**ALARM – A Learning and Responding Matrix**

**Why ALARM?**

Interest in the adoption of ALARM in NSW schools is growing rapidly because of the spectacular effect it has had upon the HSC results of students at Freshwater Senior Campus, where it was developed by ESL Teacher Max Woods. This, however, was not the motivation behind its development.

 ALARM seeks to help students learn how to learn by making the learning process EXPLICIT. It is important to understand how to learn if we are to take on board more than just the content to be learned. Understanding how to learn, rather than just the content, is the key to becoming lifelong learners.

Another purpose of ALARM is to promote deep understanding, rather than superficial knowledge which is learned by rote. This is achieved partly by requiring us to employ higher order thinking skills, such as analysis and evaluation, but primarily by asking provocative questions, which promote inquiry and reflection. ALARM fundamentally challenges the role of the teacher - demanding that the teacher primarily be the lead enquirer, rather than providing students with the answers immediately.

ALARM also helps the school to build a learning community by helping us to adopt a common model and language of instruction to describe the process of learning and then responding or explaining. Together we adopt an inquiry-based approach, together we seek deep understanding and we use a common language to describe how to do this across all subject areas and year levels.

**Principles of ALARM**

Learning should concentrate on four main areas:

 **1. Concept**: Move from the level of content to concept. Examine a small number of meaningful concepts in depth, rather than a large body of facts superficially. This helps students to develop deep knowledge and real understanding.

 **2. Question**: Ask students questions and give them the tools to work out the answers themselves. When they need help, break down the question into smaller or more directive questions or provide more tools, but don't tell the students the answer. Students have learned only when they can tell you the answer.

**3. Literacy:** The ability to write, read and speak. This helps students to learn how to learn and critically respond. Nothing is more fundamental to becoming a lifelong, independent learner. It is the 21st Century teacher's primary responsibility.

 **4. Structure**: Provide organisational structures to support learning and responding (eg. a template/scaffold/matrix). This will help students to see the big picture, to see how the pieces fit together and to understand the overall purpose. It will also strongly support students to write a response.

**How does ALARM work?**

**ALARM:**

• provides a step by step guide to the process of learning and then responding to a question

• makes explicit the ordering of concepts from simple to complex

• allows students to tap into higher order concepts throughout the teaching process

• aids students to identify gaps in their knowledge

• allows students to communicate with a common terminology across the curriculum

• provides templates which can be adapted to suit content area, complexity of information, level of depth required

**A Hierarchy of Learning and Responding Skills**

**Name and Define:**

Every topic, concept or process can be broken down into components or elements of study in order to understand its meaning. Here we separate the topic into its components, to identify or label EACH part and then state the definition of EACH part.

Think about **WHAT.**

Questions to promote inquiry and reflection at this stage might be:

• What is the whole process and what are the components, parts or steps within the process?

**Describe:**

Here we describe the characteristics, features, properties or qualities of EACH of the components. We are to list them, sometimes in order of importance or as steps in a process. We may classify or arrange characteristics in categories. This helps to identify a components place in the overall structure to which it belongs.

 Think about **WHAT.**

Questions to promote inquiry and reflection might include:

• What does each part or property look like or act like?

• What is an example to demonstrate/illustrate an idea or parts of a process?

**Explain:**

Here we consider the purpose or function of EACH feature or characteristic of EACH of the components or even the whole process itself. We try to understand the role played by each part, particularly where each component plays a different role.

 Think about **WHY.**

 Questions to promote inquiry and reflection might include:

• What is EACH part or feature doing, what it is for?

• What problem is EACH addressing, attending to?

• What/why is EACH feature/part or even the whole process itself trying to achieve?

• What is its aim/goal?

• What is EACH part's cause and effect - what's the reason behind it and what is the impact?

 **Analyse:**

Here we consider HOW/WHY EACH component is attempting to carry out its purpose, role or function and how each of the components interact with each other to achieve the whole.

Think about **HOW.**

Questions to promote inquiry and reflection might include:

• How/why it is achieving its aim/goal?

• How/why is it working towards its intended or unintended effect/impact?

• How/why do the cause(s)/effects(s) occur?

• How/Why are the components related to each other and/or are interrelated, which may include comparison/contrast between them to understand their relationship to each other or the process as a whole itself?

**Critically Analyse:**

Here we explore the positive and /or negative effects of each component. The positive and or negative implications or connotations of EACH component are compared or contrasted.

 Think about **HOW WELL**.

Questions to promote inquiry and reflection might include:

• Why the is effect positive or negative?

• How/why is what it is attempting to achieve, or has achieved, beneficial and/or harmful?

• How/Why are some or all features, characteristics or impacts more positive and/or negative than the others?

**Evaluate:**

Think about **HOW WELL.**

Here we consider the extent to which EACH component is effective or successful in serving its purpose. We make a judgement based on the extent to which the positives out weigh the negatives or vice versa. This also means to express the value or quality of something.

Questions to promote inquiry and reflection might include:

• To what extent does EACH component carry out its intended or unintended purpose?

• What is the value of the impact upon something or someone?

**Critically Evaluate:**

Here we consider from an OVERALL point of view to what extent do all the components/features succeed or are effective in their purpose for the whole process to proceed. To what extent are some of the components/features more effective/successful than others? We may also measure to what extent the overall process itself is effective/successful. What is the value of all the impacts upon something or someone?

Think about its **IMPORTANCE.**

Questions to promote inquiry and reflection might include:

• What is the end result?

• How successful was it?

• Was the outcome expected, predictable or likely?

• What was the major cause/impact/decision?

**Conceptualise Topic:**

Here we consider the essential idea of the topic. We express what we learned from the components and/or how they are interrelated to form the whole process or idea. This may summarise or make a judgement on the developmental process and its change of procedures over time. Here we may express why the interrelationship is important to the process as a whole. What is the ‘take home message'?

Think about its **IMPORTANCE.**

Questions to promote inquiry and reflection might include:

• What is the take-home message?

• How would what we learned alter the way we view…..?

•In what way has this experience changed the way that you view…..?

**Appreciate:**

Here we think about why this subject matter is worth learning. At an intrinsic level, we express why the understanding of the topic concept is important for life. At an extrinsic or exam level it is concerned with answering a question.

Think about its **IMPORTANCE.**

 This leads us to consider the questions the students ask us most but we like to answer least:

• Why are we learning this?

• What will we get out of this?

• When am I ever going to use this?

• What would anyone do with this?

**ALARM Strategies**

**Questioning**

- Guiding students with **Questions at each ALARM skill level**. Teachers may use the Hierarchy of Learning and Responding Skills to guide them in asking students questions which take students from the simple to the complex in a logical pattern. Deep and sophisticated understanding is achieved partly by requiring us to employ higher order thinking skills, such as analysis and evaluation, but primarily by **asking provocative questions**, **which promote inquiry and reflection**, rather than telling students the answers.

**Deconstructing**

**Deconstructing the question** to make it your friend by identifying:

•**Verb**: Instructional Verb tells you what to do

•**Depth**: Qualifying Terms give an indication of the depth required

•**Content**: Suggests the subject matter and a scaffold to organise it

**Using a Matrix**

Asking students to complete part or all of an **ALARM Matrix**. Once students have identified what a question requires from them, they should be more able to determine which parts of the ALARM matrix are useful.

Most importantly, the teacher will use the Matrix at the Unit Planning stage to ensure that they have been able to identify:

• The organising concept – one idea or phenomenon around which the unit is organised.

• The key understandings – a small number of key concepts as opposed to a large body of facts

• The key skills – particularly literacy and numeracy as well as critical thinking skills.

• The interactions between each of the components in producing the sophistication of the whole.

**Colour-coding**

**- Colour-coding** sample answers, draft responses or the final submission. Students might colour code their own responses to become more effective self-evaluators of what is missing from their own responses; they might have this done by a peer to initiate a discussion or the teacher might colour-code a response as a framework for constructive feedback.

**Name/Define:** Identify the components of this topic.

**Describe:** Describe key features of each component.

**Explain:** Explain the purpose of each component.

**Analyse:** Outline how each component operates to achieve its purpose.

**Critically Analyse:** Identify positive and negative features of each component.

**Evaluate:** Make a judgement about the extent to which this component achieved its

 purpose.

**Critically Evaluate:** Provide an overarching judgement about all the components.

**Words of Empowerment**

Asking students to create or use **Words of Empowerment**.

• These empowering words are often embedded in a question, such as the ‘directive verb'. When we identify and understand them, they empower us to appreciate how to respond to the question effectively.

• Words of empowerment also assist us to describe complex processes and make value judgements. Becoming more sophisticated in using language to make and support judgements is a key examination skill.

• Sharing a common understanding of the meaning these words across the curriculum empowers students when they respond in an exam.

**Acknowledgement**

ALARM is the intellectual property of Max Woods. He has very generously made it publicly available, asking only that his ownership of it be acknowledged.

References:

<http://www.blaxlandhighlibrary.com/alarm.html>

<http://www.castlehill-h.schools.nsw.edu.au/news/alarm-a-learning-and-responding-matrix>