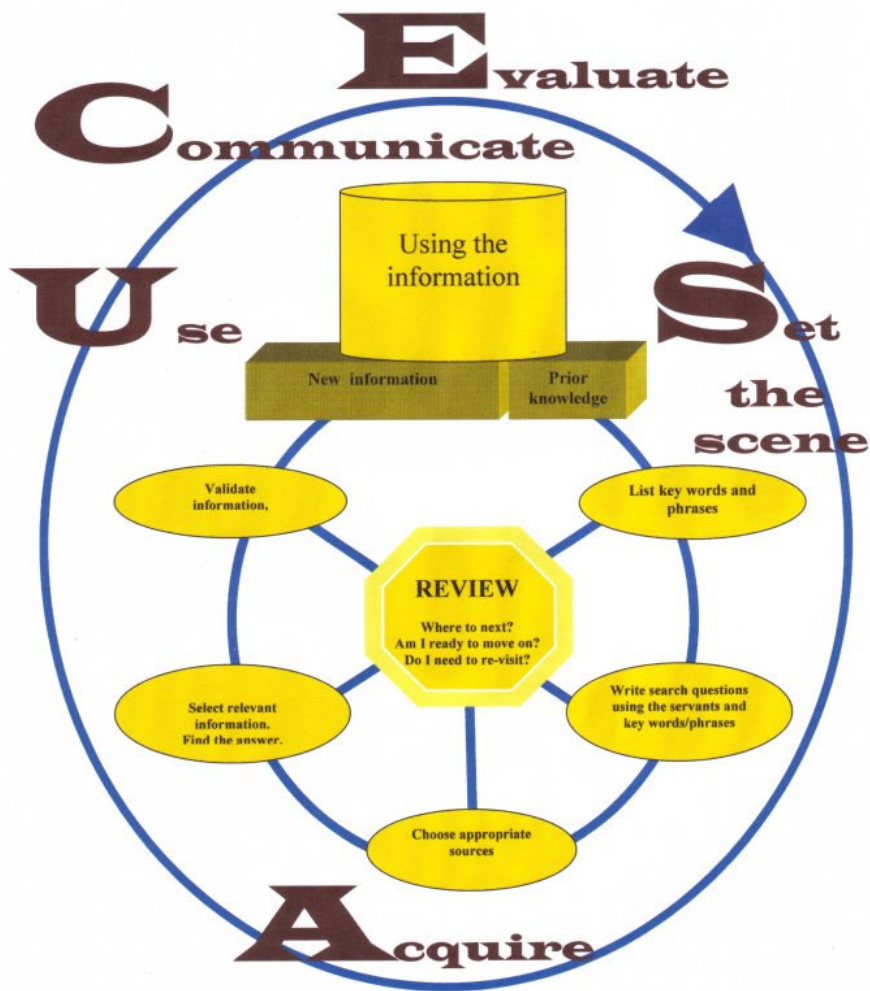
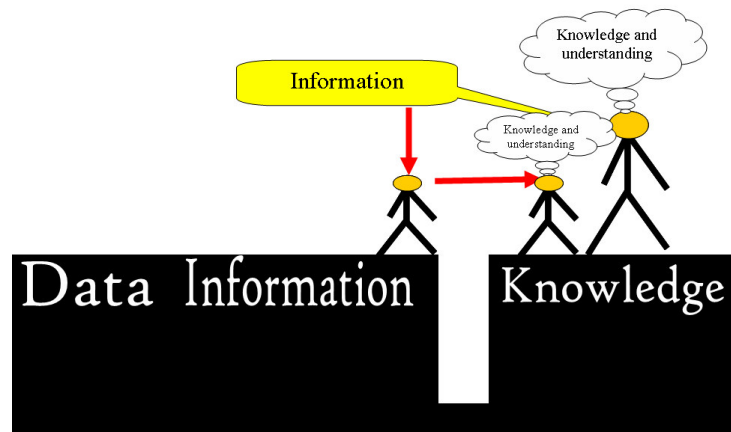


SAUCE



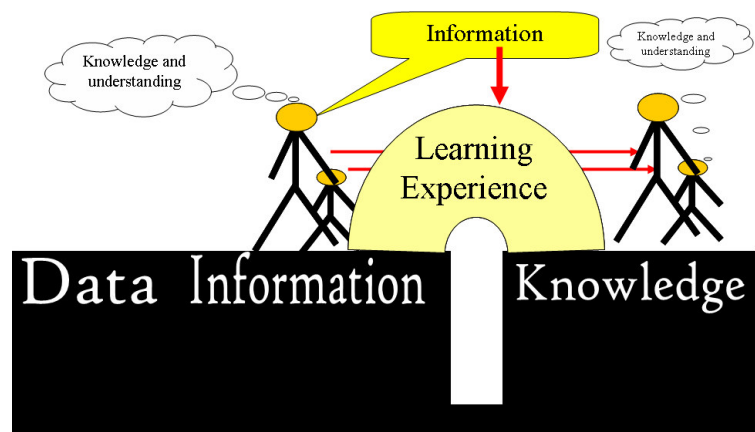
Much of our teaching and the learning experiences delivered over the last few generations are based on the fallacy that a teacher can take complex concepts and ideas, turn them into a string of words and thus generate knowledge in pupils' heads.



“We teachers and others are in the grip of an astonishing delusion. We think we can take a picture, a structure, a working model of something constructed in our minds out of long experience and familiarity, and by turning it into a string of words or actions transplant it whole into the mind of someone else...”

(John Holt, in Sotto q.v.)

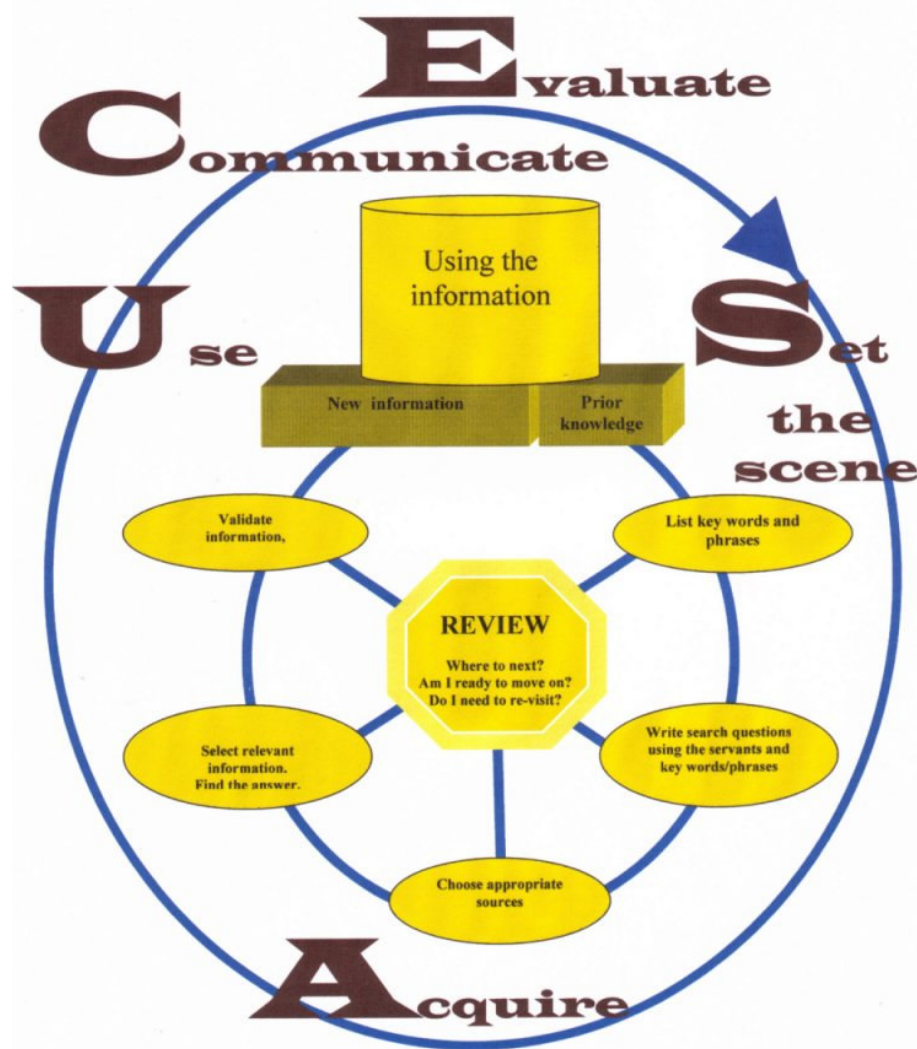
Inquiry learning is based on the concept that the learner creates their own knowledge and understanding through a variety of experiences over time and that the development of knowledge is best fostered through application and discussion. The teacher becomes a partner in the experiences and takes the vital role of a role model of quality learning.



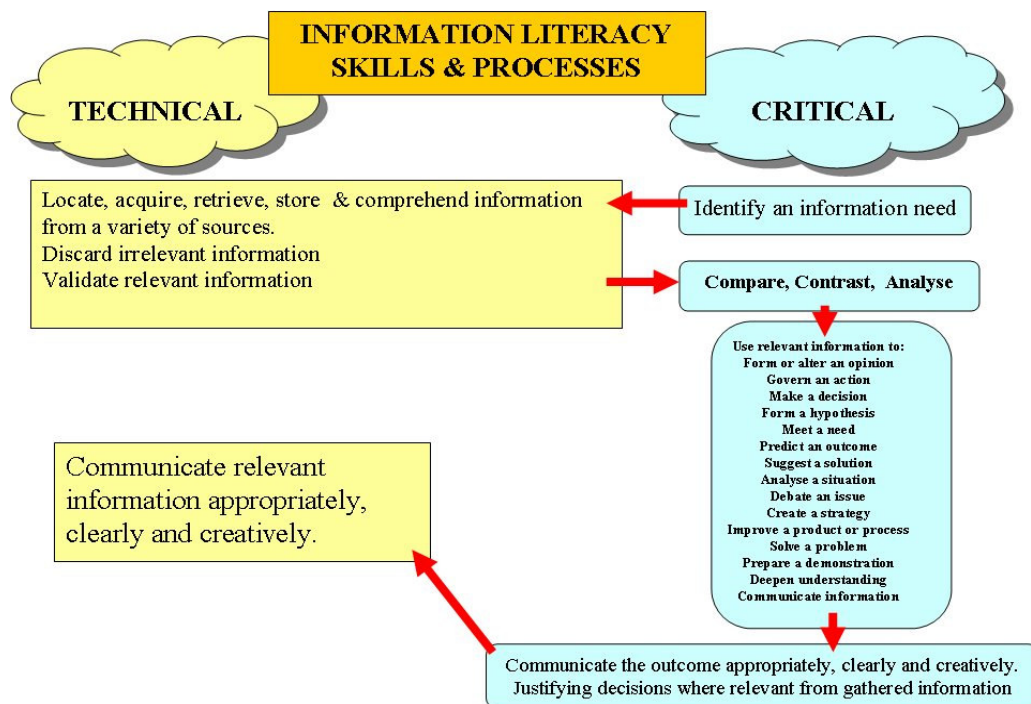
SAUCE could be described as a:
Information literacy process
Inquiry learning process
Problem solving process
Research process

The goals of the SAUCE model are to:

- 1) Provide learners the tools to effectively unlock information, and move into understanding.
- 2) Provide learners a framework to guide them into effective research and the acquisition of relevant and valid information that is then used in collaborative problem solving
- 3) Provide teachers a framework to guide them in leading students into higher order thinking skills
- 4) Provide a process where assessment and evaluation are integral aspects
- 5) Provide a process that demonstrates and encourages the recursive nature of good quality research and problem solving
- 6) Provide a framework that leads learners to increasing independence as information literate people.
- 7) Provide a process that allows integration of ICT, Information Literacy and Essential Skills across the curriculum.



The model aims to provide a structure that facilitates learners to follow the quality learning path.



The model is a practical strategy to support an inquiry based approach to learning with a focused curriculum targeting collaborative learning.

Setting the task (teacher)

Task structure is a critical issue for the successful achievement of the learning goals for any unit of work.

The success or failure of the model rests on 3 task based issues:

1. Pupils are set up for success when key words and phrases from relevant resources are embedded in the task.
2. The task is set incorporating appropriate cognitive verbs. Verbs that link with the higher thinking levels of Bloom's revised taxonomy will guide learners into operating within the higher thinking levels during the using stage.
3. The model targets and celebrates the development of understanding rather than location of information and there is an expectation that tasks will always require learners to use information rather than present it.

Summary

This model targets very strongly the expectation that learners will utilise the information in a practical manner. The model focuses on the solution and the learner communicating the final solution, decisions, thinking and justifications, instead of communicating the gathered information. Thus the process targets 'the celebration of understanding' rather than a 'celebration of the found'.

Setting the Scene (pupils)

The first class discussion will center on the task, clarifying it and ensuring the steps and criteria of the task are clearly understood. There will be set learning objectives for the task and these should also be clarified at this point.

Prior knowledge

Here prior knowledge will be established.

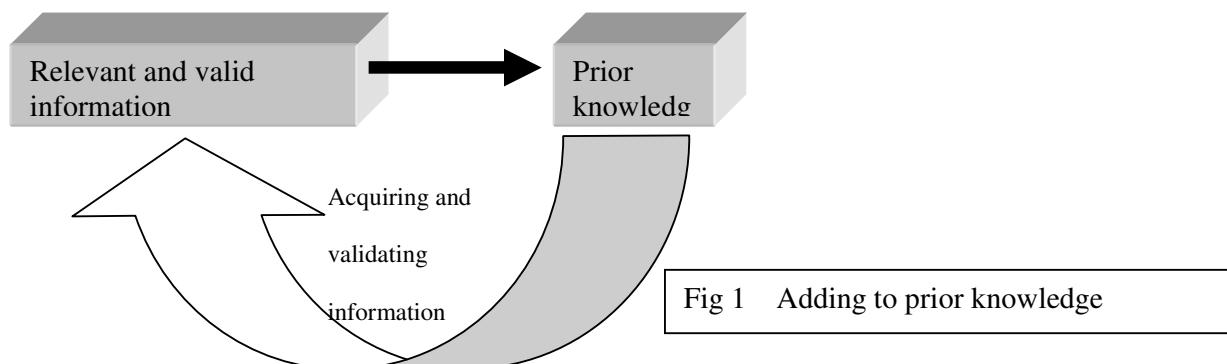
The pupils will share knowledge that they believe to be accurate, valid and relevant. Be aware that much of the material offered here may be invalid, irrelevant and inaccurate.

New Information

This is a fun discussion because there is often a problem in knowing what we don't know when we don't know what we don't know. Essentially the best way to approach this discussion is by asking the question "What do we think we need to know to be able to complete the task?" This is a very useful discussion because it provides the initial direction for the first parts of the enquiry process.

Acquire Information

Figure 1 shows how this process is based on the concept of adding new information to prior knowledge to lay a foundation on which the pupil is able to build their solution.



In this stage the pupils will add new information to their prior knowledge till they have the information, knowledge, and understanding that will enable them to complete the task.

Acquisition is a recursive cycle in its own right with self-review integrated centrally into the process. It is here that the key words and phrases are utilised as tools to access, acquire and validate relevant information from a range of sources.



Internet CDs People Books

Key words and phrases

This stage is extremely important because the key words and phrases are the tools that will allow the learner to unlock the information all the way through the process.

It is important that the key words and phrases that were deliberately embedded in the task, to set the pupils up for success, are now identified and extracted by the pupils.

These will be utilized in the next stage to create specific search questions.

Identify
key words and
phrases

This stage may also be revisited for two reasons:

- 1: To add new key words and phrases to the list as information is acquired.
- 2: When searches fail to provide valid and relevant information the reason may be that the key words being used need to be changed.

Creating search questions

The learner composes the fact finding questions. These questions will contain key words and phrases as well as one of these words:

Write search
questions
incorporating key
words and phrases

Rudyard Kipling's 6 Servants.

"I have six honest men who have served me well, they have taught me all I know. Their names are"

How
What
When
Where
Why
Who
Which

NB: that inflation has added a seventh servant. The servants are crucial because they are the question words that generally do not lead to yes or no answers.

Sample Questions:

What is the definition of Hyperlexia?

What are the symptoms of Hyperlexia?

What are the effects of Hyperlexia on learning?

Learners will re-visit this step for 3 different possible reasons:

- To compose new search questions using newly acquired key words or phrases.
- To re-write search questions using synonyms of key words or phrases earlier.
- To alter or modify search questions which may have been poorly phrased.

Choose appropriate source

Here the learner decides what possible sources of information are available and chooses the most appropriate looking source for a question.

Generally the learner will try and answer one question at a time, hence the focus on finding the best source for each individual question.

The most appropriate source may be:

A book in the library

A reference CD

News Media

A periodical or magazine

The Internet

An expert... e.g. architect, lawyer

Often a combination of the above will be used before completion of the task.

**Choose
appropriate
source**

The learner will re-visit this site for a number of reasons:

- To validate information found by checking it against two other sources.
- To find a different source containing more or better information.
- To locate a source which is more appropriate when a previous search has failed to supply relevant information.

Select relevant Information

The learner now acquires the relevant information from the source.

The relevant information is the answer to the question/s.

The key words and phrases are vital tools in this process.

These keys are used to locate articles, web pages, CD articles and books. Then they are used again within the source to locate

relevant information. The process of locating relevant information is double edged because the learner is also discarding irrelevant information. (The better the questions, the better the information gathered)

Teachers: ensure you are familiar with quality searching methods within the various media

We are often plagued with pupils copying and printing pages of information. This happens because pupils usually seem to be carrying out general rather than specific searches. In this process they should be carrying out specific searching where they are trying to locate the answer to a question. The outcome should be the extraction of the answer.

**** Don't forget people are important sources of information *****

**Select relevant
information, discarding
the irrelevant**

Validate Information

Published print in book form is generally accepted as valid, especially if it has come from a reputable publisher. Traditionally this has been the main source of researched information in our schools. It is still important to cross check, especially if the date of publication may indicate information that is out of date.

With the increasing use of the internet as a major source of information we now need to validate information acquired from this source ourselves. The best and simplest form of validation is for learners to triangulate the information. That is to find three separate sources that say the same thing.

Validate the information, discarding the invalid.

Websites also give a little information in their address:

.com a company or individual who has purchased the domain name

.ac academic often a tertiary learning institution

.edu educational site

.govt a government site

Review

It is important to grasp that the learner will visit this central aspect many times during the acquisition process.

When the learner assesses that they are ready to move on to the next stage, they do so.

When the process halts because relevant and valid information is no longer being accessed then the learner needs to evaluate if adequate information has been acquired.

At this point the learner may move on to **Using** the information or may re-visit some of the steps to alter the search criteria

REVIEW

**Where to next?
Am I ready to move on?
Do I need to re-visit?**

USING

This is where information is applied and utilised to solve the problem or meet the need.

Pupil activity and success here depends primarily on how the teacher has initially structured the task. If the task requires the learner to merely gather and present information then it is a low level task. An example of this is:

Task: What are the effects on environment and people of the Greenhouse Effect?

In a low level task there is no demand made on the learner to move into the higher thinking processes. This type of activity is very typical of the tradition of project activity in our schools. Sadly this is still prevalent in many classrooms today. Those completing such tasks often have to gather information, discard irrelevant material, and then present it. This usually leads to a number of observable problems.

- Single source searching
- Bulk cut and paste or copying
- Minimal understanding

What is really happening is that a foundation is being laid but nothing is then built on or from it. Higher-level thinking does not occur therefore understanding is limited. This type of task 'celebrates the found rather than the understood'.

This is the reason why this model places such emphasis on quality task construction by teachers.

Communicating

The challenge for us as teachers is to change our thinking in terms of printed product from a research based activity. Traditionally we have looked for, expected and accepted printed product that contains found information. We have 'celebrated the found' (Dr Ross Todd).

If we look carefully at the verbs that we use in our higher-level task construction the end product may be an artifact, idea, system or solution.

Vanishing Foundations

When we view a finished house or building the foundations are not visible.

It is important for us to realise this when learners present their finished product in whatever form the task requires or allows.

Task: Using traditional and contemporary maori design motifs create a moko that displays something of your background and personality.

This task will require a lot of research. Most of the information utilised by the learners will not be visible in the final product. The understanding and application of the concepts and knowledge will be seen in the final product.

We must resist the temptation to have the foundations on display. What I mean by this is demonstrated by this second task.

Task: Research traditional and contemporary maori motifs as used in moko design. Present a chart showing at least 8 motifs and their meanings.

The second version appeals because we can see and evaluate the foundations. In terms of learning and understanding the presentation of the information has minimal value. If the building is sound we don't need to see the foundations. It is the act of application that really creates the quality understanding and knowledge that will be retained and transferred. What is important is that learners become able to share their thinking, decisions and justifications in a manner that is clear and fluent. The communication stages targets the sharing of problem outcome, understanding gained, decisions made, and thinking done. Thus it becomes a celebration of understanding. Another applicable phrase is that this becomes an 'understanding performance'.

Evaluation

There are three main aspects to consider in evaluation. Understanding, Process Skills, and Essential Skills. The Teacher's Handbook (available from Kanuka Grove, Massey University Resource Centre) contains many rubrics that examine the skills required for each part of the process. They provide the levels of independence to allow tracking of skill development. The handbook also includes some rubrics on the essential skills.



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By Trevor Bond

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