studied.
- 7. Graphicacy:** to evaluate and use data in the form of maps, graphs or other visual representations of the earth.
- 8. Questioning:** to ask the inquiry questions of what, where, why and so what?
- 9. Source/data critiquing:** the ability to collect, interrogate and analyse data and visual representations (maps, visualisations, images).
- 10. Whyabouts:** to explore the 'why of the where' when investigating the reasons for the location of geographical features, places and spaces.

Hopefully this list and interpretations of the skills will start some discussion of generic geographical skills. They certainly need to be part of the discourse required in professional learning during the implementation stage of the Australian Curriculum: Geography. In conclusion it should be emphasised that this listing is not any official work of ACARA as they develop the Australian Curriculum: Geography. Rather it is just some thinking about modern geographical skills beyond those often cited.

> APOLOGY

The article "More on Scan Codes" was in our last edition. We apologise for not publishing the Author of the article: Mike Railton from Maleny State High School.



Using the RNA Exhibition [the Ekka] as > A RESOURCE FOR GEOGRAPHY

Russell Smerdon, All Hallows' School



numerous primary producers and products. It is a good opportunity for students to see the 'physical evidence' of rural production [animals, crops] and also for them to spend time speaking with the primary producers who are more than willing to speak to them about their lives as rural producers as well as to provide details of the 'production process'. In addition, this is a more feasible 'farm visit' than travelling some hours to reach a farm which produces, at most, a few products.

There is a cost involved in visiting the Ekka but the class made use of the train and the special Exhibition station which proved very efficient and the cost of entry was no different to what they might pay for a theatre or other type of excursion.

In this instance I planned a two to three hour experience for the students. In that time the students visited the:

- Beef cattle
- Dairy cattle
- Dairy goats
- Agricultural displays
- Animal nursery [including the wool display, the farmed Alpacas and Llamas], and
- The Australian Year of the Farmer exhibit.

As this was meant to be more experiential than the normal data gathering of other field trips, the students were asked to focus on:

- Learning about the industry e.g. Breeds, production details e.g. Property/farm size, markets
- Interacting with the 'industry personnel' e.g. the farmers/property owners and industry representatives.

As expected the students found the 'industry personnel' very friendly and very willing to share their knowledge and experience. This coupled with the 'hands-on' nature of the exhibits – honey tasting, pineapple tasting, baby animal nursing – made for a very enjoyable and educational experience for the students. There was genuine surprise

and awe, on the part of the students, at some of the sights and with some of the information discovered.

Some advice for those who might be planning a visit to the Ekka in the future:

- It is better to go before the Wednesday public holiday as some exhibitors leave immediately after the public holiday.
- If using public transport, the train is a very good option. The Exhibition station exit locates you immediately near some of the animal displays.
- A two-three hour visit proved adequate, but there is plenty at the Ekka to warrant a longer visit if the time is available.
- I found it really useful to have been prior to the excursion so that I could speak to some of the exhibitors and also for planning the movement of the group in a location with many pedestrians.

I would definitely do this excursion again as it proved a very beneficial experience for the students. I think it reinforced the need, expressed by the commentators, for this type of reconnection between the urban dweller and the rural producers. It also complemented aspects of the unit, Feeding the world's people, where we had been discussing sourcing food for people and understanding the production process. The students certainly felt they had benefitted from the experience and thought it worthwhile.

During the most recent Ekka I took my Year 12 Geography class on a Geography excursion there. The students are studying the unit: Feeding the world's people. I was prompted to do this for the following reasons:

- An early 2012 episode of the ABC Gardening Australia program saw the host, Costa Georgiadis, at the Royal Easter Show in Sydney. He was visiting the agricultural exhibits and discussing the concerns some people have about the lack of connection between our largely urban population and our rural producers.
- A recent Landline segment focused on a visiting American commentator who spends considerable time in the USA and elsewhere speaking to groups about this lack of connection. He feels it is extremely important to re-establish links between the urban dweller and those producing the food that they consume.
- In the unit 'Feeding the world's people' there is little opportunity for a 'field experience'. In the 1980s there were still market garden farms around Brisbane – in close proximity – and many schools would visit them with their students. This is no longer the case.
- As an inner city school I felt it was important that the students make some connection with rural producers. The Exhibition provided the perfect opportunity for this – so many rural producers all in one place at one time. I wanted them to learn a little about where their own food comes from.

Unlike a farm visit, a visit to the Ekka provides students with access to

Rethinking geographical skills > IN A 21ST CENTURY CURRICULUM – OR NOT?

INTRODUCTION

Which geographical skills will best equip our future students to enable geographical knowledge, concepts and understandings to live and breathe? Which skills are inherently geographical? Which skills support inquiry as they are most useful in representing data gathered in the field, for research projects and in making sense of the world? The shape of the Australian curriculum: Geography (ACARA, 2011) states that Geographical skills are the techniques and tools that geographers use in a geographical inquiry. Most anything can be described as a skill: thinking skills, literacy, numeracy, but this article focuses on graphicacy: using maps and other graphical representations to communicate spatial and other geographically relevant information. The term graphicacy was coined by Balchin and Coleman in 1966 (Boardman, 1983).

Fast forward to the 1980s, students may have been hand shading choropleth maps, and in school staffrooms, ribbing abounded that to be a geographer was to be adept at colouring in. Light tables and map drawer s were found in many geography classrooms and students traced map information to construct their own maps. Amongst other representations, students were asked to draw climate graphs and population profiles. Fast forward to 2012, and students are analysing aerial photographs using Near Map, generating maps using freely available sources such as Google Earth, Google maps and constructing various graphs, using software including Excel.

Geography is a key discipline in which skills are developed. These skills are often transferable benefiting the wider development of the young person. Skills are tools that enable students think geographically and are a key element of undertaking geographical enquiry. These skills include mapping and map interpretation, sketching and photographs, data collection, tabulation, graphing and analysis. However the learning outcomes should not be reduced to 'draw a scatter graph', a technique that is useful in Mathematics and other curriculum areas. Rather the outcome is to interpret the data using the scatter graph (or scatter plot) as a means to investigate if two variables are correlated.

Sometimes there is strong focus on data construction in geography courses – representing data in new ways, but at times data construction is time-consuming. So when planning lessons that might include data construction, it is useful to ask if is this the best use of the limited time that students have. If well constructed representations exist, ask students to interpret the representations - always with a critical eye. However when students conduct fieldwork, their primary data does need to be processed to communicate their results. As well, a class can divide the data representation tasks and share the results.

Map literacy is central to learning geography and includes developing understanding of scale, symbols, accurate, grid references and orientation. Do students need to draw maps to be adept at interpreting maps? Yes they do need some experience because it is only when you construct a map you are required to make decisions including what is the appropriate scale to depict this phenomenon and what symbols will best communicate my intended meaning?

Jeana Kreiwaldt

- What are the key elements of skills that ought to be developed at the time that is useful to students to further their understandings in the geography classroom?
- A. Recognise representations
 - B. Explain what it is and why it is used
 - C. Draw the representation in the most appropriate way to inform, including appropriate conventions
 - D. Interpret representations to draw conclusions
 - E. Critically evaluate representations to identify errors, and recognise accurate examples.

A worked example: scatter graphs

A. RECOGNISE REPRESENTATIONS

A scatter graph has this general form.

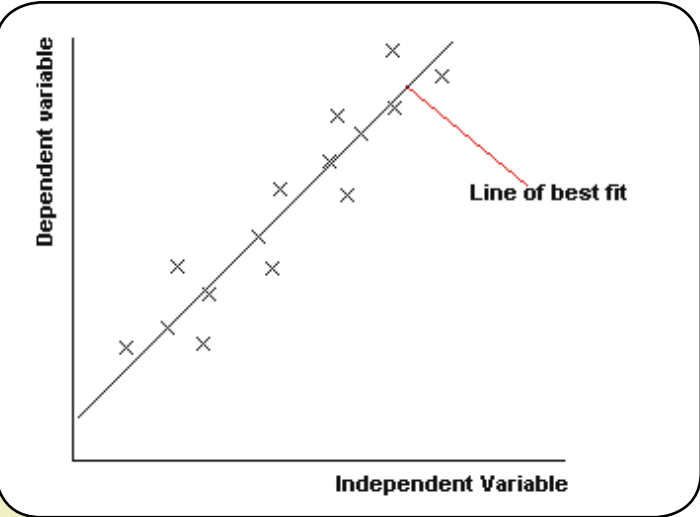


Figure 1

B. EXPLAIN WHAT IT IS AND WHY IT IS USED

A scatter graph or scatter plot is a graph which helps us to investigate if a pattern or correlation can be seen between two sets of data.

A scatter graph can be drawn by hand or using a spreadsheet program. Often the data does not show a neat pattern, which might mean that the relationship between two variables is complicated, and there may be many other variables at play too.

A scatter graph should be considered when there are two sets of numerical data that can be investigated which may be related. Scatter graphs are useful in geographical inquiries as geographers are interested in understanding the relationships between variables. For example, what is the relationship between GDP and literacy rates; global peace and income inequality?

On scatter graphs, a line is drawn that has about the same number of points above and below it (figure 1). By drawing a line of best fit, this helps to visualize the relationship between two sets of data. Scatter graphs are also very useful to find the instances that do not fit the pattern, which are known as the outliers – they are the instances where the relationship is not shown.

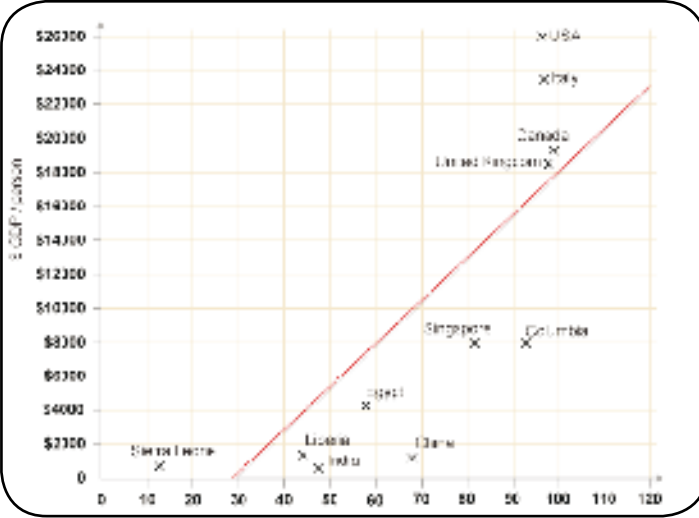


Figure 2: % adult literacy and GDP per person in US dollars for selected countries, 2010

POSITIVE CORRELATION

- The pattern on the graph is from the bottom left to the top right
- As one variables increases in value so does the other.

NEGATIVE CORRELATION

- The pattern on the graph is from the top left to the bottom right.
- As one variable increases in value the other decreases.

NO CORRELATION

- The points are scattered randomly with no obvious trend.

Where a strong correlation occurs this is not proof that there is a cause and effect between two variables, and further investigation is needed to understand if one variable affects another.

C. DRAW THE REPRESENTATION IN THE MOST APPROPRIATE WAY TO INFORM, INCLUDING APPROPRIATE CONVENTIONS

When drawing a scatter graph it should have these features:

1. Clear title
2. Axes labelled
3. Independent variable is placed on the X axis
4. Line of best fit is drawn so that roughly an equal number of points are above and below the line.
5. Source is provided

TASK EXAMPLE

Use the data in the table below to create a scatter graph

Life expectancy and GDP per person in US dollars for selected countries, 2010.

Selected country	Life expectancy at birth (years)	GDP per person in US dollars
China	74	7900
Bangladesh	69	1560
South Africa	52	9285
United States	78	42066
South Korea	80	26313
Mexico	77	11754
Brazil	73	10192
Ukraine	68	6002
India	65	2972
Congo	57	4065
Australia	82	34835
Botswana	53	13159
Ethiopia	59	857
Fiji	69	34990
Japan	83	30866
Russia	69	14318
Greece	80	26313

Source: United Nations

Table 1

STEPS:

STEP 1

Draw a horizontal and vertical axis

STEP 2

Label the X and Y axes.

Decide which variable is independent and place this on the X axis (horizontal axis). To do this ask which variable is causing the change in the other. This is drawn on the X axis.

E.g.

Does life expectancy affect GDP?

Or

Does GDP affect life expectancy?

STEP 3

Decide the scale for each axis by looking at the range of data you will plot and label the axes. Both axes should begin at zero.

STEP 4

Plot the data using small dots. It is often essential to label each dot.

STEP 5

Add a title and a source to the graph

STEP 6

Draw a line of best fit using a ruler

D. INTERPRET REPRESENTATIONS TO DRAW CONCLUSIONS

Using your graph: ask questions such as:

1. What correlation (relationship) is shown between life expectancy and GDP?

Infographics: > A 21ST CENTURY GEOGRAPHY SKILL?

By Rebecca Nicholas, Brisbane State High School

Geography students in the 21st century will develop characteristics and skills that are different to those skills I learnt in the Geography classroom. Technology will definitely play a role in this. Even in a 1:1 classroom, students may still use an atlas to locate a country, draw a cross section or interpret a population pyramid. However, due to increased access to technological tools, other skills need to be developed or enabled. Andrew Churches, author of Educational Origami (a 21st century learning wikispace), provides an overview of the 21st century learner. In particular, he writes about Digital Blooms, looking specifically at the higher order thinking skills needed to utilize technology tools to enhance learning and vice versa. The importance of having the skills to be a discerning user of technology has never been greater. The diagram below provides an overview of these thinking skills.

drawn to these data visualisations as they often provide a clear overview of a theme or topic that we teach in class. As I searched the internet for information and advice on the use of Infographics, I came across the following blog post by Hongkiat Lim, the Chief Editor of Hongkiat.com, a technology website. The author has listed what he considers to be the 50 most informative and well-designed infographics. What interested me the most was that of this top fifty, twenty one of these infographics could be part of a geography lesson. Two of the most striking on this list were Choose Your Weapon: The Global Arms Trade (<http://www.princeton.edu/~ina/infographics/weapons.html>) and Glass Half Empty: The Coming Water Wars (<http://www.princeton.edu/~ina/infographics/water.html>) This strengthened my belief that using and creating infographics are higher order thinking skills in Geography. Daniel Adams, a blogger

visual.ly/) and Submitinfographics.com (<http://submitinfographics.com/c/education-infographics/geography-infographics>). Geography resources such as National Geographic and the Australian Bureau of Statistics now use this data visualization tool when representing their data. One example designed by the ABS looks at Australia's Changing Population (<http://visual.ly/australia-defined-snapshot-population-growth-and-change>). An infographic will also save a teacher time when developing resources or assessment tasks. In particular, the infographic could provide a new way for teachers to present the data and stimulus for a Response to Stimulus Essay task in Senior Geography. This form of presenting visual data could also be useful in the creation of extra stimulus for practicals and as data in field reports. Next time you are searching for content for a topic, consider putting the word 'infographic' in as part of your search to see what is available.

Secondly, the Web 2.0 nature of infographic tools allow anyone, students or teachers, to create and share their own infographics. Setting a class activity or assessment task that involves the creation of an infographic definitely involves many of the higher order thinking skills outlined in digital blooms. Students need to research and find the data they would like to present on a theme. Following this, they will need to consider the images, colour and design of the infographic to portray their message. A wonderful

SOURCES

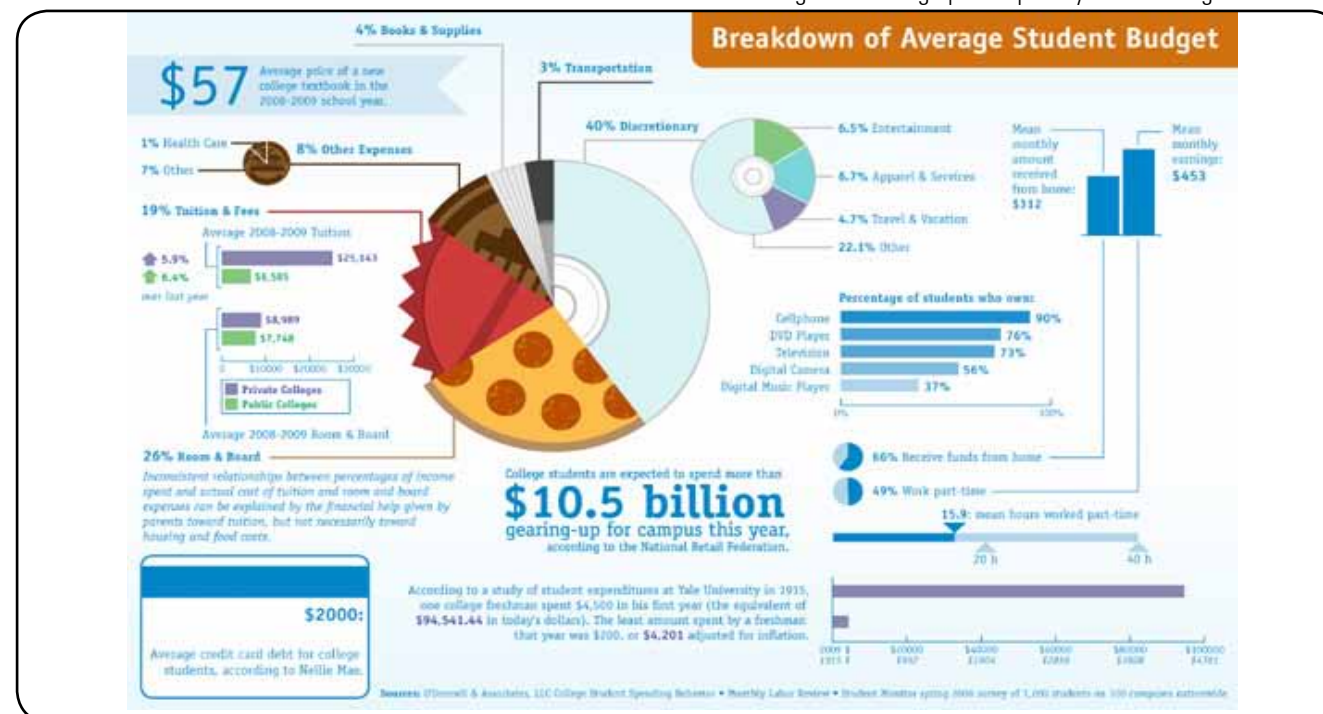
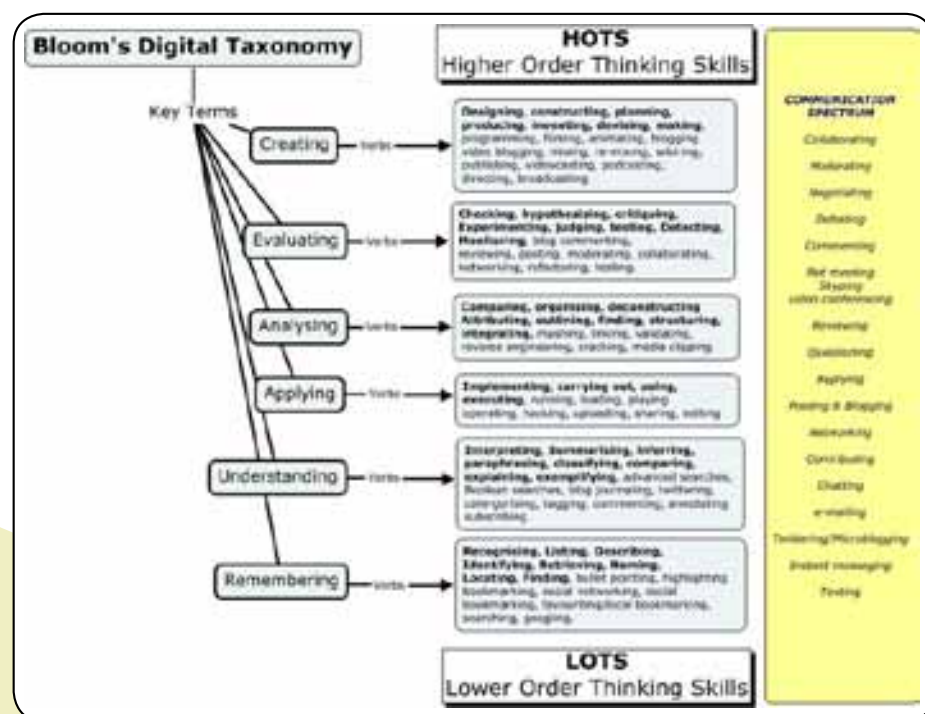
Adams, D. (2011) What are infographics and why are they important?, <http://www.instantshift.com/2011/03/25/what-are-infographics-and-why-are-they-important/>, Accessed 25/9/12.

Churches, A. (2010) Educational Origami, <http://edorigami.wikispaces.com/Bloom's+Digital+Taxonomy>

Lim, H. (50 Informative and Well-Designed Infographics, <http://www.hongkiat.com/blog/50-informative-and-well-designed-infographics/>

National Geographic Education, (2011) Dwindling Food Variety: What Makes this Graphic so Good?, http://education.nationalgeographic.com/education/multimedia/infographic-design/?ar_a=4&ar_r=999

Roy, S. (2011) The Anatomy of an Infographic: 5 steps to create a powerful visual, <http://spyrestudios.com/the-anatomy-of-an-infographic-5-steps-to-create-a-powerful-visual/>



Source (Churches, A. 2010, Educational Origami, <http://edorigami.wikispaces.com/Bloom's+Digital+Taxonomy>)

Like any other teacher, when planning a lesson, learning activity or assessment task for my students, I always consider the higher order thinking skills involved. By referring to 'Digital Blooms', I always aim to ensure that the tasks adequately enable students to show their ability to 'evaluate' or 'create'. Web 2.0 tools are now readily available for students in the classroom, and create wonderful opportunities for students to show their higher order thinking skills. I have written articles before on the use of Web 2.0 tools in the Geography classroom. However, I did find it a little more difficult to pinpoint how these tools enable students to develop the higher order thinking skills outlined in Digital Blooms. Upon reflection, the use and creation of infographics is definitely an online tool that Geography students can utilize in a 21st century classroom.

Infographics are visual explanations of data, information or knowledge that use the elements of design to display content (Roy, S 2011). The most successful infographics express a more complex message using images and various levels of data such as statistics. Geography teachers are

for InstantShift (<http://www.instantshift.com/2011/03/25/what-are-infographics-and-why-are-they-important/>) provided further detail on the role of infographics. He included the following points as the aim of a successful infographic:

- to communicate a message
- to present a lot of data or information in a way that is compact and easy to comprehend
- to analyse data in order to discover cause-and-effect relationships; and
- to look for links between statistics and the theme of the infographic.

These all relate strongly to the 'Analysis' and 'Decision-Making' criteria in the Senior Geography syllabus. This was all the evidence I needed to start using these tools in the classroom.

So, how can you use infographics in the Geography classroom? Firstly, on their own, infographics are a great source of up-to-date content for a Geography teacher. Two good sites for infographics include Visual.ly (<http://visual.ly/>)

resource I discovered that outlines the criteria for a successful infographic is found on the National Geographic website – Dwindling Food Variety: What makes this graphic so good? The site includes a clear overview of both the skill in selecting the types of data, as well as the elements of design including colour, font and layout. If you are interested in creating your own infographics, go to Visual.ly (<http://visual.ly/>). Visual.ly allows the user to create an infographic, but you can also follow other creators and receive updates on themes, of which Geography is one. Also, once completed, the user can embed the infographic on a website or blog, as well as create jpeg of their creation.

There is no question that infographics and data visualization play an important role in the Geography classroom. They always have. However, the ability for students to quickly and effectively create their own infographics will only enhance their skills in a 21st century classroom. Create one yourself, make it an assessment task in your junior Geography classroom, or use it as a revision tool. As usual, Web2.0 tools are there for you to use.

“Geo-literacy, interrelates the interactions, interconnections, and implications that occur on our planet.”

Daniel Edelson, Vice-President of Education for National Geographic.

The inquiry approach in > GEOGRAPHY

David McCauley, Ferny Grove State High School

Geographical inquiry involves students in active investigation of the interrelationships between people and the spatial and ecological dimensions. The purpose of geographical inquiry is to engage students in the learning process through formulating questions, investigating widely, and building new understandings, meanings and knowledge.

The process follows these key geographical questions:

- What and where are the issues or patterns being studied?
- How and why do these issues and patterns develop?
- What are the impacts of these issues and patterns?
- What is being done or what could be done to sustainably manage these impacts?

Table 1: Sample learning experiences for each key question

Key questions	Examples of possible learning experiences
1. What and where are the issues or patterns being studied? KNOWLEDGE AND UNDERSTANDING	<ul style="list-style-type: none">• Read and draw maps• Summarise and note-take from a variety of sources• Read and manipulate data, graphs and other sources of information• Observe and record in the field• Model the construction of definitions• Summarise and note-take from a variety of sources• Read and manipulate data, graphs and other sources of information• Observe and record in the field• Model the construction of definitions
2. How and why do these issues and patterns develop? ANALYTICAL PROCESSES	<ul style="list-style-type: none">• Compare patterns of mapped and/or graphical data• Record and interpret field work data• Summarise and note take from a variety of sources• Illustrate linkages between different aspects of the issue• Model the use of analytical processes when interpreting data manipulated by the students
3. What are the impacts of these issues and patterns? ANALYTICAL PROCESSES	<ul style="list-style-type: none">• Engage in role-plays to illustrate different views of key stakeholders• Model consequence wheels• Interview or survey key informants in the field• Critically review various media sources• Use computer programs to simulate impacts or consequences

4. What is being done or what could be done to sustainably manage these impacts? DECISION-MAKING PROCESSES	<ul style="list-style-type: none">• Develop criteria for evaluating possible solutions• Develop action plans for a specific school or community instance of the issue• Communicate outcomes of investigations with key decision makers• Diamond rank possible alternative solutions• Model the integration of decision-making processes within a report or essay
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Focus questions are sub sets of smaller questions around each key question to break down the inquiry task. There is almost no limit to the number of focus questions that you may use and answers to some focus questions may (and should) generate even more focus questions for examination.

Designing an effective geographic inquiry is a four stage process:

1. Decide on a topic
2. Express the topic as a question
3. Set up key questions
4. Set up focus questions

Below you will find some examples of geographical inquiries that have been used in junior and senior secondary geography classrooms.

Table 2: Geographic inquiry exemplar for middle school

Topic: Crocodiles
Topic question: Are crocodiles best in swamps or shoes?
Key question: What are crocodiles and where do they occur?
Focus questions: <ul style="list-style-type: none">• What do crocodiles look like?• What different types/species of crocodiles are there?• Where in the world are they active?• Does this change during the year?
Key question: How and why do people and crocodiles threaten each other?
Focus questions: <ul style="list-style-type: none">• How do crocodiles survive?• What habitat conditions do they like most?• Where are these conditions found?• How do crocodiles behave?• Does this change during the year?• Why do crocodiles attack people?• Why have calls gone out to exterminate crocodiles?• How are crocodiles hunted?• What are they used for when hunted?• What do they eat?• What are crocodiles used for commercially?
Key question: What impact do crocodiles have on their ecosystems and people?
Focus questions:

<ul style="list-style-type: none">• What impact/effect do crocodiles have just be being in their habitat?• What part do they play in the food chain?• What impact would their extinction have on an ecosystem?• What impact would their extinction have on tourism?• What impact would their extinction have culturally?• What other industries could be affected?
Key question: What is being done to manage/reduce the risk that crocodiles pose to people and people pose to crocodiles?
Focus questions: <ul style="list-style-type: none">• How can people and crocodiles be protected from each other?• How can the industries that use crocodiles be preserved?• How could crocodiles be hunted?• Who should decide what is to be done?• Who should have input into the decision?• Who should monitor the results/outcomes?

Table 3: Geographic inquiry exemplar for senior geography

Topic: Moreton Bay inquiry
Topic question: How have Moreton Bay's resources been affected by development and what is being done & could be done to protect them?
Key question: What are the key features of Moreton Bay and where are they?
Focus questions: <ul style="list-style-type: none">• What physical resources are there?• What marine resources are there?• What flora and fauna resources are there?• What aesthetic and recreational resources are there?• What are the key locations for all of these resources? (map)
Key question: How have Moreton Bay's resources been affected/threatened and why?
Focus questions: <ul style="list-style-type: none">• What threats does the Moreton Bay catchment pose?• What threats does the urban area of Brisbane pose?• What threats does the industrial/port area pose?• What threats do recreational activities pose?• How and why do all of these threats occur?
Key question: What impacts do resource development/use have on Moreton Bay
Focus questions: <ul style="list-style-type: none">• What impacts on physical resources have occurred?• What impacts on marine resources have occurred?• What impacts on flora and fauna resources have occurred?• What impacts on recreational resources have occurred?• What are the sources of these different impacts?
Key question: What is being done and has been done to protect the resources & biodiversity of Moreton Bay & what could/should be done?
Focus questions: <ul style="list-style-type: none">• Who is responsible for Moreton Bay?• What has been done to address the varied sources of negative impacts in Moreton Bay?• How effective have these measures been?• What has been done to protect Moreton Bay from further/future damage?• How effective have these measures been?• What would you suggest could or should be done in Moreton Bay?• Why have you made this (these) suggestion(s)?• How would you measure your success?• Who should be responsible for Moreton Bay?



Just another reminder.....

> GTAQ AGM and PD Opportunity

The GTAQ AGM will be held on Thursday 22nd November at the Bleeding Heart Café, 166 Ann Street, Brisbane.

The PD opportunity and AGM will begin at 5:30pm and finish at 7:30pm. The AGM will take on a different format this year, with two guest lecturers on topics associated with the current Geography curriculum, and a certificate of attendance for two hours of professional development. This will be followed by the AGM and a networking opportunity for teachers. **The Bleeding Heart Café is a very fitting location for the next GTAQ event, as all profits made from our event goes towards funding charitable and community enterprise in Brisbane.**

For more information, go to their website - <http://www.bleedingheart.com.au/>. Therefore, to cover venue hire costs, there will be a small cost for attendees. Please look on the website or check email updates for further information on the speakers and how to register for this PD opportunity.



Websites of the > MOMENT

APHUMAN GEOGRAPHY

<http://geographyeducation.org/>

The APHumanGeography website is a simple repository of articles and resources for geography students and teachers. The author, Seth Dixon, is active across a range of social media which can all be accessed from this page. The resources provided are useful, topical, relevant, broad reaching and very interesting and come thoroughly recommended.



THE ATLANTIC CITIES

<http://www.theatlanticcities.com/>

The teaching of urban geography is often overlooked because of lack of relevant case studies. The Atlantic Cities, an offshoot of the Atlantic Magazine, is a site that provides excellent articles and examples of positive aspects of urban living. From the geography of poverty, the positive health benefits in seniors of using public transport and the world's most expensive cab rides, almost everything to do with cities is covered. A reasonable sprinkle of research articles, links to interactive maps and other online tools means this site will become a standard when it comes to giving your students examples of the sometimes difficult connections to be made in urban geography.



OMNIS VIAE: ROMAN ROUTEPLANNER

<http://omnesviae.org/>

A very cute tool that overlays a map of the ancient Roman Empire onto a Google Map. You can select a map view, terrain view or satellite view and you can enter location names (in modern English or Latin) and search for directions. You even get a travel time with Rome to London taking 64 days. I think so anyway, the answer was in Latin with Roman numerals so the translation could be way off!

NATIONAL GEOGRAPHIC VIDEOS

<http://video.nationalgeographic.com>

This is a great resource for short, relevant and well-produced videos that cover a whole range of topics. National Geographic have a television channel and this repository pulls on some of the great footage in these shows. Physical and human geography are both covered including a bewildering number of videos on almost every animal in existence. The videos are embeddable which is useful if you are using a learning management system such as Moodle. You can also download a transcript of each video if needed. Hopefully your Friday afternoon geography lesson just got a bit easier!



WORLD WONDERS

<http://www.google.com/culturalinstitute/worldwonders/>

A very cool website that would be best described as a gallery of the wonders of the ancient and modern world that is brought together by Google's Street View. You can browse or search through over 100 significant global sites that will amaze you. In Australia you can view Melbourne's Royal Exhibition Building, Western Australia's Shark Bay and Kakadu National Park in the Northern Territory. They even have a range of geography and history lessons as well as a useful teachers' guide. Be aware that the resources are quite general due to the global audience so expect to make some adjustments to the classroom materials to suit. Look out for the stylised globe peeking out of the bottom of the page. It took me ages to work out that you can drag it around like Google Earth!



Teaching > RESOURCES

FORESTLEARNING

<http://www.forestlearning.edu.au/>

ForestLearning is an organisation created by an alliance of forest industry and education groups to promote sustainable use of this resource and continuation of the forestry industry.

The website contains a great wealth of resources linked to different curriculum areas.

The ForestLearning website has a simple search facility ('Find Resources') that allows you to find all of the Geography resources in one click. Resources can be refined by year level, topic, theme, or resource type (to filter websites, factsheets, reports, activities etc) which makes finding the resources very easy. Resources come from a range of sources, many outside the ForestLearning group and its partners. Ecotourism, biodiversity and unsustainable forestry are just a taste of the issues you explore on the site.



MAPPING OUR WORLD – OXFAM

http://www.oxfam.org.uk/education/resources/mapping_our_world/

This great resource from Oxfam manages to make map projections interesting for students in late primary or early secondary school! There are three lessons, each with three interactive activities. The activities all work from within your web browser so you simply need to navigate to the site to begin. Students are given a range of tools to play with while the interactivities compare different map projections, examine satellite imagery, compare country sizes, locate places, flatten a globe into a paper map and dig a hole straight through the earth. There are some really interesting activities that will give your students a very different view of their world.



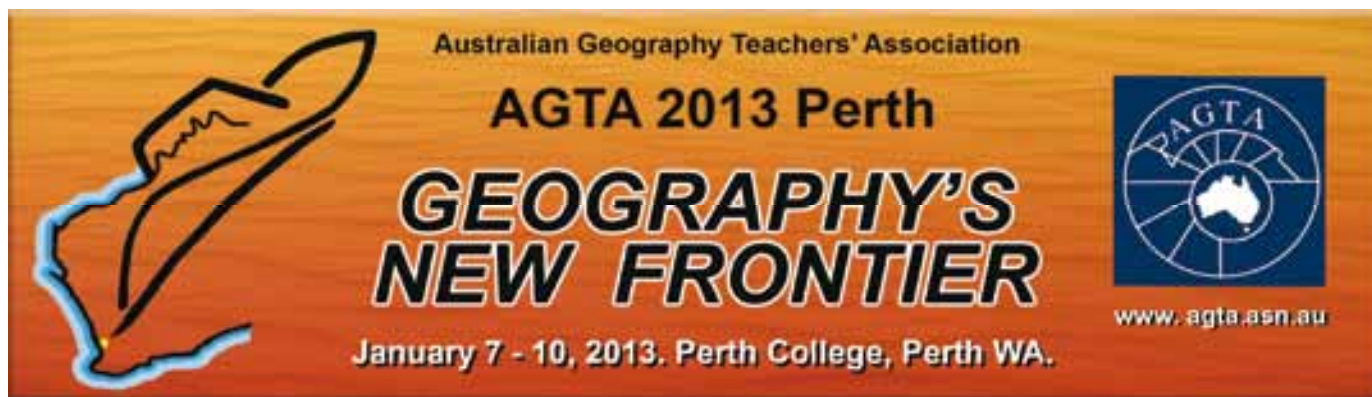
TEACHITGEOGRAPHY

<http://www.teachitgeography.co.uk>

The final teaching resource shares its theme with this edition of the journal; it concentrates on geographical skills. Normally a resource of this nature would be reviewed in the 'Websites of the moment' section of the journal but the wealth of information contained, the simple categorisation and search tools mean that this site is viewed more as teacher resource than a simple geographical website.

The site is an online resource bank based in the UK specialising in geography resources for Key Stages 3, 4 and 5 which roughly equate to Queensland's Year 10, 11 and 12. Registration is required for the site, although this is easy and free. Once registered you have access to the resources, all of which have been contributed by regular classroom teachers before being given a 'mini makeover'. Well worth a look.





Hi Everyone, the AGTA 2013 National Conference committee has been working hard. We are really excited at how the conference program is coming together and encourage you to attend what will be the premier Geography event in 2013.

Keynote Speakers

Our 4 keynote speakers have now been confirmed. As you may already know renowned international Geographical educators **Professor Simon Catling**, from Oxford Brookes University, and **Professor David Lambert**, Geographical Association Chief Executive and University of London, will be two of our keynote presenters sharing their expertise in F – 12 Geography education and curriculum development. **Professor Peter Newman** will also be a Keynote speaker. Peter is the Professor of Sustainability at Curtin University and Director of the Curtin University Sustainability Policy Institute. He has recently been appointed as Chief Writer – Transport for the UN's Intergovernmental Panel on Climate Change. Our 4th keynote will be **Professor Lyn Beasley**. Lyn is the Western Australia Chief Scientist and patron of the Australian Sustainable Schools Initiative – WA, (AuSSTI-WA). She recently addressed the Royal Geographical Society, at the invite of their President – Michael Palin, on the topic of, *Western Australia; Exploring The Secrets of an Ancient Land*. She received a standing ovation from the 700 members present. All who have heard Lyn speak are amazed by her energy and passion.

Workshops

We have secured over 50 workshop presentations covering a wide range of topics. Implementing the Australian Curriculum is a theme that runs through many with workshops in this area specifically aimed at both Secondary and Primary teachers. (So tell all your Primary Teacher friends to come along)! The cross-curricular foci of Asia, Sustainability and Indigenous Australia will also be well represented at the conference. Workshops on curriculum, pedagogy, technology, (both in and out of the classroom), plus useful resources for the Geography teacher will be highlighted.

Fieldtrips

Our fieldtrips have been designed to get you out and about in Perth and the surrounding hinterland as well as give you some great ideas about teaching good Geography. We are encouraging all delegates to choose the Rottnest Island trip as one of their 2 choices. This field trip will start with a cruise down the Swan River to Fremantle. Once at Rottnest a number of tour options will be available. Other field trips will include bush walking in the Perth hills, participation in various aspects of local indigenous culture, a visit to a bauxite mine, a visit to Mandurah and the canal developments, a walking tour of Perth, a look at one of Australia's biggest Urban Renewal projects, a visit to the state governments transport hub to see how traffic in Australia's fastest growing city is kept on the move and our own very own *AGTA Amazing Race*.

Social Program

AGTA conferences are always a lot of FUN as you meet new people and take part in new experiences. Optional events will include a Swan Valley Winery Tour on the Sunday before the conference and the conference dinner at the Western Australia Golf Club on the final night of the conference. Events included as part of your Conference fees include a welcome BBQ on the Sunday evening, The AGTA Awards and canapés function and the AGTA Cup games, (State vs State – Barefoot Bowls and BBQ at Mount Lawley Bowls Club). Each day of the conference program will include a Sun downer and one evening will be free to enjoy the local cuisine at discounted prices at selected venues.

Pre Conference Tour

An outstanding program of activities and visits have been organised for a pre conference tour through the South West corner of WA. With one night in the tall timber town of Pemberton and two in the heart of the famous Margaret River wine growing region participants will experience a feast of visual and culinary delights. Likely PCT fee, \$650

Website

It will be worth your while checking the AGTA Conference website almost daily as the full conference program and session details are online and we are very close to registrations opening. We have already received 85 pre registrations, mainly from members of Eastern State's Geography Teacher Associations. To enhance your chances of getting your preferred workshops and field trips you will need to register early. Likely registration fees, Early Bird \$550, Full \$650. We are really looking forward to meeting you and sharing together in what is shaping up as a great AGTA Conference.

Darryl Michie

AGTA 2013 Conference Convener www.agta.asn.au/conf2013/index.htm agta2013@inet.net.au

GEOGRAPHY TEACHER'S ASSOCIATION OF QUEENSLAND

ABN 94 808 029 279

APPLICATION FOR MEMBERSHIP INVOICE

DATE/...../.....

TITLE SURNAME: FIRST NAME:

SCHOOL/INSTITUTION:

MAILING ADDRESS:

PHONE NO: FAX NO:

EMAIL:

TYPE OF MEMBERSHIP

Please indicate your desired membership by ticking your choice

- ☐ Individual \$70 ☐ School or Organisation \$150 ☐ Associate/Full Time Student \$30
- ☐ New ☐ New
- ☐ Renewing ☐ Renewing

NB – GTAQ is not registered for GST

If joining as a school, please list names of all Geography/SOSE teachers & their e-mail addresses.

Teacher Contact Details

Name

Email

Signature

All teachers listed are required to indicate that they agree with the following statement by signing above.

EMAIL: I give my approval for GTAQ to forward information to me by e-mail and understand that such e-mails may from time to time contain information of a commercial nature such as notices of Conferences and Professional Development Activities.

METHOD OF PAYMENT

☐ I enclose a cheque/money order for \$.....

☐ Please debit my credit card for \$.....

☐ Visa

☐ MasterCard

Credit Card Number:

Name of Cardholder:

Card Expiry Date:

Signature:

Date of Payment:.....

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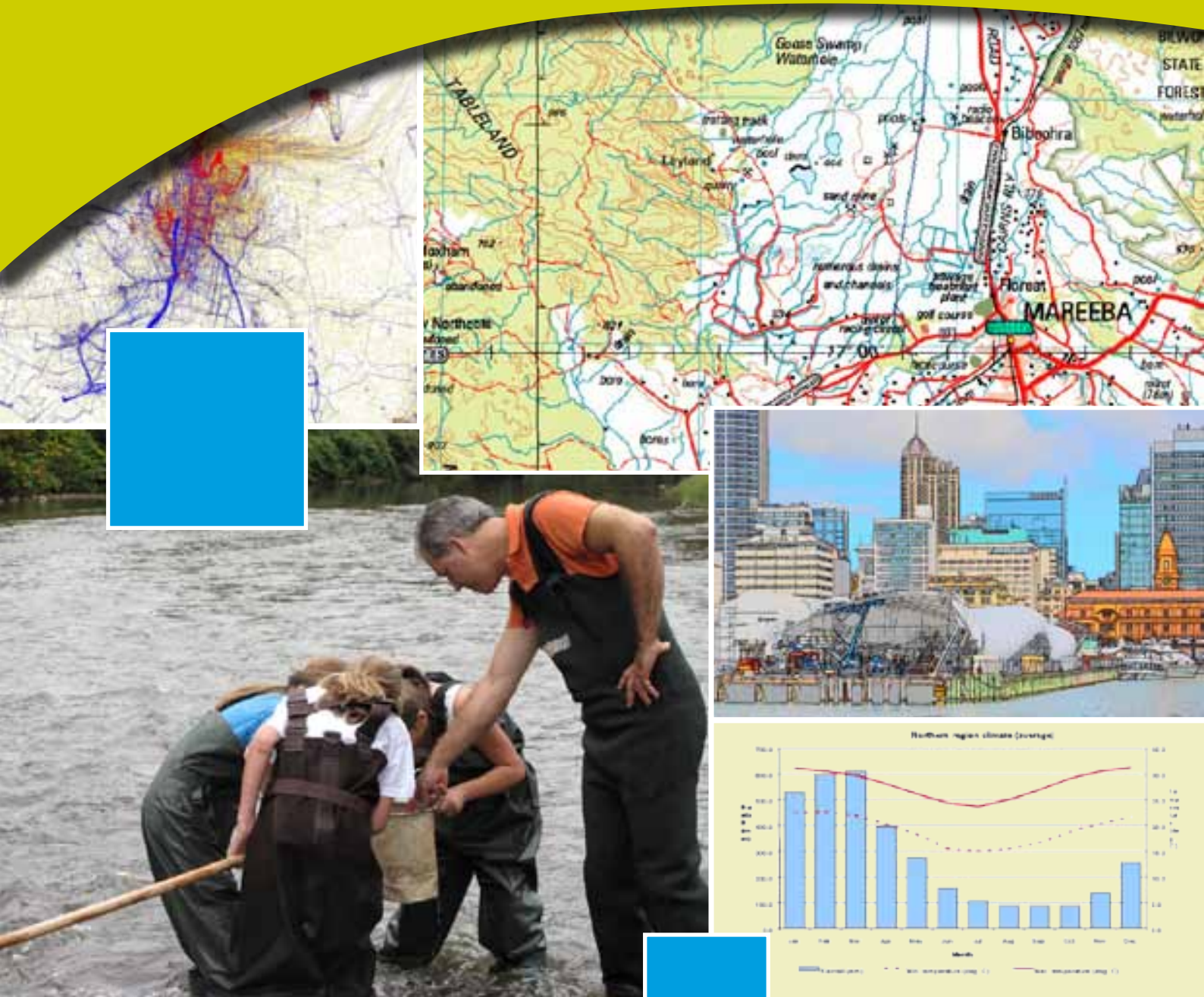
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