

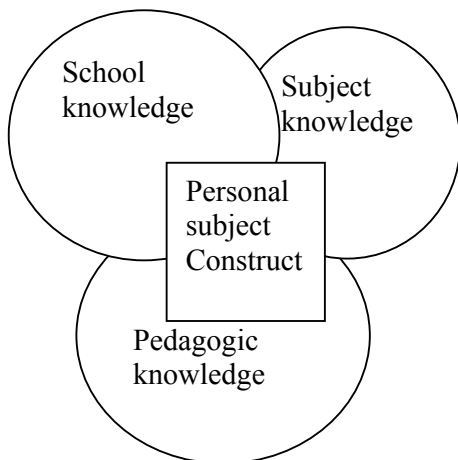
# Justification

## Pedagogical issues

At present, students need to submit Science projects using new technologies. Often the teachers themselves with their school knowledge will not know how to guide the students, unless they use their *pedagogic rationale* or appropriate strategies.

To formulate teaching activities for such a project, teacher needs to use his or her *pedagogic knowledge*, such as (1) knowledge gained after his or her own schooling and (2) work experience in such area.

<sup>1</sup> For a teacher to have professional knowledge, he or she should have the combination of School knowledge, Subject knowledge, Pedagogic knowledge and Personal Subject construct, last two being gained by experience.



The relationship between knowledge and pedagogy is however, an important one. In other words, a teacher who has a degree in Mathematics cannot provide a basis for teaching history.

To create this website, I being a Science graduate, and a long time teacher, have used my own school knowledge and subject knowledge to develop the contents.

I have considered the curriculum perspective and learner perspective too. In addition,

*Teachers' professional knowledge*

I have used my pedagogic knowledge and personal subject construct obtained:

- by completing Diploma of Systems Administration in SIT NSW.
- by teaching computer applications at SIT.
- knowledge gained in educational web designing principles while doing the EDUC 261 course. ( guided by Web tutor: Karen Woo)

I have emphasised why students should learn the elements and their properties and learn the nature in which these elements contribute to the Chemistry syllabus.

To support my arguments, I have linked my pages to appropriate professional websites.

My web site is constructed to support the stage 6 (Preliminary and HSC) students in the Chemistry/Science classes. The science syllabus shows that students start learning about elements from stage 4. However, when they reach stage 6, they would forget what they have learnt earlier. That's why I have given a separate area to recall what they have learnt.

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<sup>1</sup> Edited by: Jenny Leach and Bob Moon, The open University of England

## Designing of the Website

A website is an excellent online resource to interact with the students. I have included an interactive form (feedback form) for this purpose. Unfortunately the feed-back form is not activated in the users' site. Different age groups prefer different navigations and designs. To suite the tastes of teens, I have incorporated quite a number of pictures, animations etc. I have used 'face to face' teaching language, so that they have a feeling of a class room situation.

The nature of the content is more focussed to the requirement of the high school students learning Science, specifically focussing towards Chemistry in stage 6: Unit 8 - Preliminary and Unit 9 - HSC.

### Features I have used in my website:

1. In my home page I have used text links and picture links to access my own pages and external sites. Using JavaScript, I have inserted the current date on the left top corner. To attract them to learn more, I have inserted a heading "Online Tutorial" and have inserted a **marquee** to fascinate them to learn more and practise exam papers.
2. The Introduction page introduces the content and it is also linked to other pages on left side and external sites (targets) on the right side. Similarly all the other pages are linked to other pages and have linked number of external links appropriate to each page.
3. I have used following MS Office applications in my pages:
  - MS Excel to make periodic table- three worksheets saved as HTML.
  - MS Word converted to PDF
  - MS PowerPoint presentations (.ppt)
  - MS Access - where tables are converted to 'pages'
4. A feedback form as a separate page to collect feed back from the future users. (not active though, as the ISP does not support it)
5. A functional form to search words or phrases in four different search engines, in the datasheets page.
6. There is a site map as well.

### Navigation aspect

The nature and purpose of the content together with the requirements of target audience determine the navigational structure. I have used my own pages and external sites to navigate from the Home page. All the other pages (except feedback form) use such links. I have developed a 'site map' to display names of all the pages and external links that are in my website, and have linked them to access any page or external site from the site map.

Unlike MSWord, MS Excel and MS PowerPoint MS Access application is not found in Apple Mac users. In my website I have converted the Access 'table' to 'page' so that it can be used by Apple Mac computer users.

I have used many text links, picture links and hyperlinks wherever possible in order to let them access by simple navigation. The pictures have been saved in .gif format so that it takes very small space (memory).

## Bibliography

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(The open University of England)
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Karen Woo's guidance and notes
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Elizabeth Castro HTML for the world wide web with XHTML and CSS 5<sup>th</sup> edition
4. Feedback Form, functional form. Converting Access to page, Excel to HTML etc.  
word and PP to pdf. file (personal knowledge and experience)
5. Chemistry and Science Syllabus
  - \* For Chemistry stage 6  
[http://www.boardofstudies.nsw.edu.au/syllabus\\_hsc/pdf\\_doc/chemistry\\_stg6\\_syl\\_03.pdf](http://www.boardofstudies.nsw.edu.au/syllabus_hsc/pdf_doc/chemistry_stg6_syl_03.pdf)
  - \* Stage 4, 5 Science course overview ( study of elements begin in these stages)  
<http://www.lmpc.edu.au/smallFrameset.php?KLA=Science&LEVEL=Stage%204%20Junior%20Science>
  - \* Computing skills assessments (yr 10)  
[http://www.boardofstudies.nsw.edu.au/syllabus\\_sc/computingskills\\_assessment.html](http://www.boardofstudies.nsw.edu.au/syllabus_sc/computingskills_assessment.html)
- 6 \* I have used the cloud picture of atom from an answer to FAQ in  
[http://van.hep.uiuc.edu/van/qa/section/New\\_and\\_Exciting\\_Physics/What\\_Atoms\\_Look\\_Like/](http://van.hep.uiuc.edu/van/qa/section/New_and_Exciting_Physics/What_Atoms_Look_Like/)  
to create a new design template to show that a new design template can  
be designed in PP, using a picture for the background.
  - \* Alpha, beta, gamma emission pictures in radio activity page  
<http://www2.slac.stanford.edu/vvc/theory/nuclearstability.html>
  - \* Trends in electro-negativity, atomic radii ionisation energy graphs and pictures.  
<http://intro.chem.okstate.edu/1314F00/Lecture/Chapter7/Lec111300.html>
7. Contents: Excel HSC Chemistry by C M Roebuck (ref: some details of electrode potentials)  
Core Science 4 by Maryanne Haire, Eileen Kennedy (ref: history of periodic table)  
Other areas (Personal knowledge and experience)