

**DEVELOPING AND CONNECTING
LITERACY SKILLS
USING GRAPHIC ORGANISERS**

**Margaret Strickland
ACLE
Wednesday 1st October 2008**

Origins

Master of Arts (Information Studies) 2007

Research progress

2005: read lots, navigated my way through the red tape at UniSA, read still more, wrote submissions to the Ethics Committee and kept on reading for the thesis itself

2006: found more to read, conducted the email Questionnaires, the Interviews and put the data into accessible formats

2007: still reading and writing up the thesis itself.

Problem

- The aim of the research was to ascertain how teacher-librarians are using graphic organisers as an educational tool in school library programs to develop information literacy skills in their students.
- I was looking for school library programs in which the learning resulting from the use of graphic organisers (including computer programs like Inspiration®) could be described.

Definitions

Information literacy

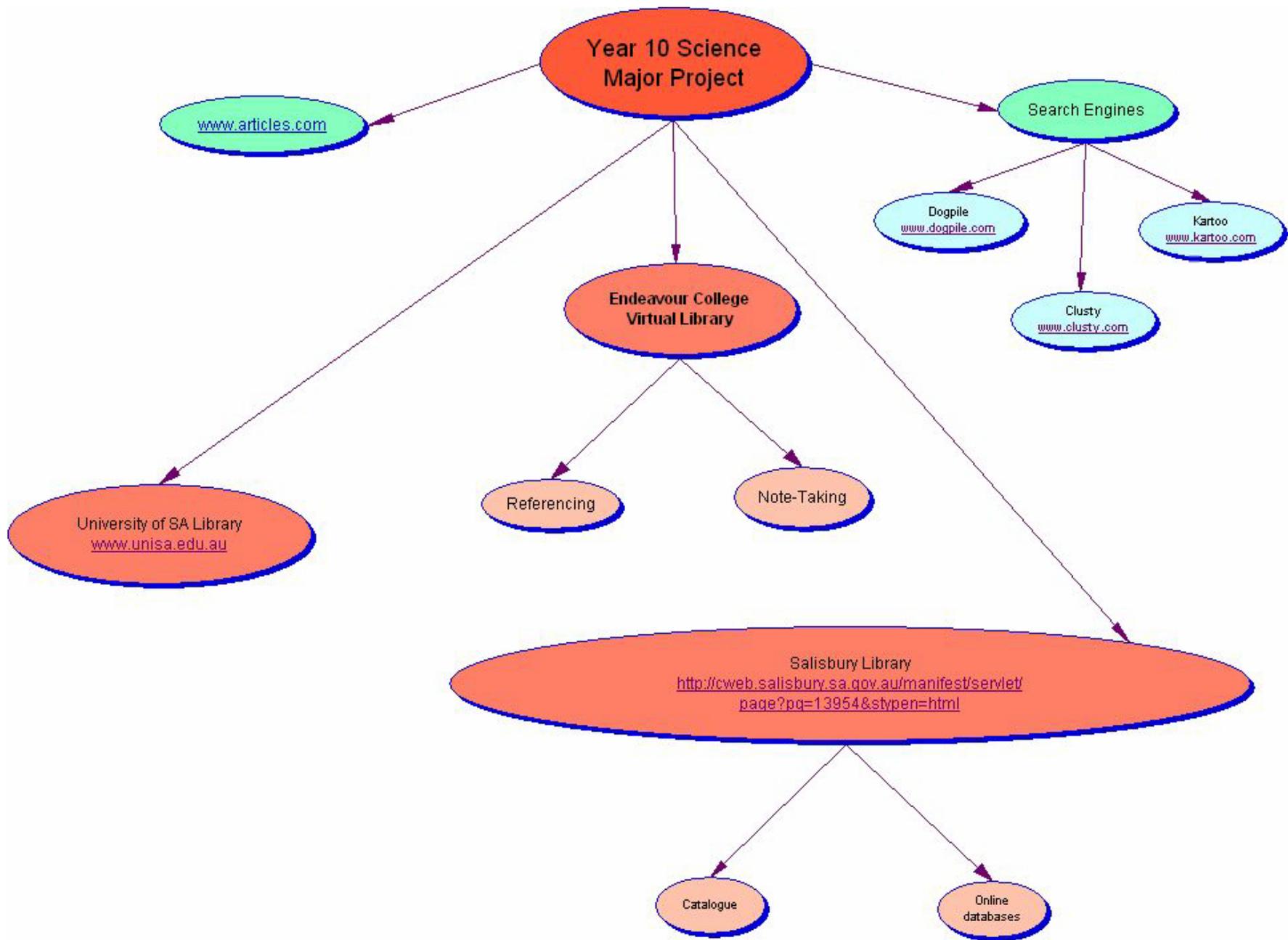
“information problem-solving skills that enable independent and effective learning” (Capra & Ryan, 2002)

Graphic organiser

a visual representation of information, knowledge,
relationships
or thinking processes

Concept map

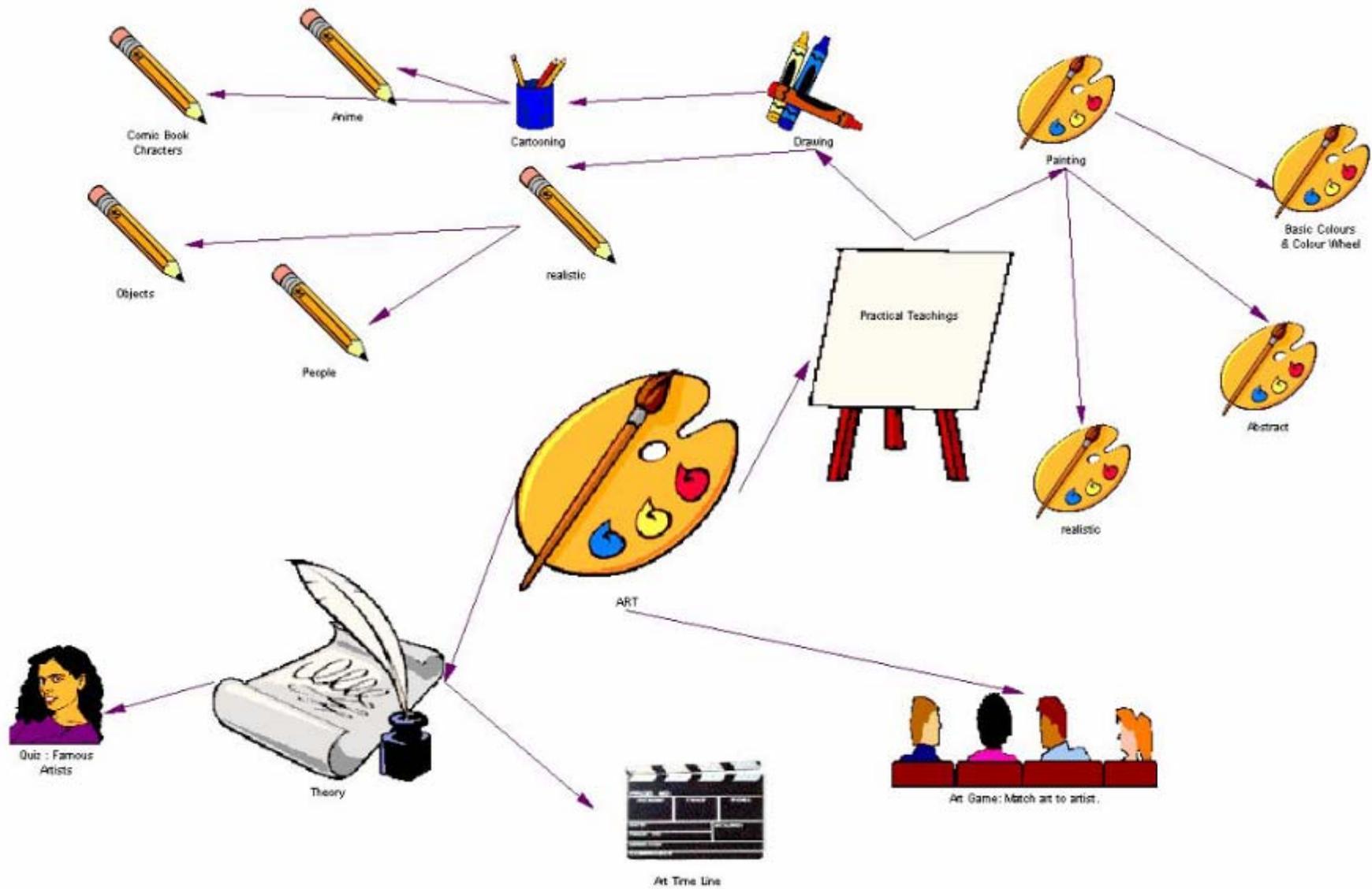
“a thinking technique that begins with a central idea and proceeds to show related ideas as branches off the center” (Lazear, 2003)



Mind map

“same as concept map except it primarily uses pictures, images, colours, designs and patterns to express concepts of ideas”

(Lazear, 2003)



Background

Gardner's multiple intelligences (Gardner, 1993) began to have greater prominence in the development of methodologies in school curricula during the 1990s.

The concept of students who preferred a spatial and/or visual style of learning entered the radar of teachers.

‘New literacies’

However, literacy now has a much broader meaning
eg *SACE Literacy Policy* (2006)

This must change what teacher-librarians do and how they do it
in regard to information literacy at senior school level but at all
levels of school education.

21st centuries literacy homepage

- James Herring reading about ‘new literacies’ (May, 2008)
- Herring states “Today discrete disciplines have emerged around information, media, multicultural and visual literacies” and he argues that it is the **combination** of these literacies that our students need today
- multicultural literacies pages are well worth looking at as they include not only definitions but good links and lesson plans
- [21st Century Literacies Homepage](#)

Process

The research process was concentrated on

- reviewing the current literature
- the collection of data
- the summary and interpretation of its use
- and the impressions that resulted.

Literature review

Despite a great deal of research and writing on information literacy and graphic organisers as separate topics, there is limited research to link the ideas together in a school setting.

Information literacy studies

Zurkowski (1974) first coined the term 'information literacy'. He suggested that the top priority of the National Commission on Libraries and Information Science in the USA should be directed toward establishing a major national program to achieve universal information literacy by 1984.
Very ambitious!

More recently Combes (2005) asked the question:

What is information literacy?

Her investigations of the literature reveal that information literacy "has different meanings for different people".

She tries to answer her question in the context of another:

What constitutes an information literate person?

She lists the qualities of an information literate person:

- is able to use technology
- is also ICT literate
- is able to use a range of information resources
- has a range of well-developed literacy skills
- is able to use information.

In her opinion the information literate person is able to manage the increasingly complex information environment.

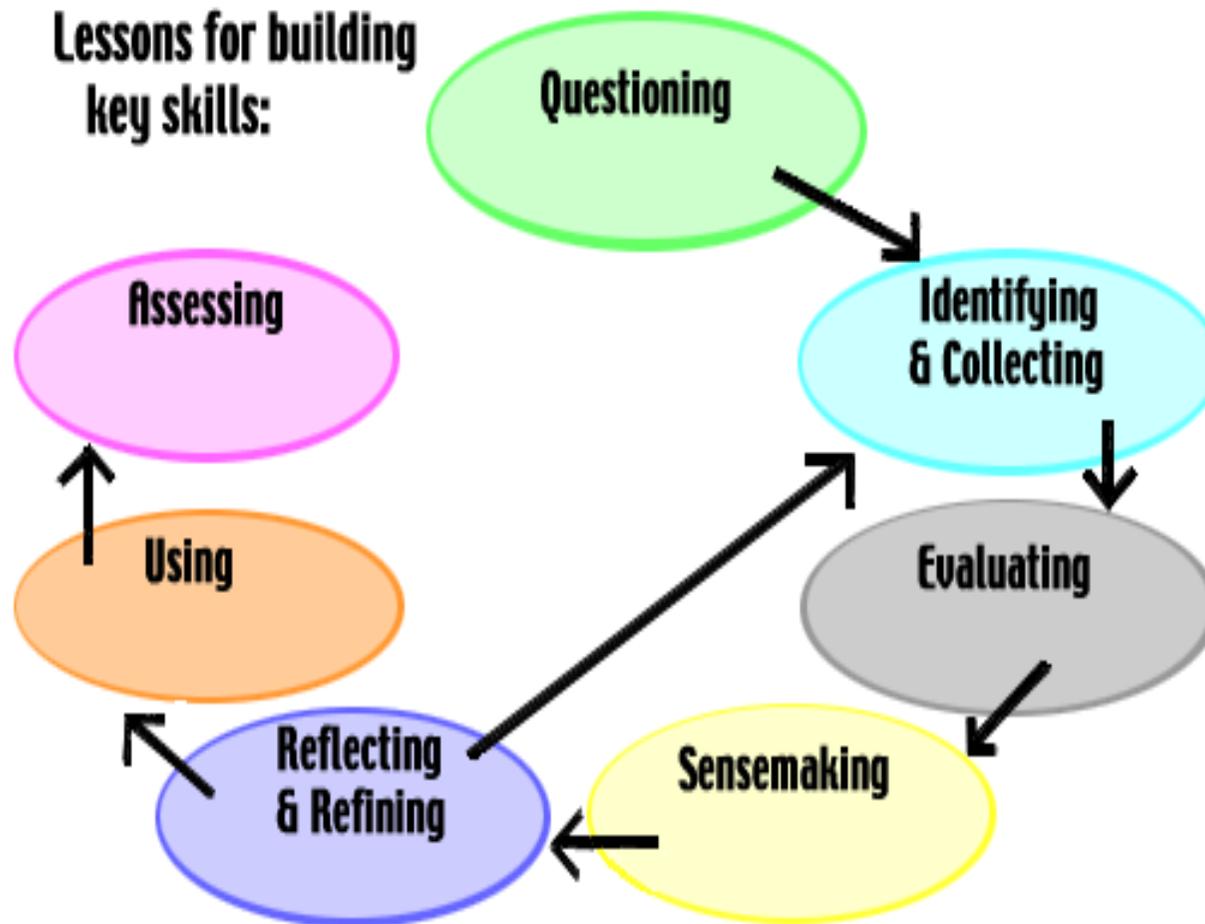
Towards information literacy indicators

- Ralph Catts (from Australia, currently working in Scotland) and Jesus Lau (from Mexico, former Chair of IFLA Information Literacy Section) 2008
- includes a definition of information literacy; a model that links information literacy with other competences, such as ICT skills; and a description of information literacy standards in education
- <http://unesdoc.unesco.org/images/0015/001587/158723e.pdf>

Which lessons are appropriate for your students? Where do you begin the process?

Click on the skills on chart below (or the navigation links below the chart) to access lessons to help your students build specific skills.

You can either browse the lessons on this site map or browse by [Grade Level](#).



Graphic organiser studies

Graphic organisers were first described as a type of advance organiser by Ausubel (1960):

"An advance organizer is information that is presented prior to learning and that can be used by the learner to organize and interpret new incoming information." (Mayer, 2003).

Novak & Gowin

Novak & Gowin (1984) wrote in detail about using concept maps for meaningful learning.

They believe that concept maps have the capacity to clarify the key ideas to be focussed on in a specific task.

The flexibility of concept maps means that they can be

- a planning tool
- a visual road map providing pathways to connect meanings
- a schematic summary of what has been learned and/or
- an improved evaluation technique.

Buzan

In the mid 1990s Tony Buzan was a major player in developing the practice of using a particular type of graphic organiser ie the mind map to assist learning.

He believes that "a mind map is the easiest way to put information into your brain and to take information out of your brain." (2002, p.6).

Nettelbeck

Nettelbeck (2005) says that there is nothing difficult about using graphic organisers in teaching programs.

However, it requires a supportive, co-operative, risk-taking culture within schools.

It doesn't mean that essay writing is abandoned forever.

Rather it gives teachers the option to diversify learning tasks and

make learning more creative, open-ended and exciting.

He believes that concept mapping is one way to create a high capacity educational system, in which "highly skilled teachers are

able to generate creativity and ingenuity among their pupils.“

Nettelbeck provides several examples from Australian classrooms of creative Inspiration[®] applications complete with concept maps. These include:

- Year 7 English class created an Inspiration[®] map to show understanding of the relationships between the main characters in J. K. Rowling's *Harry Potter and the philosopher's stone* as an alternative to a traditional essay response
- Year 8 Science class summarised understanding of the carbon cycle
- Year 9 History class worked in groups to sort out understanding of the Australian federal system of government
- Year 10 Religious Education class created concept maps, which summarised their understanding of theological concepts such as one God, faithfulness, revelation, covenant and promise.

Mining in Australia

Year 6/7 SOSE

The students will:

(1)

- discover the vast range of minerals found in Australia
- map mining centres in Australia (and in particular South Australia)
- learn about the importance of mining to South Australia and the identification of minerals with the help of two visits from John Mignone, Education Officer from PIRSA

(2)

- investigate the history of mining from the Stone Age through ancient civilisations and the Industrial Revolution to its role in the history of Australia
- practise their note-taking skills using video resources
- construct a 3 layer mind map using the Inspiration software

(3)

- choose one mineral to investigate in detail for their project this term.

Shambles

For an overview of graphic organiser websites useful to schools try *Shambles*.

The *Shambles* website has been designed to support the international school communities in 17 countries in South East Asia.

<http://www.shambles.net/pages/school/mindmaps/>

Information literacy + Graphic organiser studies

In her doctoral dissertation American researcher Gordon (1995) combined her interests in education, information literacy and graphic organisers.

She created a student research assignment, which integrated information literacy instruction with Biology curriculum using a process approach based on the widely accepted Kuhlthau model.

She comprehensively investigated the effect of graphic organiser training on the subsequent searching practices of Grade 10 Biology students in a Genetics unit.

In electronic searching mappers:

- spent less time searching
- worked in fewer and shorter sessions
- used fewer search words
- preferred subject heading rather than keyword searching
- performed more depth rather than breadth searches.

Gordon concluded that:

"mappers were more sensitive to the electronic environment.....

- more efficient in the way that they used their time to perform more search operations per minute
- more thorough in consistently applying a more concise repertoire of search terms and
- more thorough in engaging in more depth searching."

Collection of data

Participants were recruited from teacher-librarians

- in South Australia through the listserv SLASANET
- interstate through the listserv OZTL_NET.

The respondents came from

- all states of Australia
- all levels of schooling
- all major school education systems.

Both quantitative and qualitative data collection techniques were adopted.

A questionnaire in email format and an interview of selected respondents were used to collect data on the

- behaviours

- understandings

- attitudes

- practices

of teacher-librarians.

Results

The questionnaire respondents and interviewees showed

- great diversity
- interest
- and/or expertise

in using graphic organisers to teach a variety of literacies.

Key Learning Areas

The most common KLAs were

- SOSE

(including History and Geography)

- Science

Topics

The most common topics were

- the Human Body (including human reproduction and disease)
- the Environment
- Animals
- Australia.

Boys or girls?

Both girls and boys responded positively to curriculum incorporating graphic organisers.

Which grades?

Teacher-librarians worked most frequently with students from Reception-Grade 10.

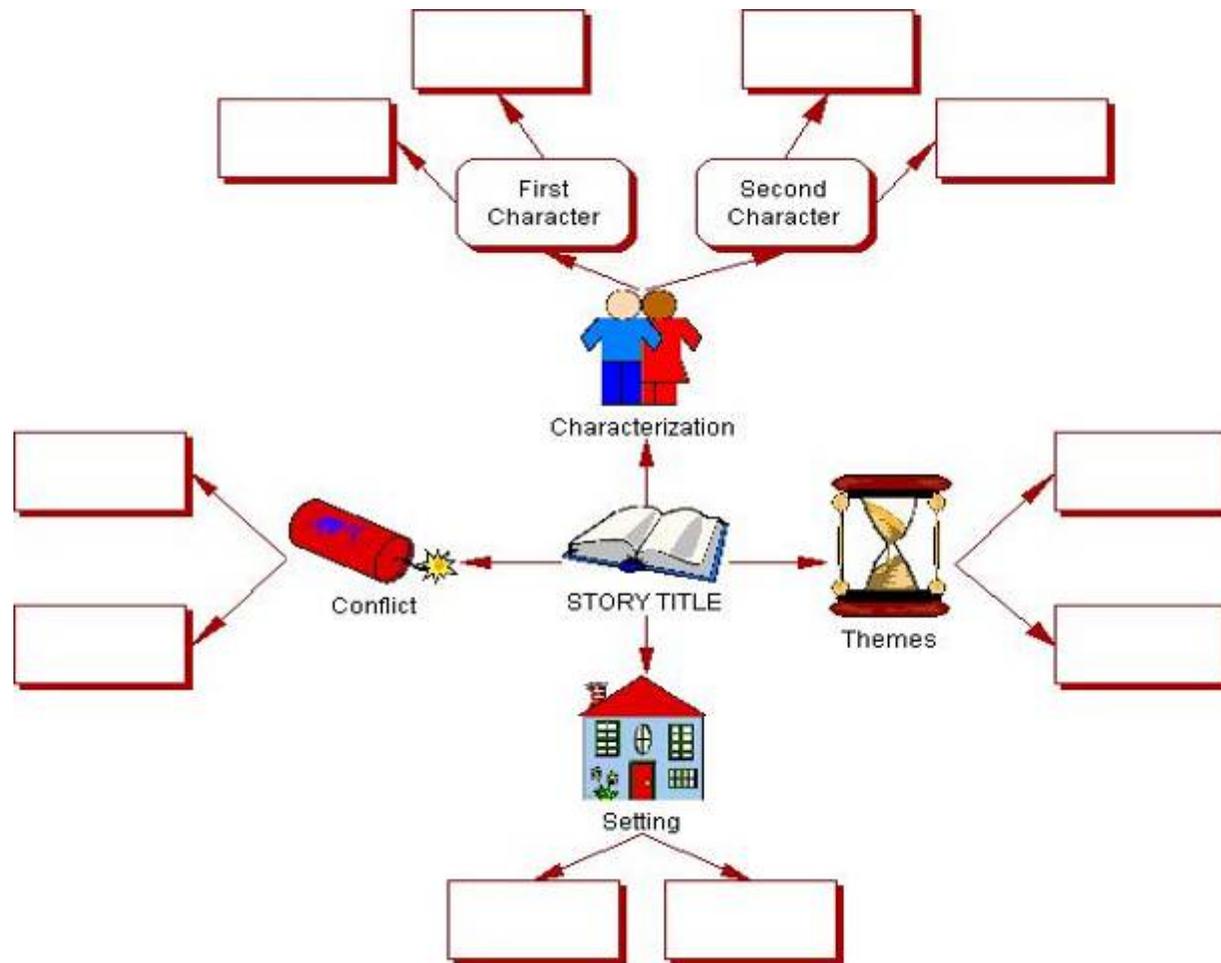
Student abilities

Students with a wide range of ability levels responded positively to curriculum incorporating graphic organisers.

Computer programs

Computer-based graphic organiser programs were widely used.

Inspiration® was the most popular.

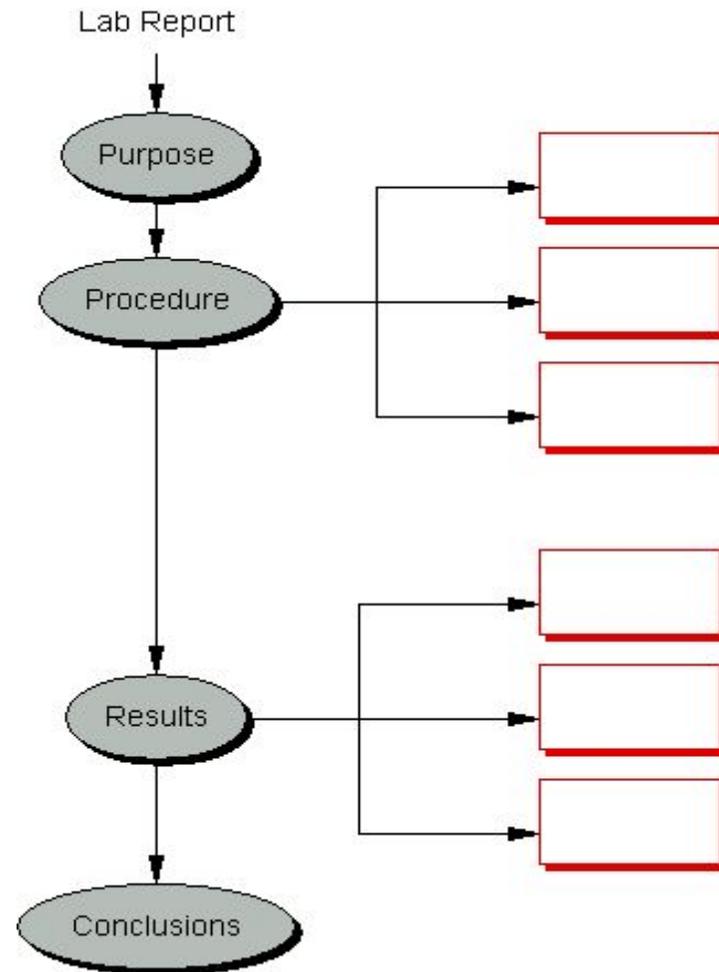


How to use this template

1. Enter the title of any work of fiction in the symbol labeled "STORY TITLE."
2. Enter appropriate information about characterization, themes and so forth into the subsymbols.
3. Add symbols to further explain your ideas using the Create tools.

Benefits of using the Literary Web template

Literary webs help students understand a story or novel in terms of both the whole and its parts. Students can see how the vocabulary of literature — conflict, theme, setting, characterization — translates to the reading experience. This web can also be focused on other literary devices such as voice, style, genre and so forth by simply submitting them in place of the default terms. In the same way, this web can be converted for use in the social studies curriculum by analyzing an historic event as if it were a story. For instance, the Civil War can be seen as a story of conflicts between the characters of two settings.



How to use this template

1. Enter purpose or goal of experiment in the symbol labeled "Purpose."
2. Enter each step of the experiment in the subsymbols associated with "Procedure." Add subsymbols as necessary using the Create tools.
3. Enter results and/or observations in the subsymbols associated with "Results." Add subsymbols as necessary using the Create tools.

Benefits of using the Lab Report template

Using this template will simplify the steps involved in writing a lab report. It will also guarantee uniformity among student papers for easier comparison.

There were many other computer programs used/described as graphic organisers:

Kidspiration

Genius

ReasonAble

Freemind

Word

PowerPoint

SMART

KartOO www.kartoo.com

(a search engine which returns the search results as concept map and is worth a look)

MindManager

Publisher

Wordshark

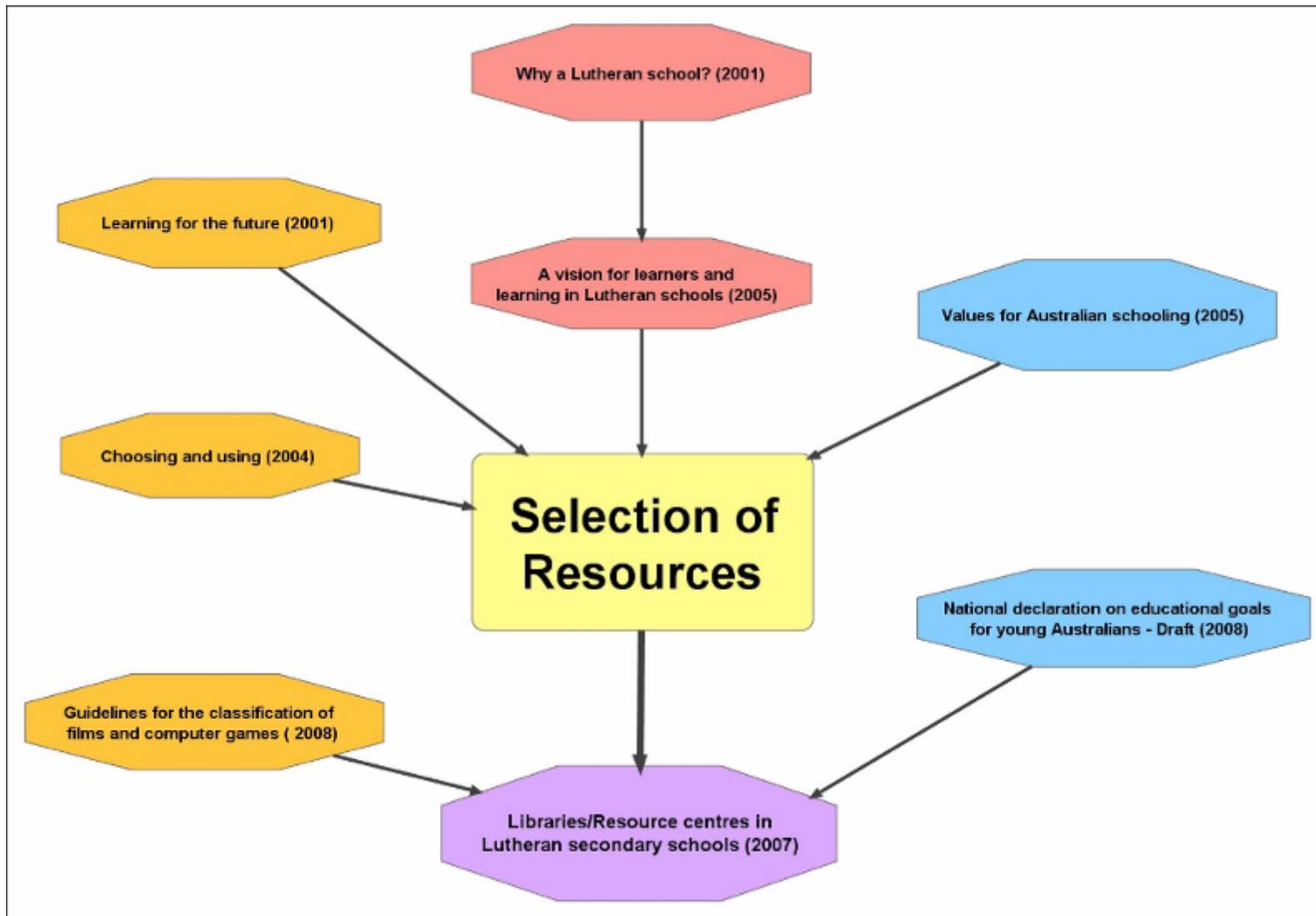
Jiig Cal

Photo Story

ConceptDraw

MINDMAP

And more recently I've discovered VUE - a free application from Tufts University in the USA.



Which literacies?

Graphic organisers were used to develop different literacies:

- information literacy
- information literacy (Step 1)
- traditional literacy (including creative writing)
- ICT literacy
- visual literacy

Information literacy

Information literacy was the literacy type most often addressed by teacher-librarians.

However, graphic organisers were of benefit to students working in all literacy types.

Working methodology

Teacher-librarians mostly worked to the co-operative planning and teaching model.

Planning with teachers was the most common way of engaging with colleagues.

The sages

Jamie McKenzie's visits to Australia had clearly influenced teacher-librarians who had attended his seminars (in which graphic organisers were part of the message).

Other 'sages' mentioned in this area were:

- Tony Buzan (UK)
- John Joseph (Australia).

Educational benefits

Teacher-librarians identified

- *planning their research*
- *ordering and organising information under main headings*

as the principal educational benefits to students of using graphic organisers.

For younger students *to be assisted in scaffolding* emerged as the main benefit.

Concluding remarks

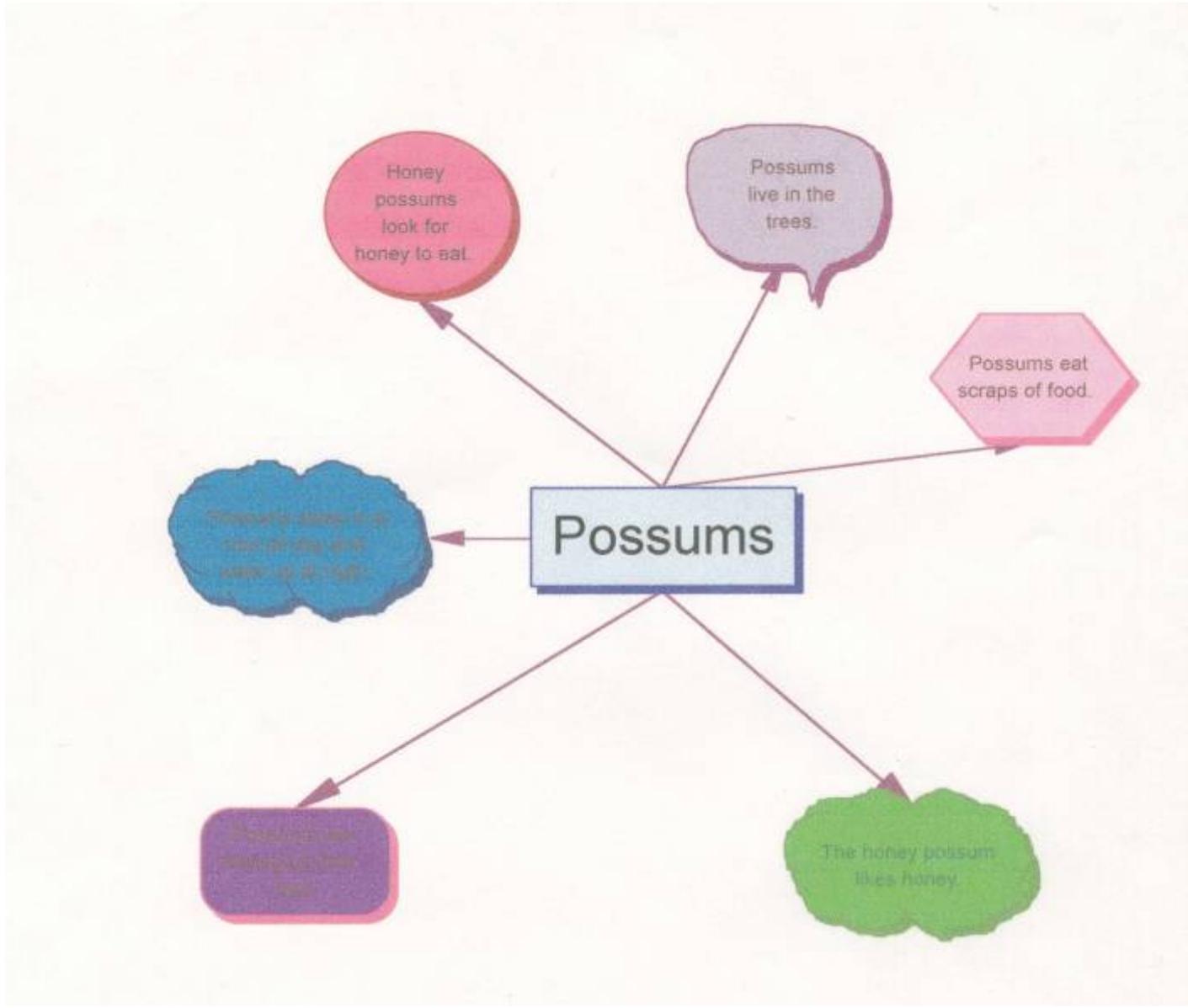
Teacher-librarians in this study took responsibility for

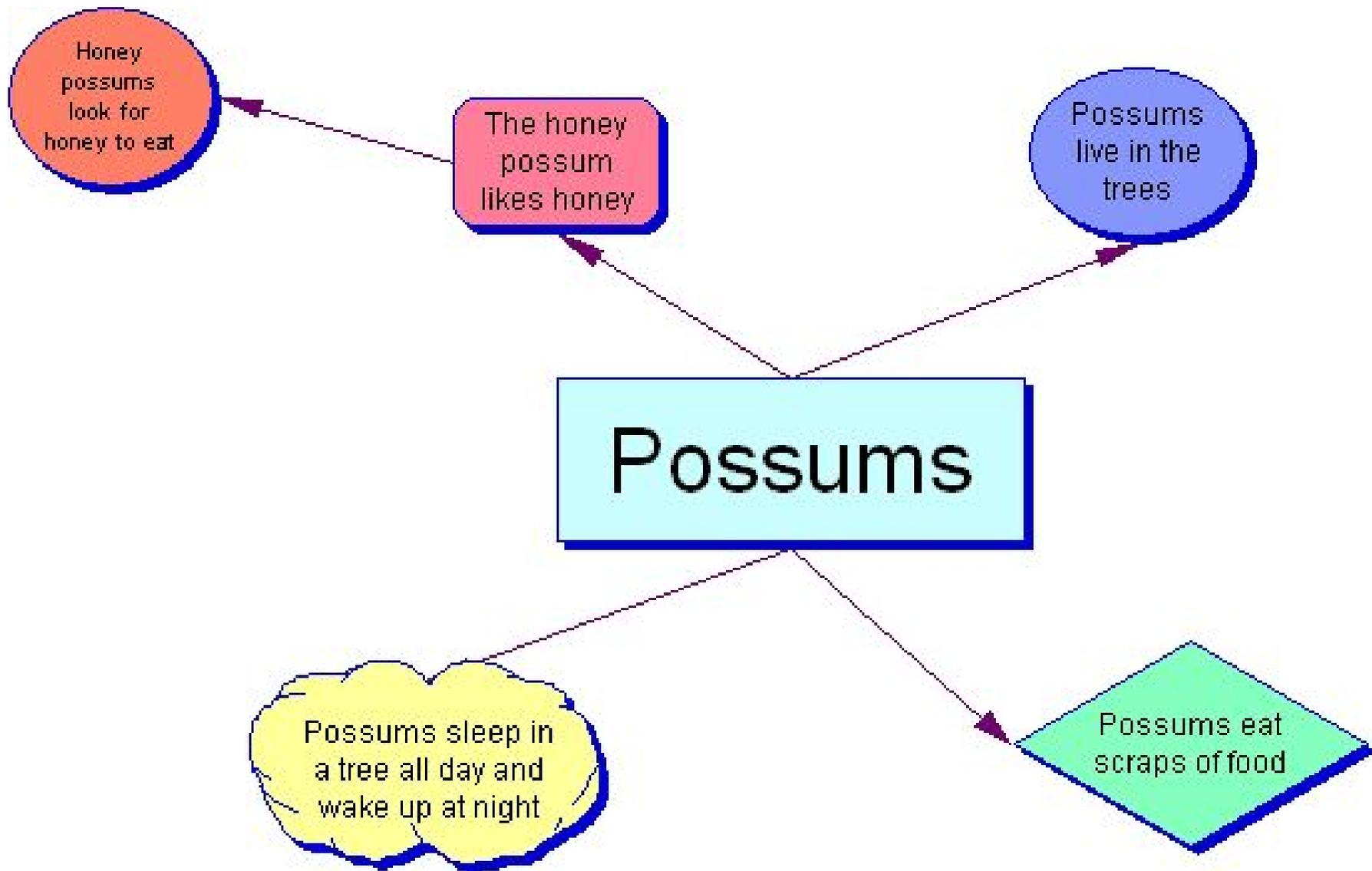
- their own professional development
- thought deeply about pedagogical issues
- showed initiative in developing curriculum
appropriate to their student populations.

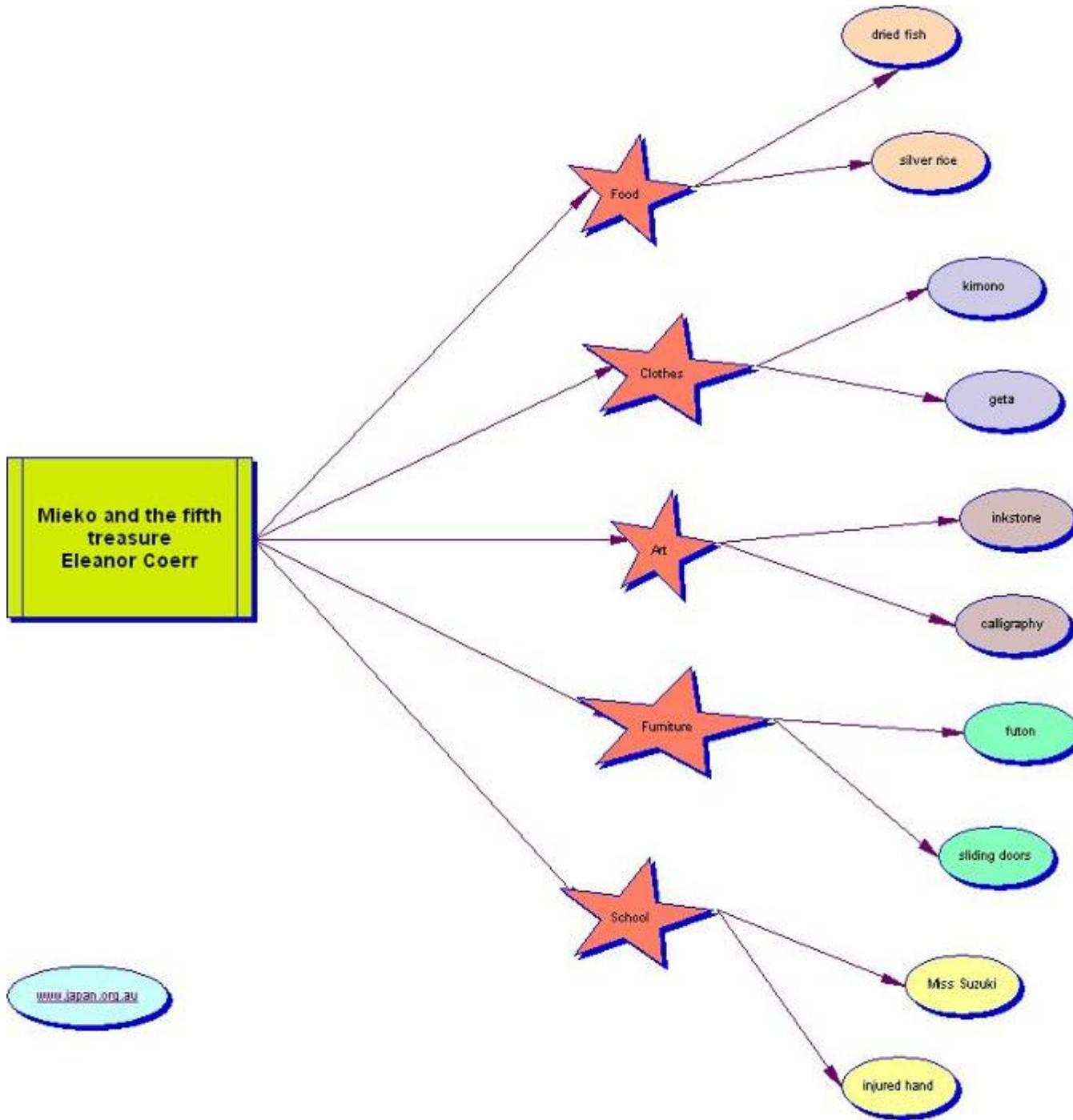
The teacher-librarians were involved in a wide range of curriculum initiatives.

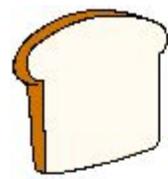
Their curriculum role seemed to give them freedom to address concepts like information literacy and graphic organisers

These concepts are more about methodology and process, and operate outside the normal KLA content constraints.



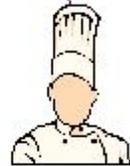






Breakfast

7 days per week

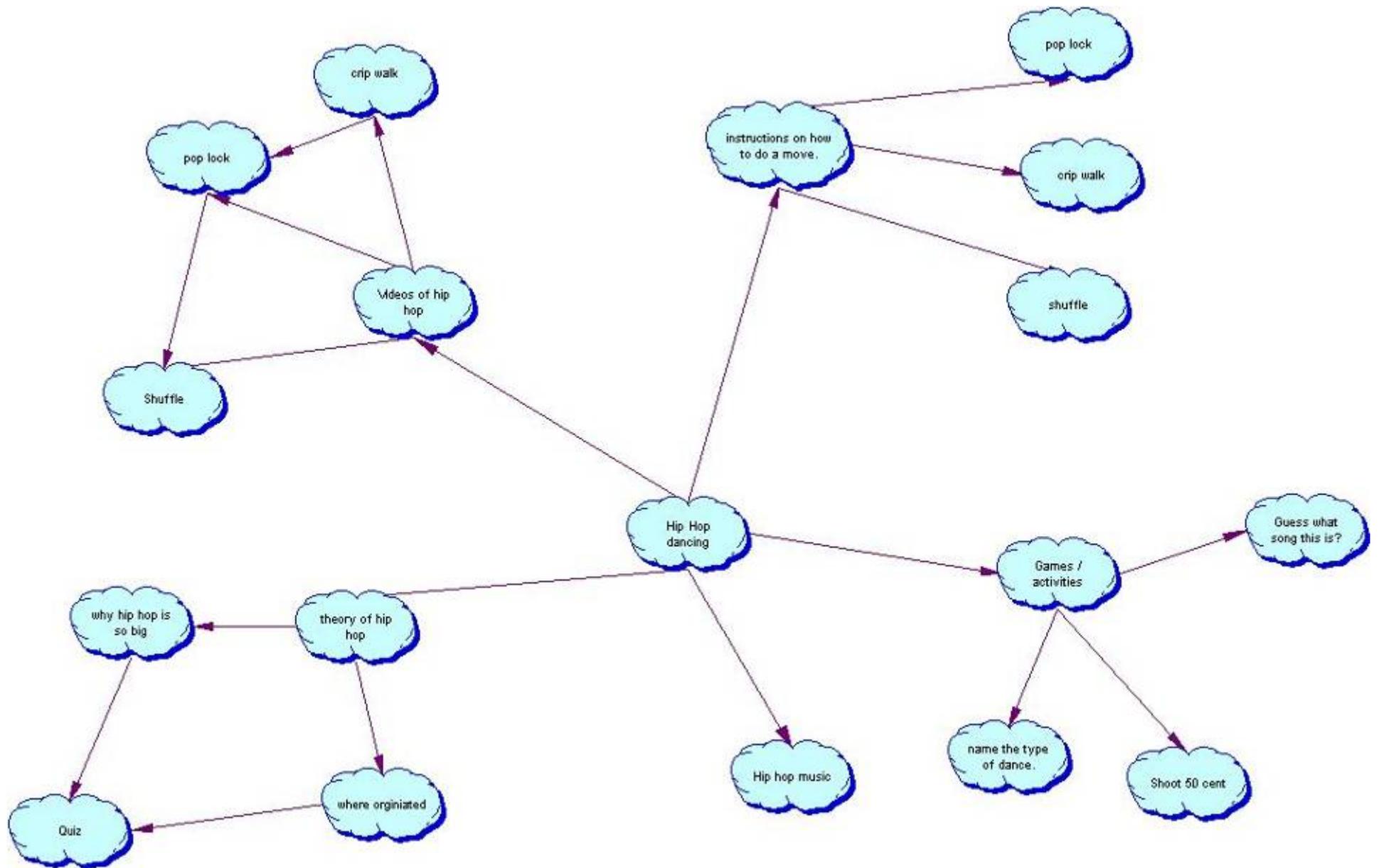


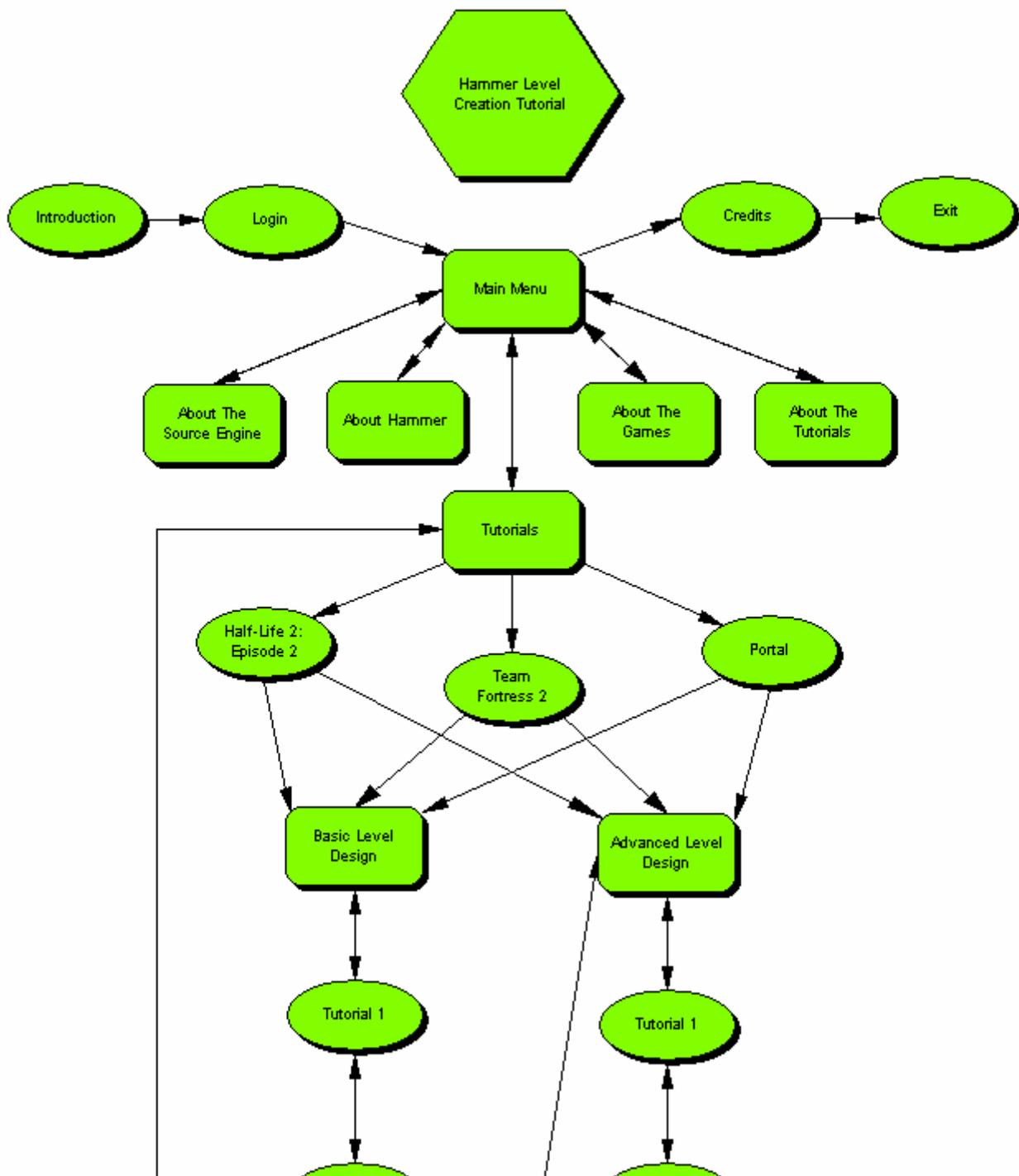
Catering

Merry Meals Food
Company



Fortune Island





Contact details

Margaret Strickland
Teacher-Librarian
Endeavour College
Mawson Lakes SA 5095

Tel. (08) 8368-3311

Fax. (08) 8368-3399

Margaret.Strickland@endeavour.sa.edu.au