Does Guided Inquiry enhance learning and metacognition?

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What is GI? Why does it matter?
Model of the Information Search Process

Tasks | Initiation | Selection | Exploration | Formulation | Collection | Presentation
--- | --- | --- | --- | --- | --- | ---
Feelings (affective) | uncertainty | optimism | confusion | clarity | sense of direction/confidence | satisfaction or disappointment
Thoughts (cognitive) | vague | focused | increased interest
Actions (physical) | seeking relevant information | exploring | seeking pertinent information | documenting

Guided Inquiry Design Process:
- Open
- Immerse
- Identify
- Gather
- Create
- Share
- Evaluate

Kuhlthau, Maniotes, & Caspari. Guided Inquiry, 2007; 2012
Literature review

Four critical sources:


Bonanno, K (2014), *F-10 Inquiry skills scope and sequence and F-10 core skills and tools*. Zillmere, Queensland: Eduwebinar Pty Ltd.
And along comes Critical and Creative Thinking......
Practitioner sources


FitzGerald, L., (2011), The twin purposes of Guided Inquiry: Guiding student inquiry and evidence based practice, Scan 30(1)

Scheffers J. & Bryant, K. (2013): A perfect match – Guided Inquiry and iPad technology Scan 32(1)

Sheerman, A, (2011). iInquire…iLearn….iCreate…iShare: Guided Inquiry at Broughton Anglican college Scan 30(1)
What did I set out to do?
+++++

Sample – intended and actual
Research instrument: Questions in the SLIM (School Library Impact Measure) Toolkit

Q1: Take some time to think about your topic. Now write down what you know about it.

Q2: How interested are you in this topic? Not at all/Not much/Quite a bit/A great deal

Q3: How much do you know about this topic? Nothing/Not much/Quite a bit/A great deal.

Q4: When you do research, what do you generally find easy to do?

Q5: When you do research, what do you generally find difficult to do?

Q6: What did you learn in doing this research project?
Other research questions

• Describe your feelings as you progressed through the stages of the Information Search process.

• Exit survey on inquiry itself, use of technologies (wiki/Evernote/Easybib and Webspiration), and support offered by teacher and TL.

• These were administered only to the Ancient historians.
What did the students do? Similarities

<table>
<thead>
<tr>
<th>Inquiry task in each class effectively the same. Choose an area of Modern/Ancient history, develop an interest, create a question, answer it in an essay.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active support and feed back from teachers throughout the process.</td>
</tr>
<tr>
<td>Resourcing from the teacher librarian.</td>
</tr>
<tr>
<td>Both taught how to use Easybib and how to create footnotes.</td>
</tr>
<tr>
<td>Active input on how to write an essay, using PEEL, and both had access to drafting of essays, with comments from teachers.</td>
</tr>
<tr>
<td>Both classes had capable, motivated students.</td>
</tr>
<tr>
<td>Both classes participated in a culmination conversation at the end of the unit.</td>
</tr>
</tbody>
</table>
## What did the students do? Differences

<table>
<thead>
<tr>
<th>Ancient</th>
<th>Modern</th>
</tr>
</thead>
<tbody>
<tr>
<td>Explicit use of Guided Inquiry and ISP throughout</td>
<td>No information process</td>
</tr>
<tr>
<td>Taught how to search differently for different stages of ISP – move from broad to pertinent</td>
<td>No differentiation of types of searching</td>
</tr>
<tr>
<td>Inquiry circles and activities</td>
<td>No categorisation of topics at Open stage</td>
</tr>
<tr>
<td>Daily reflection plus research instrument</td>
<td>Three reflections</td>
</tr>
<tr>
<td>Teacher librarian support</td>
<td>No teacher librarian support</td>
</tr>
<tr>
<td>Wiki to house task, scaffolds, reflections and feedback</td>
<td>No wiki, no written feedback</td>
</tr>
<tr>
<td>Taught how to use Questia</td>
<td>Were not taught how to use Questia</td>
</tr>
<tr>
<td>Taught how to use Evernote, with feedback</td>
<td>Were not taught notetaking</td>
</tr>
<tr>
<td>Scaffolding for creating questions</td>
<td>Verbal only</td>
</tr>
</tbody>
</table>
What did the Guided Inquiry teaching team do?

<table>
<thead>
<tr>
<th>Teacher</th>
<th>Teacher librarians</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduced the Ancient Historical Investigation</td>
<td>Introduced Guided Inquiry and Information Search Process</td>
</tr>
<tr>
<td>Scaffolded choice of topics into inquiry circle areas</td>
<td>Taught searching appropriately for each stage of the process. Provided sources throughout inquiry.</td>
</tr>
<tr>
<td>Worked in inquiry circles</td>
<td>Worked in inquiry circles</td>
</tr>
<tr>
<td>Provided feedback on wiki</td>
<td>Set up and monitored wiki for reflection</td>
</tr>
<tr>
<td>Worked with students on sources</td>
<td>Set up and provided feedback on Evernote</td>
</tr>
<tr>
<td>Worked with students to develop questions</td>
<td>Worked with students to develop questions</td>
</tr>
<tr>
<td>Marked the essay</td>
<td>Marked the process side of the assignment and cross marked essays with teacher.</td>
</tr>
</tbody>
</table>

Both: Attended each class, worked with students on a roster, attended culmination conversations. The inquiry took 5 weeks, with 3 classes per week.
Q1: Ancient History – Top group

![Graph showing facts, explanations, conclusions, open, identify, create/share for Student 3, Student 6, and Student 9.](image-url)
Q1: Ancient History – Middle group
Q1: Ancient History – Lower group

Graph showing the distribution of facts, explanations, conclusions, and open, identify, create/share categories for different students.
Q1 – Ancient History: Types of conclusions
Q2: Ancient History

How interested are you in your topic?

Interest score

Student 1
Student 2
Student 3
Student 4
Student 5
Student 6
Student 7
Student 8
Student 9
Student 10
Student 11
Student 12
Student 13
Student 14
Student 15

Ancient History - Whole group
Q3: Ancient History

How much do you know about your topic?

Ancient History - Whole group
Q4 – Ancient History

Q4: What do you generally find easy to do?

- Throughout: Awareness of ISP
- Throughout: Reflect (on wiki)
- Evaluate achievement
- Create bibliography/intext citations/Understand plagiarism
- Create answer to inquiry question/Write essay
- Synthesise information
- Understand and interpret complex and/or conflicting sources
- Judge validity of sources
- Record bibliographic details, using Easybib
- Take notes, using Evernote
- Create inquiry question
- Identify own perspective
- Persevere through dip/stay on track
- Use appropriate sources including Questia and books
- Search effectively for each stage of ISP
- Select a topic/Brainstorm
- Get started

Ancient History: Whole group
Control group questions

Q5: When you do research, what do you generally find difficult to do?

Q6: What did you learn in doing this research project?
Q5 – Modern History

What do you generally find difficult to do?

- Create bibliography/intext citations/Understand plagiarism
- Synthesise information
- Understand and interpret complex and/or conflicting sources
- Judge validity of sources
- Record bibliographic details
- Take notes, including culling
- Create inquiry question
- Identify own perspective
- Use appropriate sources
- Search effectively for stage of ISP.
- Select a topic/Brainstorm
- Get started

Modern History

0  2  4  6  8  10  12  14
Q5 – Ancient History

Q5: What do you generally find difficult to do?

- Throughout: Awareness of ISP
- Throughout: Reflect (on wiki)
- Evaluate achievement
- Create bibliography/intext citations/Understand plagiarism
- Create answer to inquiry question/Write essay
- Synthesise information
- Understand and interpret complex and/or conflicting sources
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- Record bibliographic details, using Easybib
- Take notes, using Evernote
- Create inquiry question
- Identify own perspective
- Persevere through dip/stay on track
- Use appropriate sources including Questia and books
- Search effectively for stage of ISP.
- Select a topic/Brainstorm
- Get started
Q6: Modern History

What did I learn in doing this research task?

- Synthesise information
- Understand and interpret complex and/or conflicting...
- Judge validity of sources
- Record bibliographic details, including footnotes
- Take notes
- Create inquiry question
- Identify own perspective
- Use appropriate sources
- Search effectively
- Get started

Modern History - Whole group
Q6: Ancient History

Q6: What did I learn from doing this project?

- Throughout: Awareness of ISP
- Throughout: Reflect (on wiki)
- Evaluate achievement
- Create bibliography/intext citations/Understand plagiarism
- Create answer to inquiry question/Write essay
- Synthesise information
- Understand and interpret complex and/or conflicting sources
- Judge validity of sources
- Record bibliographic details, using Easybib
- Take notes, using Evernote
- Create inquiry question
- Identify own perspective
- Persevere through dip/Stay on track
- Use appropriate sources including Questia and books
- Search effectively
- Select a topic/Brainstorm
- Get started
There are questions and questions....

Ancient historians had these scaffolds for their questions:

**Question focus formulation activity**

**Question stems**
Feedback in person and on wiki from T and TL.

https://www.flickr.com/photos/36106576@N05/3895590793
### Inquiry question Essay /25

<table>
<thead>
<tr>
<th>Question</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>How has history remembered the Battle of Salamis?</td>
<td>20</td>
</tr>
<tr>
<td>Who owns the past? Discuss this question in light of ownership controversies in the last century.</td>
<td>20</td>
</tr>
<tr>
<td>‘There have been many Alexanders. No account of him is altogether wrong.’ (C.B.Welles) Discuss how the diversity of the modern identity of Alexander was created by the ancient world.*</td>
<td>20</td>
</tr>
<tr>
<td>The site of Delphi has meant different things to different people over time. How accurate is this statement.</td>
<td>20</td>
</tr>
<tr>
<td>‘Boudicca has been altered by history to suit differing purposes and contexts.” Examine the validity of this claim.*</td>
<td>20</td>
</tr>
<tr>
<td>“The only form of fiction in which real characters do not seem out of place is history” – Oscar Wilde. Assess the validity of this statement in relation to the Emperor Nero.*</td>
<td>20</td>
</tr>
<tr>
<td>Herodotus was a product of his times. Discuss.</td>
<td>20</td>
</tr>
<tr>
<td>To what extent does the 1963 film, “Cleopatra”, provide an historically accurate representation of Cleopatra?</td>
<td>15</td>
</tr>
</tbody>
</table>
Modern History

Inquiry questions - Modern History

- Why is John Hersey's novel "Hiroshima" described as one of the most important and influential pieces of journalism of the 20th Century?

- Why does the dropping of the Atomic Bomb remain controversial in American history?

- What is the significance of traditional medicine in South Africa?

- Why did people follow Jim Jones to Jonestown, Guyana?

- An evaluation of the relationship between Mao Zedong and the Red Guard during the Great Proletarian Revolution.

- In the light of events during the 1969 Altamont Concert did this event define the end of love, peace and music?

- Was Marilyn Monroe more than just another dumb blonde?

- Assess the role of the moustache within the military of the British empire.

Marks out of 25 for essay
Marks: Ancient History

Ancient History - Essay and process marks

- Essay/25
- Process/25
Marks – Modern History

Modern History - Essay and process marks

Essay/25
Process/25

Student 1, Student 2, Student 3, Student 4, Student 5, Student 6, Student 7, Student 8, Student 9, Student 10, Student 11, Student 12, Student 13, Student 14, Student 15, Student 16, Student 17
Reflections on the ISP from Ancient Historians

Describe your feelings during the Information Search Process.
Exit survey – Ancient History

The process of the inquiry

- Strongly agree
- Agree
- Unsure
- Disagree
- Strongly disagree

- Choosing my own topic made the whole process more difficult
- I like choosing my own topic
- I liked creating my own inquiry question
- I liked having a wide choice of topics
Exit survey

Teacher feedback

- Didn't get any
- Not useful
- Slightly useful
- Useful
- Very useful

Feedback types:
- Feedback on mindmap from teacher
- Feedback on wiki from teacher
- Feedback for finding resources from teacher
- Feedback for choosing the question from teacher
- Feedback for choosing topic from teacher

Graph shows the distribution of teacher feedback across different categories.
Exit survey

Feedback from teacher librarians

- Help with Evernote from teacher librarians
- Help with Easybib from teacher librarians
- Help with Questia from teacher librarians
- Feedback for choosing topic from teacher librarians
- Feedback for choosing question from teacher librarians
- Feedback for finding resources from teacher librarians
- Feedback on wiki from teacher librarians
- Feedback on mindmap from teacher librarians

Legend:
- Very useful
- Useful
- Slightly useful
- Not useful
- Didn't get any
Exit survey

Using 4 new technologies

- Ok, but I prefer to use paper and pen
- Easy and found them useful
- Difficult and really resisted using 3-4 new technologies
- You were required to use 3-4 new technologies. Was this difficult?

Legend:
- Strongly agree
- Agree
- Unsure
- Disagree
- Strongly disagree %
What the data showed

Ancient history:
- Deep knowledge
- Sustained interest
- High levels of self-reported knowledge of topic
- Metacognition
- Awareness of ISP and its implications.

Both classes:
- Mastery of concrete tasks - Easybib, footnotes
- Effective essay writing.
Conclusions

Does Guided Inquiry enhance learning and metacognition?

http://www.cmu.edu/teaching/principles/
Further research 2015
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:

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<td>Guided Inquiry presentations</td>
</tr>
<tr>
<td>Units of work - secondary</td>
<td>Evidence-based practice</td>
</tr>
</tbody>
</table>

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 372 people.
Questions?

Acknowledgements: Barbara Combes Mary Anne Kennan. For their completely amazing help to a novice researcher!
GUIDED INQUIRY

Connecting/ Collaborating/ Scaffolding...
https://www.youtube.com/watch?v=lR-_ypO6svQ