

# Opportunity knocks: The Australian Curriculum and Guided Inquiry



By Lee FitzGerald

## Biography

*Lee FitzGerald is a lecturer in Teacher Librarianship at Charles Sturt University. She has enjoyed a long career as a teacher librarian in primary and secondary school libraries, both independent and public. She has a passion for school libraries and teacher librarianship, and has an appreciation of the value of the Information Search Process of Guided Inquiry. Lee is a long-time advocate of the teaching role of the teacher librarian, especially as it is facilitated by inquiry learning. She is also interested in applying evidence-based practice to confirm the growth of deep learning through inquiry.*

To thrive as 21st century learners, students must be able to judge the quality of information, find a way through complex and disparate information, formulate their own focus and answers to their own questions, and transform information into knowledge. They need to be agile, critical thinkers who are digitally fluent, able to read complex texts and write clearly. They need to come up with creative solutions to problems they identify and to learn the skills of working in teams. These are the skills of the 21st century worker, and they are synonymous with the skills of Guided Inquiry.

In a time of global curriculum reform, there is a move to inquiry learning across education systems in many countries. Since Peter Drucker's (1992) work on knowledge workers, there has been a slow move towards at least enriching the industrial model of education (Robinson 2010), in favour of education systems which produce people who can think creatively, research effectively, problem solve, and work in teams. Across the globe, education systems are reforming in favour of 21st century skills. Definition and promotion of these is the subject of close attention (Abbott 2014; ATC21S 2012; EE Explore America 2012; GELP 2012; P21 n.d.; Responsible subversives 2011).

Common to taxonomies of 21st century skills are these:

***Creativity, innovation, critical thinking, problem-solving, decision-making, learning to learn/metacognition, information literacy, ICT literacy, communication, collaboration, citizenship and responsibility.***

The Programme for International Student Assessment (PISA) conducts triennial surveys of education systems worldwide, testing 15-year-old students across the

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globe, with the idea of helping education systems set goals to improve systems (PISA 2009). It is interesting to see that PISA has begun to test creativity, as well as literacy and numeracy (PISA 2014). The first results of this test linked the higher achieving countries' successes with countries that:

- made problem-solving an overarching goal of the curriculum
- embedded 21st century competencies and attitudes such as inquiry-based authentic learning
- clearly articulated desired student outcomes
- gave every student a chance to engage in deep learning through meaningful projects.

Particularly noted in relation to these were Alberta's Curriculum Redesign Project, Singapore's 21st Century Competencies Framework, and Japan's Zest for Life approach (PISA 2014).

Our own Australian Curriculum's origin was in the *Melbourne Declaration on Educational Goals for Young Australians*, (2008) which focused on equity and excellence, and young Australians becoming successful learners, confident and creative individuals and

active and informed citizens. The Australian Curriculum's emphasis on General Capabilities (the Australian Curriculum, Assessment and Reporting Authority — ACARA—2012) brings an organised approach to 21st century skills, embedding them across the curriculum, in Literacy, Numeracy, ICT, Critical and Creative Thinking, Personal and Social capability, ethical understanding and intercultural understanding. Of most relevance to inquiry learning is the Critical and Creative Thinking Capability, the four organising elements of which align closely to the stages of the Guided Inquiry Design process (GID). They are:

- Inquiring: identifying, exploring and organising information and ideas.
- Generating ideas, possibilities and actions.
- Analysing, synthesising and evaluating reasoning and procedures.
- Reflecting on thinking and processes (ACARA 2012).

It is true, too, that inquiry skills are peppered across the syllabuses of the Australian Curriculum, as the analyses that follow show (Lupton 2014; Bonanno 2015). In the Australian Curriculum, information skills abound, but does this mean that inquiry learning is grounded in

the Australian Curriculum? Two analyses of the Australian Curriculum, with slightly different emphases, suggest that it is not. This absence of a process approach to inquiry learning is an opportunity for teacher librarians: essentially — **to provide that approach.**

### **Opportunity 1: Australian Curriculum and inquiry learning**

#### **• Analysis by Mandy Lupton — Searching for a process approach to information literacy in the Australian Curriculum**

The analysis presented in the article in the last issue of *ACCESS*, **Inquiry skills in the Australian Curriculum v6: A bird's eye view** (Lupton 2014) showed that

*... elements of inquiry learning are not aligned across subjects and year levels and have some glaring omissions ... and it is ... apparent that the general capabilities do not necessarily align with the subject areas, and that the subject areas do not necessarily align with each other.*

Lupton's research concluded that the areas of the Australian Curriculum she analysed are lacking an across-the-curriculum approach to inquiry learning. This presents an opportunity for teacher librarians to be present in discussions in their schools about how to introduce the disparate information skills systematically, using a process approach and an inquiry learning pedagogy.

#### **• Analysis by Karen Bonanno — Applying a process approach to information literacy in the Australian Curriculum**

In 2012, Carol Kuhlthau, Leslie Maniotes and Ann Caspari gave Karen permission to develop a collaborative project with Australian teacher librarians to create a scope and sequence tying the GID process

to the inquiry skills and capabilities in the Australian Curriculum.

Her objectives were to:

- create a skills scope and sequence, within the GID framework
- identify core essential inquiry skills across the Australian Curriculum
- support sequential skill development
- embed information literacy into classroom programs
- identify appropriate technologies to use at each stage of the inquiry process
- provide a framework for student engagement in inquiry learning.

The document, **F-10 inquiry skills scope and sequence** (Bonanno 2015), is a very exciting contribution to the development of a process approach to inquiry learning in our schools as they implement the Australian Curriculum.

The two analyses provide valuable information and guidance for schools seeking to embed inquiry learning into curriculum, as well as an opportunity for teacher librarians to be in the driver's seat for implementing such an approach.

#### **Take the theory into practice:**

Now is the time to take the opportunity to take the work of Lupton and Bonanno in identifying and critiquing inquiry skills in the Australian Curriculum to heart. If there is no underlying process on which these critical skills are to be taught, it is the moment to suggest such a process in your schools, and work with colleagues to frame inquiry tasks around the process. Ideally, the process you suggest could form the framework for all inquiry tasks in your school.

## Opportunity 2: The burgeoning of Guided Inquiry theory and practice — Guided Inquiry design: A framework for inquiry in your school (Kuhlthau, Maniotes & Caspari 2012)

Developments in Guided inquiry theory and practice since the publication of *Guided Inquiry design: A framework for inquiry in your school* (GIDF) (Kuhlthau, Maniotes & Caspari, 2012) are very timely. They bring together the two things that are needed right now in Australian schools regarding inquiry learning. Guided Inquiry pedagogy has developed to meet the perceived need for a process approach to creating, delivering and assessing inquiry units — **the GID**; as well as expanding on the inquiry process from the point of view of the student — **the Information Search Process (ISP)**.

Lupton and Bonanno's work suggests that there is a need for an inquiry process around which to shape inquiry learning. An inquiry process or information literacy model describes the steps that users take in their move from beginning information retrieval to understanding, when involved in an inquiry task. Use of a model allows teachers and students to use the steps of the model to break down the inquiry task into separate, often overlapping, steps. Examples include:

- Big6 (Eisenberg & Berkowitz 2012)
- Gourley's Inquiry Cycle model (Gourley 2008)
- Guided Inquiry process (Kuhlthau, Maniotes & Caspari 2012)
- Information Process (NSW Department of Education and Training 2007)
- Murdoch phases of inquiry (Murdoch 2010)
- Stripling model of inquiry (Stripling 2003).

## Why use the Guided Inquiry process?

The most important reason why a school might choose the Guided Inquiry process at this time when the Australian Curriculum is being introduced and is emphasising inquiry skills, is because Guided Inquiry now covers the steps the individual researcher takes (ISP), and the creation and delivery of inquiry tasks (GID). Right now, inquiry tasks for students are proliferating, and it is of the utmost importance that students internalise an information process to apply across the Curriculum. Teachers and teacher librarians are being asked to design, resource and deliver inquiry tasks. To my knowledge, none of the other, often excellent, inquiry processes cater for the **design and implementation** of inquiry units.

Figure 1 presents the two Guided Inquiry processes one after another. At the top is **the ISP**, which is central to Guided Inquiry. It is supported by more than 30 years of research by Professor Carol Kuhlthau and others, observing how people of all ages feel, think and act when they are doing a research task. The original study can be found in Kuhlthau (1989) and a comprehensive revisiting of the ISP was carried out in 2008 (Kuhlthau, Heinström & Todd 2008) as well as many reiterations of the research over the last three decades. The 2008 revisiting of the ISP showed the model to be as relevant as ever, especially in the digital environment.

### Critical to the ISP are two factors:

1. It is usual to fall into confusion, anxiety and doubt at various points in the ISP. The first time is at Exploration, when the scope of the topic being explored unveils itself as larger than expected! Another source of anxiety and frustration can

come when the researcher hopes to be in the Collection phase, and is stuck in the Exploration stage (Kuhlthau & Maniotes 2014). This might be because of finding it difficult to find an interesting aspect of the problem, or because of information overload. It's known as the Dip, and if students come to expect this as completely normal, they can gradually work their way out of it, because they have internalised ISP.

They can also be taught explicit ways of searching that help to avoid the dreaded Dip.

2. It takes a long time to work from Initiation to Formulation (four whole stages). If students take on the deep engagement in a topic that Guided Inquiry aims for, it is an intense, but rewarding, process to go from having an initial vague idea, to exploring it, to getting overwhelmed

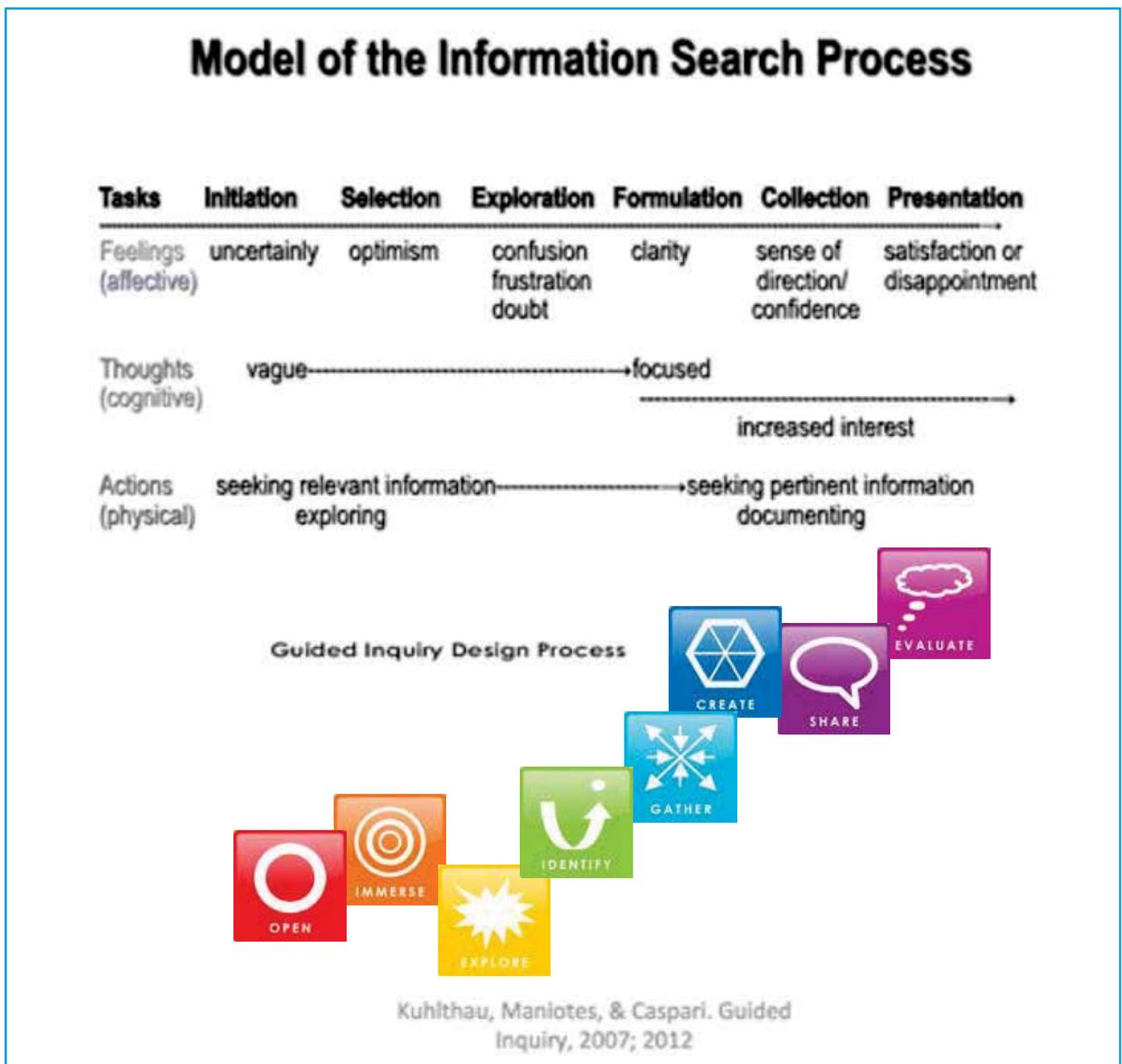


Figure 1: Carol Collier Kuhlthau, *Guided Inquiry Design*: [https://comminfo.rutgers.edu/~kuhlthau/guided\\_inquiry\\_design.htm](https://comminfo.rutgers.edu/~kuhlthau/guided_inquiry_design.htm) Used with permission.

in it, to formulating a focus, creating an inquiry question and then answering it. However, if a researcher doesn't go through this deep engagement, it's possible to move from Initiation to Collection and Copy and Paste. This happens VERY often and is a waste of time for all concerned. If teachers and students do not know that there is a challenging set of intellectual processes to go through to make inquiry learning worthwhile, teachers tend to underestimate it, and students tend to underachieve in it.

At the bottom of Figure 1 is the GID process, which should be used by teaching teams to:

- create the unit of work
- schedule the task
- teach the skills required at each phase
- describe what the Inquiry community (class) is doing at any given point.

It simply IS what we need presently to create inquiry tasks. GIDF (Kuhlthau, Maniotes & Caspari 2012) uses the framework — **Open, Immerse, Explore, Identify, Gather, Create, Share, and Evaluate** — to set out very clear instructions for teaching in each of these phases. As Keeling (2014) says: 'Designing for inquiry requires a shift in practice — hard work that motivates students to dig deeper into the learning experience'. The inquiry task needs careful creation, using the stages of GIS, just as careful resourcing, implementation and delivery, with support and feedback throughout, ending with honest evaluation of its successes and failures.

**To make it very clear:** ISP is what any individual will do when researching (so it's what each student does in an inquiry) and the

GID process is what teachers and teacher librarians do (to create, deliver, schedule, give feedback and assess the task).

*The Guided Inquiry design framework is built around the ISP with specific direction for guiding students in each phase of the inquiry process (Kuhlthau 2013).*

## Bringing ISP and GID process together into a Guided Inquiry

Figure 2 brings together the two processes of Guided Inquiry, and aligns them with Critical and Creative Thinking General Capability (CCT), the General Capability in the Australian Curriculum, which is most relevant to inquiry learning.

GIDF (Kuhlthau, Maniotes & Caspari 2012) has made the operation of a Guided Inquiry more concrete. The diagrams show that the stages of ISP and GID tie in clearly with the CCT capability. Its four elements mirror a central aspect of the GI processes, that is, the length of time and commitment of interest and effort on the part of the student it takes to move from being given a task at Open/initiate to actually being able to respond to the task — four whole stages in both GI processes. This appears to be reflected in the CCT capability.

GIDF presents a highly structured approach to GID, which looks in detail at central concepts, such as:

- **Collaboration** of the instructional team guiding the inquiry: the roles of each member in each part of the process from design, to implementation, to assessment.
- **Third space:** bringing the world of the student (first space), the world of curriculum (second space) into a third space where students can construct

## Alignment of Critical and Creative Thinking General Capability with the ISP/GI Design Process

Critical and Creative Thinking Organising Elements	What student is doing in ISP	Stage of ISP	Phase of Guided Inquiry	What the Inquiry community is doing in Guided Inquiry
<b>Inquiring: identifying, exploring and organizing information and ideas</b> <ul style="list-style-type: none"> <li>• Pose questions</li> <li>• Identify and clarify information and ideas</li> <li>• Organise and process information.</li> </ul>	Initiating the research project	<b>Initiation</b>	<b>Open</b> 	Invitation to inquiry  Open minds  Stimulate curiosity
	Selecting a topic	<b>Selection</b>	<b>Immerse</b> 	Build background knowledge  Connect to content  Discover interesting ideas
	Exploring information	<b>Exploration</b>	<b>Explore</b> 	Explore interesting ideas  Look around/dip in.
<b>Generating ideas, possibilities and actions</b> <ul style="list-style-type: none"> <li>• Imagine possibilities and connect ideas</li> <li>• Consider alternatives</li> <li>• Seek solutions and put ideas into action</li> </ul>	Formulating a focus	<b>Formulation</b>	<b>Identify</b> 	Pause and ponder  Identify inquiry question  Decide direction
	Collecting information on focus and seeking meaning	<b>Collection</b>	<b>Gather</b> 	Gather important information  Go broad  Go deep

*Continued* ➔

## Alignment of Critical and Creative Thinking General Capability with the ISP/GI Design Process

<b>Analysing, synthesising and evaluating reasoning and procedures</b> <ul style="list-style-type: none"> <li>Apply logic and reasoning</li> <li>Draw conclusions and design a course of action</li> <li>Evaluate procedures and outcomes</li> </ul>	Preparing to present	Presentation	<b>Create</b> 	Reflect on learning Go beyond facts to make meaning. Create to communicate
			<b>Share</b> 	Learn from each other Share learning Tell your story
<b>Reflecting on thinking and processes: Throughout GI process</b> <ul style="list-style-type: none"> <li>Think about Thinking (metacognition)</li> <li>Reflect on processes</li> <li>Transfer knowledge into new contexts</li> </ul>	Assessing the process and the product	Assessment	<b>Evaluate</b> 	Evaluate achievement of learning goals Reflect on content Reflect on process

Figure 2: *Guided Inquiry design: A framework for inquiry in your school* (Caspari, Kuhlthau & Maniotes), p. 29, plus elements of Critical and Creative Thinking General Capability: <http://www.australiancurriculum.edu.au/generalcapabilities/critical-and-creative-thinking/organising-elements/organising-element> Used with permission.

world views of their own. Allowing students as much freedom as possible to pursue a topic which interests them within a curriculum area will work towards bringing them into the third space, where learning is engaging.

- **Whole units delivered by inquiry:** where there is minimal teaching and the emphasis is on learning taking place by inquiry with teacher and TL facilitators. Examples where this has been achieved

at Loreto Kirribilli (where I was teacher librarian until I joined Charles Sturt University in 2014) are Ancient Egypt in Year 7 History, and the Holocaust in Year 9 Elective History. In the latter, students were divided into four inquiry circles — Perpetrators, Bystanders, Victims and Upstanders—to carry out very scaffolded research on the Holocaust. A jigsaw was used for students to share information from the various perspectives. It was a highly successful inquiry unit.

- **Inquiry community and inquiry circles:**

The whole class group is the inquiry community. Inquiry circles can be used in curriculum areas which might benefit from dividing up the work into perspectives. Inquiry circles are useful as well for sharing the work of brainstorming for search terms, note-taking, developing a focus, creating an inquiry question, doing a group presentation — for working together on inquiry skills.

- **6Cs: Collaboration, Conversation, Composition, Choosing, Charting, and Continuing:** These are the six elements

of a Guided Inquiry — the six skills necessary to its continuance.

- **Journals, logs and inquiry charts:**

Throughout a Guided Inquiry, students keep notes, record logs of their search hits and bibliographic processes, and when they are up to the Collect/Create and Present phases, use inquiry charts and mind maps to synthesise their information.

- **Continuous reflection and feedback:**

A hallmark of a Guided Inquiry is reflection — students reflect on where they are up to, what they now understand about their topic and what difficulties they might be

*ISP is what any individual will do when researching (so it's what each student does in an inquiry) and the GID process is what teachers and teacher librarians do (to create, deliver, schedule, give feedback and assess the task).*

**Welcome to the Australian Guided Inquiry Community!**

On these pages, we present the theory and practice of Guided Inquiry, specially as it relates to the Australian Curriculum. As this is a community we want to share developing knowledge and practice about Guided Inquiry.

**Please contribute your experiences, units of work and scaffolds...**

Click on the following to navigate our site:

<a href="#">Australian curriculum and inquiry</a>	<a href="#">Professional reading</a>
<a href="#">Units of work - primary</a>	<a href="#">Guided Inquiry presentations</a>
<a href="#">Units of work - secondary</a>	<a href="#">Evidence-based practice</a>

We are actively seeking your contributions, so that we can together build up a portfolio of best practice in Guided Inquiry. Click on the icon below to chat with others who belong to this community, now numbering 263 people.



Figure 3

having. This can be a formal reflection and/or conversation between student and the teaching team. Reflections can be used to gather data for evidence-based practice.

- **Culmination conversation:** There is a formal agenda in GIDF for the teaching team to use at the conclusion of an inquiry unit. It allows for discussion on the achievements of individual students, the shortcomings of others and how to address them. It also allows for discussion of interventions that worked, those that didn't, and changes that might need to be made to the task for rerunning it.

In some schools, the idea of a culmination conversation has become a part of what's expected of students, as well as the

teaching team, at the end of an inquiry unit. Students are given five minutes to think about a higher order question arising from their area of study, but not the same as their inquiry question, and then speak for two minutes on it, with the rest of the inquiry community listening. This has been a very revealing process, with students demonstrating real passion about their topics. The culmination conversations for students make clear that the level of engagement a Guided Inquiry demands pays off in terms of deep learning, critical thinking and commitment.

GIDF uses the stages of the GUID process to show the teaching team techniques appropriate to each stage and looks at what the team is doing and what the learner

**Explanations and scaffolds for every stage:**

Stage of Information Search Process: What the individual is doing	Phase of Guided Inquiry: What the Inquiry community is doing
<u>Initiation</u>	<u>Open</u>
<u>Selection</u>	<u>Immerse</u>
<u>Exploration</u>	<u>Explore</u>
<u>Formulation</u>	<u>Identify</u>
<u>Collection</u>	<u>Gather</u>
<u>Presentation</u>	<u>Create and Share</u>
<u>Assessment</u>	<u>Evaluate</u>

**Template for creating Guided Inquiry Units**

**The Research River**

☆ **Units of work - secondary**

last edited by Lee FitzGerald 4 days, 11 hours ago

**Unit creation templates:**

- [CiSSL unit planner](#)
- [CiSSL and Australian Curriculum](#)

**Year 7:**  
*For the Australian Curriculum - History*  
[Ancient Egypt](#)  
[Narrabeen Man](#)

**Year 9:**  
*For the Australian Curriculum - History*  
[Slave, Prisoner or Adventurer](#)  
[Holocaust: Bystanders, Upstanders, Perpetrators and Victims](#)

**Year 10:**  
*Planning document for Geography:*  
[Issues in Society](#)

**Year 11:**  
[PDHPE](#)  
[History: Modern Historical Investigation, 2014](#)

Figures 4 and 5

is doing at that stage. The final chapter, 'Building Guided Inquiry in your school', provides techniques and strategies for ensuring the development and continuance of Guided Inquiry, once started.

### Opportunity 3: The Australian Guided Inquiry community

Alinda Sheerman, based at Broughton Anglican College, and I created the Guided Inquiry Community (Figure 3), which now has 550 subscribers. It is an opportunity, because it brings together Guided Inquiry theory and practice, provides scaffolds for every part of the process, has templates for the creation of inquiry tasks, and examples of some Guided Inquiries in Australian Curriculum areas for primary and secondary subjects. It is a practical place to go to explore what Guided Inquiry might offer. If you would like to join, just send an email from the web address: <http://guidedinquirycommunity.pbworks.com>

Figures 4 and 5 show some snips from the wiki, and the kinds of scaffolding you will find there. The Research River is an analogy that I use to explain the ISP to students.

### What might a Guided Inquiry task look like?

A Guided Inquiry task will:

- embed the stages of the GUID process — Open, Immerse, Explore, Identify, Gather, Create and Share/Assess — explain this process, and continually refer to it
- draw in background knowledge
- entice students into the topic with engaging introductory material
- make use of inquiry circles and their scaffolding, if it suits the topic

- resource the task with pertinent, engaging and demanding sources, with a mixture of print and electronic
- ask students to find an aspect of the topic they are interested in
- teach students how to search broadly on that aspect with the goal of finding the parameters of the topic at Immerse
- help students to draw out an inquiry question
- teach students techniques to search deeply on their inquiry question at Gather
- help students to engage with denser texts with the goal of finding only the pertinent information
- enable students to take notes and keep bibliographic records, using software, such as Easybib and Evernote
- support students in creating their answer/solution/response
- allow and encourage students to show evidence of their understanding of the topic area in a culmination conversation
- encourage continuous reflection on learning
- at the conclusion of the unit, engage the teaching team in a culmination conversation to talk about success, failures and possible changes for the next run of the unit.

For real-world examples and the scaffolding to create inquiry units yourself, go to the Guided Inquiry Community, where there are many examples. The December, 2014, issue of *Knowledge Quest* journal was all about Inquiry learning, and this article, 'Making the shift from traditional research assignments to Guided Inquiry' (Kuhlthau & Maniotes)

has a description of a Guided Inquiry unit of Invasive species, which is most interesting to read.

The time is indeed ripe for inquiry learning in Australia and in the USA, at least. Teacher librarians have the opportunity to use the prevailing circumstance of a strong need for an underpinning process for inquiry learning, to persuade their schools to try Guided Inquiry.

The justification, the scaffolding and examples are all there for you to use. It's pretty exciting!

*All across the country educators are working to shift toward inquiry. It may seem as if other people have this transformation down pat and are way ahead of you. Don't be discouraged.* (Kuhlthau & Maniotes 2014).

### Take the theory into practice

Some steps to getting started with Guided Inquiry in your school:

- Read the two analyses referred to above — Lupton and Bonanno.
- Buy GIDF (2012) — it's a theory into practice book and essential to get started.
- Join the Guided Inquiry Community <http://guidedinquirycommunity.pbworks.com> to see Guided Inquiry in practice in Australian schools.
- Talk to your principal about it.
- Try out an inquiry unit with a willing teacher.
- Let its success speak for itself.

Why? Because the time is ripe, and opportunity knocks!

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### Acronyms used:

ACARA: Australian Curriculum, Assessment and Reporting Authority.

CCT: Critical and Creative Thinking General Capability.

GID: Guided Inquiry Design process: Consists of Open/Explore/Identify/Gather/Create and Share/Evaluate. This is what the Inquiry community, teachers and students do when designing and carrying out an inquiry task.

GIDF: *Guided Inquiry design: A framework for inquiry in your school*. This is the book written by Kuhlthau, Maniotes and Caspari in 2012.

ISP: Information Search Process. The original information process, perceived by Kuhlthau, consists of Initiation, Selection, Exploration, Formulation, Collection, Presentation and Assessment. This is what the individual researcher does when carrying out an inquiry task.