4. How young students learn

4.1 How do young people learn? (30 minutes)

Ask the participants to:

- reflect on **activity 4.1**;
- share their responses with a either a small group or the larger group; and
- make the connection between the discussion and the principles of learning and support.

If further clarification is needed, direct them to Appendix 1 which describes the principles more fully.

4.2 Learning styles and thinking skills (30 minutes)

Ask the participants to:

- read through the different learning styles;
- relate these styles to their own learning and/or to the students with whom they are working; and
- identify particular styles that might pose issues for newly arrived students (e.g. collaborative learning or an inquiry approach) and discuss how they could support students learning in environments where these approaches are used.

The following background information on each of the approaches is described for your information (handout 4.1). You may wish to hand it out to interested participants.

4.3 Stages of learning and development (20 minutes)

Activity 4.2

- Divide the participants into four groups and allocate one of the pictures to each group.
- Ask each group to brainstorm what they think would be a good learning focus for these students, considering their stage of development.
- Ask each group to report back on their discussion to the whole group.

Handout 4.2 can be used to sum up the discussion.

Approaches to learning[11]

Collaborative learning is a structured group approach to working and learning. Students learn by assuming designated roles within the group activity. These roles often include manager, time keeper, recorder, reporter, resource manager and interpreter. Collaborative learning strategies include the jigsaw technique, four corners and discussion.

Bloom's taxonomy[12] is the most commonly known and used example of a taxonomy. It is a useful approach for ensuring that higher order thinking tasks are included in planning. It has been revised to include the following six-level classification of cognitive development:

- Remembering
- Understanding
- Applying
- Analysing
- Evaluating
- Creating

Problem-solving involves applying strategies in situations where the problem and the solution are evident as well as in situations requiring critical thinking and a creative approach to achieve a solution. The following problem-solving steps are useful:

- Defining the problem
- Thinking creatively and critically
- Organising, planning and managing resources
- Discussing and negotiating for successful outcomes
- Framing questions and seeking answers or information
- Making decisions
- Meeting deadlines
- Reporting to others

The **inquiry approach**[13] is a student centred, active learning approach that takes as its starting point the natural process of inquiry and builds on this to develop information processing and problem-solving skills. The focus is on 'how we know' rather than 'what we know'. In this approach, students are actively involved in the construction of their own knowledge.

Graphic organisers[14] are visual tools used to plan activities or assist with reviewing and reflecting on progress, understanding and skills. Students use them to visually organise their information, ideas and research. Graphic organisers are effective in extending students' thinking by encouraging in-depth thought on topics and issues. Tutors may need to formally instruct students on

[11] The information in this handout is adapted from: VCAA (2006), *VELS Learning and Teaching Resource*, available at: http://vels.vcaa.vic.edu.au/support/teaching.html#collaborative, accessed 20 October 2006.

[12] Further information can be found at: http://rite.ed.qut.edu.au/oz-teachernet/index.php?module=ContentExpressandfunc=displayandceid=29 and http://www.humboldt.edu/%7Etha1/bloomtax.html

their purpose and use, and the type of thinking being targeted in the activity. Sample graphic organisers include concept maps, mind maps, Venn diagrams and flow charts.

De Bono's Six Thinking Hats is a model for learning and practising parallel thinking. Each hat represents a different type of thinking and students are initially formally taught the meaning of each hat and the rules for their use. The six hats are:

- White hat – information
- Red hat – feelings
- Black hat – caution/problem
- Yellow hat – benefits/value
- Green hat – ideas/creativity
- Blue hat – facilitating/organising

Personal learning is encouraged by using a variety of reflection, questioning and creative techniques. These include open ended and hypothetical questions which require a thoughtful and considered response. Techniques such as Socratic questioning assist students to think critically. Creative thinking involves examining possibilities from many angles and taking risks.

[13] More information on inquiry-based learning can be found at: http://www.thirteen.org/edonline/concept2class/inquiry/

[14] More samples of graphic organisers and ideas for their use are available at: http://www.vcaa.vic.edu.au/prep10/csf/publications/midyears/uscogorg.html

Stages of learning[15]

Years Prep to 4 – The Early Years: Laying the foundations

In this stage students need:

- to develop, basic literacy, numeracy and interpersonal skills and behaviours
- to practise their skills
- to develop confidence and to enjoy learning
- to have varied and stimulating learning activities
- to be encouraged to learn
- to have books read to them
- to be introduced to events, people and ideas to increase their understanding of the world around them
- to learn basic ICT skills (e.g. technology).

Years 5 to 8 – Middle Years: Building breadth and depth

In this stage students need:

- to build on and develop their literacy and numeracy skills
- to respond to information, ideas and beliefs from contexts beyond their immediate experience
- to reflect on learning
- to link new knowledge to existing knowledge
- to establish what is true and accurate, important and useful
- to challenge what is untrue and inaccurate
- to concentrate on tasks for longer periods of time
- to be introduced to new areas such as the humanities, science, civics and citizenship, and technology design
- to be given opportunities to take responsibility for their learning
- to demonstrate their individual talents
- an approach to learning which links to their personal goals.

During the transition from primary to secondary school students also need to think about what it means to be in the new environment and support to meet the challenges of this new environment.

[15] Adapted from: http://vels.vcaa.vic.edu.au/stages/index.html and http://vels.vcaa.vic.edu.au/downloads/vels_parent_booklet.pdf#search='http%3A%2F%2Fvels.vcaa.vic.edu.au%2Fdownloads%2Fvels_parent_booklet.pdf', accessed 24 October 2006.

Years 9 to 10 – Developing pathways

In this stage students need:

- to develop more independent thinking
- to focus more clearly on areas of particular interest to them
- to start planning their directions for the final years of school and beyond
- to make deeper connections between their learning and the world around them, and to explore how learning might be applied in that world
- to experience learning in work and community settings.

Years 11 to 12 – VCE or VCAL

In this stage students need:

- to develop an awareness of further education and career opportunities
- to develop effective research, study and time management skills and techniques
- to develop presentation skills to communicate thoughts and ideas effectively.

4.4 Information on primary and secondary curriculum (25 minutes)

The Victorian Essential Learning Standards (VELS)

Ask the participants to:

- read though the overview of the VELS;
- do **activity 4.3** with a partner; and
- share their responses.

Then sum up, using the following suggested responses.

Subject	Standard	How could you help a student to do this?
English	Write an argument and define a personal position	Identify the topic. If the student doesn't have a topic, help them to choose one that interests them and that they know something about. Brainstorm words that the student associates with this topic. Help the student to brainstorm arguments and counter arguments. List the arguments on one side. List the counter-arguments on the other side. Help the student to structure and link ideas. See what they think is stronger and start trying to sketch out how they will make an argument.[16]
	Use correct spelling	Use the student's draft writing. Support the student to identify misspelt words. Show the student what was right about their attempt, For example, for uniform: ✔✔ _ ✔✔✔✔ U n e f o r m U n _ f o r m Show a model of correct spelling (e.g. university). Encourage the student to practise this word using the look, say cover, write, check strategy.

[16] REPP (2007), *Case Studies of Out-of-School Hours Learning Support Programs*, CMYI, Melbourne, p. 7.

Subject	Standard	How could you help a student to do this?
Maths	Calculate the volume of prisms[17]	Check the knowledge the student will need beforehand to successfully complete the task. Introduce the following: 1. Define volume 2. Define a prism 3. Explain how to calculate the volume of prisms 4. Demonstrate 5. Do it with the student 6. Watch the student do it independently and support if necessary

Years 11 and 12 VCE and VCAL

This information has been provided for the participants' reference. If they would like more information they should visit the:

- VCE website: http://www.vcaa.vic.edu.au/VCE/
- VCAL website: http://www.vcaa.vic.edu.au/vcal/

[17] Source: http://www.mathguide.com/lessons/Volume.html#prisms, accessed 25 October 2006.