

## **Assessing Research Based Learning: Using Higher Order Thinking Skills to promote authentic assessment of 'critical analysis' information literacy and similar achievement/performance standards in research based learning tasks**

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### **Why teach RESEARCH or INQUIRY?**

Firstly, consider the reasons why you would set a Research Based Learning task, and what your own biases might be towards this type of Assessment. Is it just knowledge that you need students to know, in which case a test might more appropriate.

### **Inquiry Research Process/es:**

The Inquiry or Research Process is often called many different things, but is actually quite similar. Each tends to start with a 'Defining' section, which is most often done by the teacher, although more and more the Curriculum Standards will ask students to 'formulate questions. This works through the typical 'research' stage of finding and noting information, to producing and product, outcome or result. Most often this is where it ends, although some subjects also ask for the student to become involved in the 'Evaluation' or 'Assessment' of Learning.

### **What is Assessment?**

Assessment should work towards, 'Assessment of Learning', 'Assessment for Learning' towards 'Assessment as Learning.' 1. All assessment should be about learning, in that it should aim to help students determine their strengths and weaknesses in order to improve. 2. We should be working towards a common understanding of what constitutes successful or unsuccessful teaching and learning. 3. Assessment should not only be a 'post-mortem' exercise, but ideally should always help inform further learning or achievement. 4. Assessment is not a distraction or 'optional extra' to learning, after the fact.

Four 'core fundamentals to assessment':

### **Differentiated Assessment**

Evidence for 'Assessment as Learning' can occur throughout the research or inquiry learning process – How are they developing questions? How might they source or locate this information? Not just as how they present their findings..... What limits the use of these forms of Assessment in research based learning?

1. Assessment helps students **determine strengths and weaknesses** to improve
2. Assessment is **equally valuable** in analysing information and informing instruction
3. Assessment is **not evaluation**
4. Assessment is **not an 'add-on'** and is integral to teaching and learning

(Harada and Yoshina, 2005 cited in Kuhlthau, Maniotes and Caspari, *Guided Inquiry : Learning in the 21<sup>st</sup> Century*, 2007).

### **Authentic Assessment Design: How does the assignment match the Standards?**

To ensure Assessment is valid and reliable it should aim firstly to address the Standards (also known as 'Backward Design' model). In research or inquiry however, these Standards often, particularly for the higher levels of achievement (As and Bs etc) require deeper or Higher Order Thinking.

### ***Socratic Questioning***

**"Thinking is not driven by answers, but by questions"**  
(Richard Paul, [Criticalthinking.org](http://Criticalthinking.org))

### **Using HOTS in Research Task Design**

The questions that we ask, or ask to students to ask of themselves, need to aim to promote Higher Order Thinking Skills (Investigate, Analyse, Justify Judge, Design or Create etc) not merely recall or 'move information' from one source to their assignment (Recall, Explain, Remember etc). This is not to say that the 'Foundation Thinking Skills' do not have a place in learning, as they can inform the HOTS.

### **Differentiating All Research Learning**

- Constructs or value judgments should where possible be avoided when setting up, teaching and assessing research based learning. Consider all these ways in which 'learning' might occur, which versions are more 'valued' and how might this affect Assessment?

- It is therefore to consider how all aspects of the Learning process are differentiated: Eg. where and how are the students accessing the information (multimodal, practical, visual etc)? How are they demonstrated their understanding?

### The Differentiator:

<http://byrdseed.com/differentiator/>

### Research Assignment Sheets

By changing a few words in the Assessment Task, students are automatically moved from lower levels of recall to creating and justifying etc

#### Authentic Research Task Check-List:

- ✓ **Task is fit-for-purpose (in that it enables and encourages students to meet Curriculum requirements Achievement / Performance Standards.**
- ✓ **There is scope and opportunity for 'Assessment for Learning' not just 'Assessment of Learning' in that students are assessed throughout the inquiry process from 'Defining' or 'Creating' research questions through the process of 'Evaluating' information sources.**
- ✓ **The task encourages Higher Order Thinking Skills and therefore levels of achievement, specifically for standards such as 'critical analysis' and inquiry.**
- ✓ **Is differentiated, allows for multiple ways to present evidence of learning at different stage of the Research Based learning process**
- ✓ **Is fairly assessable with consistent understandings of Standards and any subject specific assumed knowledge, skills etc (moderation).**

Use this check list on a current Research Based Learning task Assessment sheet. Consider at what level it addresses the Standards, is there scope to assess learning 'along the way'? ; How could the questions be re-worded to promote HOTS? Is there a way to differentiate the task, choices or presentation methods, alternative ways to 'research' the information? ; Do the students and all the stakeholders (parents, other teachers, SSOs, Moderators etc) clear on how to succeed with this task and what an example of an A, B, C grade might look like?

#### Certified Educational Assessor Case Study: Assessing Research: How can you help me help you and others?

If you would like to help please email me [Adam.Fitzgerald869@schools.sa.edu.au](mailto:Adam.Fitzgerald869@schools.sa.edu.au) or Phone 0407 612 040 or come along and have a chat in Thiele Library.

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