

# Teaching Strategies to Promote the Development of Students' Learning Skills

*Teaching Development | Wāhanga Whakapakari Ako*



Dorothy Spiller & Pip Bruce Ferguson  
Teaching Development | Wāhanga Whakapakari Ako  
February 2011

# Teaching Strategies to Promote the Development of Students' Learning Skills

## Introduction

Many course learning outcomes and the associated assessment tasks require some level of proficiency in a wide range of generic academic skills. Some of these capabilities are so embedded in academia that we may assume student competency and not explicitly help students to develop them. Academic reading, academic writing and all its associated components, research strategies and the ability to engage with ideas critically are core expectations in most fields of study. Teachers can help to enhance these abilities by using simple strategies that can form part of their day to day teaching. Complementing these generic competencies are the unique requirements associated with reading, writing and methods of inquiry in particular disciplines. Teaching and assessment approaches can also integrate initiation and coaching in the conventions and nuances of particular disciplines. This booklet suggests some strategies that you may like to incorporate into your teaching to help your students to develop these important attributes. In this booklet we cover academic writing, reading and research skills,



and critical thinking. These strategies are not extra coaching but can be woven into your teaching and also deepen your students' engagement with content.



## **Academic writing**

### ***Simple in-class strategies to improve writing competency***

Bean (2001) suggests a number of simple in-class writing strategies.

These include asking students for a written response to a question at the beginning of a class, based on the readings or anticipating a significant idea in the forthcoming class. Similarly, Bean (2001) and Angelo and Cross (1993) suggest inviting students to ask questions about something that they have found confusing or difficult to grasp mid-class. Bean (2001) also suggests asking students to write something down when discussion palls or when things become overheated. Additionally, Angelo and Cross (1993) and Bean (2001) recommend that students can summarise their understanding of something in writing at the end of a class. All of these strategies help students to deepen their intellectual grasp of a subject and develop the capacity to manage complex ideas in writing. They also offer the additional bonus of helping to make the students' learning visible to the lecturer, and prompt an appropriate response.

### ***Task instructions***

Students are often baffled by task instructions. Discussion of typical assessment instructions can be easily built into a lecture, tutorial or on-line teaching component:

TEACHING STRATEGIES TO PROMOTE THE  
DEVELOPMENT OF STUDENTS' LEARNING SKILLS • TDU

- ☞ A theme for a lecture or set of lectures can be readily framed as a typical essay question, such as inviting students to apply a theory to a practical context, or compare and contrast perspectives. The question can be asked at the start of the lecture(s) and returned to at different points in the discussion. Students can also be invited to talk briefly in pairs at a number of junctures in the lectures to share ideas on how they would respond to the question as the lecture unfolds. This simple process can help students to get insights into task instructions and deepen their engagement with content by sharpening the focus and forcing the students to take more of an active questioning stance.
- ☞ In small group work, give all students some content such as a section of a reading, a set of data, a scenario or a case study. Get the students to work in smaller groups - each group has the same content but a different set of instructions. The students can then share the outcomes of their discussions. This exercise can help students to get inside commonly used instruction terms such as analyse, apply, critique and evaluate.
- ☞ One of the most effective ways of helping students to understand the requirements of an assessment task is to spend time with the class on task criteria. A helpful strategy is to provide students with a range of past examples of the task and ask them to evaluate the examples in groups according to the given



criteria. Each group needs to explain their decisions to the class and discuss how they applied the criteria. The exercise helps students to engage more deeply with task criteria and requirements and may also enable the lecturer to recognise criteria that are not transparent or are ambiguous. This exercise can be a process of learning for both students and lecturer.

### ***Writing a thesis statement***

To encourage students to think in terms of a thesis or position statement, a theme could be introduced and a number of possible position statements in relation to the content could be given out at the beginning. Students are invited to bear these statements in mind as they listen to the lecture and take note of evidence which appears to support a particular stance. The lecture could be paused at intervals to invite students to keep returning to the statements and assess possible supporting evidence. At the end of the lecture or series of lectures, students have to select a thesis statement and list the supporting evidence that they have found. In order to encourage student participation in the exercise, students need to hand in their thesis statement and evidence with a related assignment and earn a small percentage for completion. Students could also do this exercise in groups in the lecture or in the tutorial. The exercise will promote more thoughtful engagement and improve students' understanding of how to take a particular stance and support it with appropriate evidence.

In a related strategy, Bean (2001) reports on an alternative approach to writing assignments in which students are required to write short essays in which they must argue either the positive or negative side in relation to a contentious topic. The thesis statement involves students engaging with core course concepts, using research skills to access appropriate evidence, and providing a logical and well-supported argument. Students are given formative feedback and are not able to undertake the next thesis assignment until the lecturer has signed them off as meriting the set allocated percentage.

### ***Writing for an audience***

One of the barriers to successful student writing is that assignments are not directed towards a particular audience. Students often try to write for the lecturer which is problematic as it is difficult to gauge the level of complexity and to know how much one can assume. Conversely, one of the best ways of promoting understanding of a concept is to invite students to communicate the concept to a specific audience. For example, students can be asked to discuss an idea or concept in the form of a letter to the newspaper, materials for school learners, or a presentation to a community body. A major advantage of this strategy is that students are compelled to move away from the borrowed vocabulary of lectures or resources and distil the essence of an idea in their effort to communicate it to a specific audience.

### ***Marshalling evidence***

Students can be divided into groups and given a few materials on a course-related contentious topic - for example, a sustainability issue, an educational perspective or theory, a legal decision. The volume of resources can be kept relatively slim and readily accessible (newspaper articles, simple statistics, etc). Students have to make a decision on the issue and simply list the supporting evidence in order of importance. This exercise can be done in class or subsequently as an early formative part of a more extended piece of assessment.

### ***Learning to structure ideas***

To help students to develop a good grasp of paragraph structure, students can be placed in groups and each group can be given a paragraph from a key reading. Each group needs to analyse the structure of their paragraph and then explain the content and structure of the paragraph to the rest of the class. This exercise helps students to see the principles of paragraph formation as well as requiring them to engage actively with reading content. To add to the incentive, the reading could be one that is essential for a forthcoming assessment.

The lecturer can frame up the content of a particular lecture as a response to an assessment question and then model the structure of a response, that is, demonstrate the basic format and ordering of ideas. A tutorial exercise could follow this lecture exercise by inviting the students to draw up a plan for a response to a different task on the same topic. The task could

be discussed in class and could be used as the first stage in an assessment task. The key principles are to develop learning skills through a combination of modelling, practice, conversation and feedback. Students' interest and engagement can be heightened by tying these preliminary formative stages into the formal assessment.

### ***Developing a logical progression***

One of the simplest strategies to help students to reflect on the order in which they present ideas is to get them to work in groups on a short piece of writing related to a current topic, pull out the key ideas of each paragraph and then explain the sequence in which they have been ordered (for example, chronological, comparative, general to particular). Another version is to give students a short piece of writing on the topic in which the ideas are organised in an arbitrary fashion and invite them to arrange them in a more logical and convincing sequence.

### ***Editing and revision***

Many of our assessment procedures tend to focus on the final product. However, the editing and revision process is a key part of effective written communication. Students need to recognise that an extended editing and revision phase is a core part of developing written communication skills. Teachers can model their own writing revision process in the course of teaching a particular piece of content, even by showing the differences between an early draft and a final polished product. This can be done easily using online methods such as googledocs.

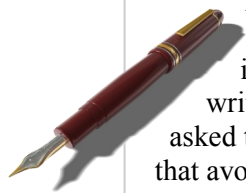


Organise students into groups and set up a peer editing session. Provide a clear template for feedback and require students to bring in a specified piece of writing. This is most effective when the draft is part of a larger assignment. Students need to include an explanation of the way they incorporated the feedback into the final assessment. You can build a culture for peer feedback gradually, for example, by getting students to swap notes on a section of a lecture and explain the key point to each other.

### ***Academic integrity***

There are numerous practical exercises that students can undertake both to develop their understanding of the concept of academic integrity and to equip them with the requisite skills. A very simple exercise which will also invite them to engage more deeply with content is to get students to practise writing passages of texts or articles in their own words. The exercise can be done in groups or individually and handed in as part of a larger assignment.

Another strategy is to show students a range of writing samples and get them to identify different kind of plagiarism such as cutting and pasting from the internet or books, paraphrasing without acknowledgement, and interweaving words from a source with the writer's own words. Students can then be asked to rewrite the relevant sections in ways that avoid plagiarism.



For an early part of a larger assessment, students can be invited to hand in two pages of writing with a required number of references to be woven into their discussion and an appropriately laid out reference list. Students could also be invited to comment on this process and any questions or difficulties that they encountered. The lecturer can then discuss sample issues on line or in class before the students continue with the assessment.

### ***Referencing***

Many lecturers tend to assume student familiarity with different types of source material, their particular conventions and uses for researchers. Lecturers can readily make this transparent by comparing the usefulness, relevance, merits, and appropriateness of different sources of information on a class topic. The benefits of taking students behind the scenes like this are numerous. Students will not only learn directly about the different types of materials they can consult, but they will also get an insight into how materials are selected and evaluated and how the evidence is used to build a position in relation to a topic. The deliberate reference to multiple sources can also deepen students' understanding of a topic and invite critical engagement through exposure to different perspectives.

A related assessment is to select a range of different types of references on a topic and ask students to write a short commentary on their pertinence for the topic and their merits. This exercise can be part of a larger assignment.



## Research skills

### *Formulating a research question*

For many students, there is an almost mysterious process about the passage from reading to writing. It is as though a random selection of materials vaguely related to the topic and extensive jottings will gradually shape themselves up into a more or less acceptable response to the assignment topic. One very useful suggestion is to coach students to approach their sources with a core question and associated sub-questions. In the first year, this may simply involve getting students to turn their assignment topics into a question and sub-questions. Turning a topic into questions and sub-questions is a process that can be done regularly with students in large or small class settings in relation to different class content. In later years a class exercise can be to discuss a particular concept in class with students and then get them to work individually or in groups to formulate a possible research question and sub-questions. These exercises can be linked into a subsequent assessment task and also tied into library sessions on searching databases. From a learning perspective, the practice of posing research questions (in a discipline-appropriate manner) is an important preparation for postgraduate studies and for working life. Your students might find mind-mapping a useful concept in helping to organise ideas and arguments. A mindmap can start with the central question to be answered, and 'branches' that list the arguments for and against, complete with references that support the points. Look for Ingmar Svantesson's "*Learning Maps and Memory Skills*" (1998) or google "mindmapping" for heaps of examples..

### ***Making research notes***

An equally important aspect of active and focussed engagement with source materials is taking notes in an organised and systematic manner. It is easy to require students to hand in a sample of their notes on readings in the early stages of the assignment process and give them an assigned percentage for the satisfactory completion of this requirement. Lecturers will probably advise students to organise their notes according to a number of suggested templates. One such system is to organise notes in relation to the different sub-questions or categories so that the assignment materials are already organised around key points or questions. Students need to note their understanding of the relevance of the selected material, its relation to the topic as a whole, and how it may support or contradict other materials encountered thus far. Students need to take down all details of their source material and clearly distinguish between quotes, paraphrasing and their own commentary.



### ***Evaluating material***

This can be readily practised in the context of a small or large class. Again the exercise can be integrated into ongoing discussion of a topic and can deepen engagement. The lecturer or tutor can bring some short extracts from different resource materials relating to the class topic. Students can work individually or in pairs/groups and use a few set questions to evaluate the material.

Examples of questions can include:

- ◆ What details are available to confirm the reliability of the material?
- ◆ How current is the material?
  - ◆ Are the claims in the source supported by convincing evidence?
  - ◆ Is the material pertinent for the particular topic and context?
  - ◆ Is the argument presented in a logical way?



## **Academic Reading**

### ***Introduction and general principles***

Reading academic material is so interwoven with the processes of academic life that it is difficult for lecturers to remember the enormous challenges that reading academic material poses for most students. Students are unfamiliar with the different forms of academic writing and their unique conventions, formats and language. Students will also not generally have any insight into the way in which work in journal articles is written for communities of scholars in different fields. There are other more general factors to bear in mind. Academic articles are completely different from most students' prior experience of reading and students may be baffled by the notion of reading material that is not necessarily immediately accessible and may need teasing out. Furthermore, the current generation of students have been nurtured on highly visual material and instant messaging. This is a long way from the level of travail often associated with making sense of an academic reading.

TEACHING STRATEGIES TO PROMOTE THE  
DEVELOPMENT OF STUDENTS' LEARNING SKILLS • TDU

Another difficulty for students is that they are frequently required to evaluate reading materials even in first year. This is extraordinarily challenging for students when they are initiates in the discipline and in the academic domain generally. They may not know what is good and what is inadequate material.

Bearing these challenges in mind there are some useful principles for lecturers when trying to develop students' academic reading competencies within the context of their teaching and assessment practices. Some general principles are:

- ✎ *Limit* the amount of required reading to allow students time and opportunity to develop their reading competencies
- ✎ *Model* effective reading strategies in the course of your teaching.
- ✎ *Use in-class time* to focus on sections of reading as part of your engagement with the content.
- ✎ Set assessments which help to *coach* students in the development of reading competencies
- ✎ *Be explicit* about different types of academic reading and their conventions

### ***Types of material***

Students can be exposed to different types of reading material and their conventions in a range of ways. One simple way is to show the particular source in the context of a topic discussion in a lecture. For example, the lecturer could show a

few slides of a particular journal, indicating the layout, talk about the journal article selection process, typical readers etc. It is also helpful to draw attention to common article formats to help students to focus their attention when they read for themselves (for example, introductory/contextual section, lit review, focus of research, method, results and discussion). This can help students recognise basic templates that lie behind the words. The difference between a ‘think’ piece and a research investigation can also be shown. Other kinds of reading, their respective uses and strategies for making sense of them can also be discussed— for example, text books, government reports, statistical data, media reports. All of these can be readily linked to the in-class discussion of content. A follow-up assessment exercise can require students to look at these different materials and answer some key questions in relation to the lecture.



### ***The reading process***

- Lecturers and tutors can model their own reading process during class by using a key piece of reading related to the class content. One strategy is to show students a copy of a page or two of a reading with your own annotated comments. These comments can include basic questions such as:
  - What is the main idea in this paragraph?
  - What is the evidence used to support this idea?Or you could include notes – such as links with other course ideas, or comments about unresolved ideas. You may want to give

students a stage by stage set of guidelines as to how you approached the reading of a key course reading. In the process, you can introduce them to notions such as using all the cues like title and headings to get a ‘big picture first’ reading and then looking more closely at how the different parts fit together.

Set students regular reading exercises as part of their assessment and link them to ongoing class content. A percentage should be given for the completion of these exercises to encourage students to take them seriously but the main focus should be on formative feedback to simultaneously promote better understanding of content and enhance reading competencies. In order to cultivate useful habits of reading and appropriate question-asking, give some focus questions for students to use with the readings. These can invite them to perform different reading tasks such as finding the central argument, locating and defining core conceptual terms, finding a number of supporting points and identifying the corresponding evidence or illustrations. At a later stage, the exercise could be changed to ask students to set useful reading questions. Keep the volume of reading for these exercises limited as the aim is to develop reading competencies and help students to gain an in-depth understanding of core course concepts. Reading exercises followed by formative feedback can also be articulated into a subsequent assessment task.

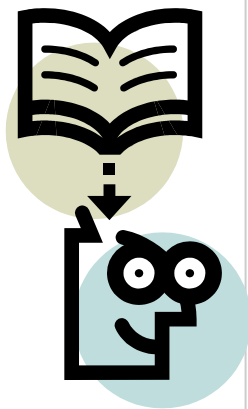
### **Student Learning**

**Support** offers students:

- Individual consultations
- Drop-in sessions
- On campus workshops
- Mathematics support

...as well as a wide range of paper and online resources.

Visit: [www.waikato.ac.nz/pathways/learning-support](http://www.waikato.ac.nz/pathways/learning-support)



You may want your students to keep a reading log. Reading logs require students to record their responses as they engage with a reading. Bean (2001) explains that in reading logs “Students can summarise the text, connect it to personal experience, argue with it, imitate it, analyse it or evaluate it” (p.144). A reading log is usually relatively unstructured as the primary aim is to elicit students’ personal responses to a reading.

### ***Evaluating reading***

This is a very difficult process for students, especially in their early stages of study. Students are unfamiliar with academia and the discipline and may also lack the more general academic vocabulary with which to manage and articulate evaluation and judgement. In the early stages of study, students are more likely to see knowledge as absolute (Perry, 1970). For all of these reasons it can be difficult for students to respond immediately with an evaluative and questioning stance. The process of evaluation should be introduced and coached very gradually, and initially most effort should be directed to getting the students to extract the essential meaning of a reading. Evaluative tasks can be introduced gradually through the use of one or two questions— for example students can be asked to find the evidence to support main points or to examine the way in which certain key words are used. It may be that in an entire course the practice of and coaching in evaluation can focus on just one or two key competencies.

## Critical thinking

### *Introduction*

Critical thinking and associated attributes (such as evaluation, judgement, and reflection) feature widely in accounts of the defining features of higher education, in lecturers' accounts of their aims, in graduate profiles and in assessment instructions and criteria. However, we very seldom incorporate the teaching of critical thinking into our programmes. As Moon (2008) observes, "Although thinking must surely be at the heart of education, it is not often explicitly taken into consideration in pedagogy. Critical thinking does, however, feature in the rhetoric of education, particularly higher education" (p.vii).

Moreover, there are widely different understandings of what the term means and also possible disciplinary differences in the understanding and usage of the term. It is likely that for some of us the term critical thinking is an inherited and relatively unexplored part of higher education rhetoric. Before we think about ways to help enhance our students' critical thinking competencies, we need to clarify our own understanding of the term and any discipline specific manifestations of it. Moon (2008) explores the term *critical thinking* from a range of perspectives - teachers' views, students' perceptions, what she terms "the common sense" view (p.25) and extensive discussion of the term in the literature. She uncovers a range of views, considerable confusion as to its meaning, different foci and emphases as well as certain common themes. There also appears to be crossover between conceptions of critical



thinking and forms of representation of critical thinking. Moon provides a helpful overview map of the territory of critical thinking and its representation (p.30).

<i>Critical Thinking and subsets of it—tools for the manipulation of knowledge</i>	<i>Forms of Primary and Secondary knowledge</i>
Critical thinking—which includes critical: Appraisal Evaluation Reflection Understanding Analysis Review Appreciation Management Awareness Care  Critical Incident Analysis	Oral representation—debate, discussion and other oral representation  Written representation—critical reports, reviews, critique, satire, essays, metaphor -  Graphic depiction—cartoon, pastiche, sketch  Forms of action—assertive action; critical or professional practice, reflective practice, dramatic or theatrical representation, etc.
Problem-solving and decision-making are forms that can be broadly similar to critical thinking when there is no one fixed solution to be sought	Various forms of representation

Table 1: Critical Thinking and its subsets (Moon, 2008, p.30)

Moon’s explorations lead her to a summary statement of the essential features of critical thinking which she reminds readers is not definitive. It is worth including her statement in full as it provides a foundation for teachers to clarify and articulate their own understanding, communicate their expectations to students and design their teaching and assessment activities to align with these goals.

### **Towards a critical statement about critical thinking (from Moon)**

Critical thinking is treated here as a general term that tends to be used to cover both the mental activities of thinking and the various representations of the thinking that include action, speech, writing and so on. We should see the various terms such as 'critical appraisal', 'evaluation', 'reflection' and 'understanding' as elements of critical thinking where there is an emphasis on specific kinds of mental activity.

Critical thinking is a capacity to work with complex ideas whereby a person can make effective provision of evidence to justify a reasonable judgement. The evidence, and therefore the judgement, will pay appropriate attention to the context of the judgement. Critical thinking can be seen as a form of learning, in that new knowledge, in the form of the judgement, is formed in the process.

The meaning of a 'judgement' may relate to a judgement of one thing against another or others (like a decision) or the judgement of the merit of one thing (sometimes in relation to a purpose or set of criteria that have been agreed). The idea of effective judgement implies effectiveness in the thing, reasoning or argumentation and in the quality of the representation of the thing in writing, speech etc. It is an important characteristic of deep crucial thinking that the thinker takes a critical (metacognitive) stance towards her actual process of critical thinking and its representation.

The fully developed capacity to think critically relies on an understanding of knowledge as constructed and related to its context (relativistic) and this is not possible if knowledge is viewed only in a dualistic or absolute manner (i.e. knowledge as a series of facts).

The notion of depth in crucial thinking is closely associated with the level of epistemological development of the thinker. Generally speaking, deep crucial thinking can be equated with 'good-quality thinking' which involves analytical thinking rather than surface description of issues. The variation of depth and its association with epistemological development indicate that critical thinking develops as a capacity and that this development may need to be taken into account in pedagogical thinking.

There is a sense of precision, good organisation, effective reasoning, and the ability to work reflectively among other skills in critical thinking, but it is much more than the deployment of a set of skills. There is also a concern with 'standards'. 'Standards' can be interpreted in relation to the standard or quality of the thinking, or the sufficiency of the quality of the outcome or conclusion to the thinking.

Critical thinking and its representations are affected by the personal characteristics of the thinker. For example, emotion is recognized to play a part in crucial thinking as it does in all cognitive processing. There appear to be different ways in which emotion interacts with cognitive activity but the thinker should monitor its various influences, articulating this where appropriate and where possible. Similarly a person's ability to use language skilfully is relevant to the language-based representations of critical thinking and the thinker needs to be sensitive to different usages, connotations and understandings of words and ideas. Intellectual curiosity and interest are relevant to the willingness to pursue a line of critical thinking and in addition the effective critical thinker will be reasonably effective in the capacities that have been grouped under the term 'academic assertiveness' - having due courage and effectiveness in the assertion of ideas and a willingness to 'change her mind' if necessary.

There are different representational activities within which critical thinking is applied. They may include: the review of someone else's argument; the evaluation of an object; the development of an argument; critical thinking about the self; critical thinking about an incident; a constructive response to the arguments of others; and the disposition of crucial thinking as a habit of engagement with the world.

There are different approaches to the teaching or presentation of critical thinking and its representations.

While as a whole the presence of various approaches enriches the general conception of critical thinking, it also contributes to confusion about its nature and identity. There are approaches, for example, that focus on logic, on skills, on pedagogy, on personal dispositions, and so on.

The notions of objectivity and subjectivity are not clear-cut in critical thinking. The naïve view would say that critical thinking yields objectivity—but a more sophisticated thinker can comprehend that to be objective, she needs to take into account the essential subjectivity of the process of knowing. In a sense, objectivity is sought through the understanding of, and ability to work with, subjectivity.

There should be a recognition that critical thinking and its representation is a culturally influenced process. There is evidence to suggest that it is essentially a Western way of processing ideas, and that learners from other cultures may confront difficulties in understanding it because they work in different ways.

Moon, J. (2008), pp. 126,127.

Critical thinking enables learners to navigate and manipulate knowledge, to transform ideas, conceptions and processes, to challenge norms, make decisions and forge new pathways. The development of critical thinking requires a corresponding pedagogical approach and teaching and assessment strategies. Moon (2008) argues that becoming a critical thinker also requires the development of an accompanying dispositional shift from learners who need to acquire what she terms “academic assertiveness” which is about claiming one’s own voice in academia. Moon also links the development of critical thinking to questions about academic development. Starting with Perry’s study with Harvard students in the 1970s, numerous research studies have documented the difficulty students have in moving from absolutist to relativist notions of the world. This needs to be an important consideration for lecturers who are frequently too optimistic about the level and quality of critical thinking that students are able to acquire in the early stages of their studies.

With this contextual framework in mind, some strategies for promoting critical thinking (and academic assertiveness) will be outlined on pages 28ff.

## **Pedagogies for Developing Critical Thinking**

### ***Introduction - General strategies***

Many of the in-class and assessment strategies that are pertinent to the development of students' academic writing and reading ability are equally appropriate for promoting critical thinking. If we look at some of the attributes outlined by Moon (2008) we need to ask ourselves whether our teaching practices model the processes of testing, rigorous evaluation, exploration of alternatives and problem posing that characterise the critical thinking process. Perhaps even more fundamentally, do we actually share our thinking processes with our learners and show them the steps we take in a process of intellectual inquiry or do we simply present them with the final product? If we want students to become metacognitive, we need to invite them to consider the nature and sequence of our own thinking processes.

### ***Using Examples***

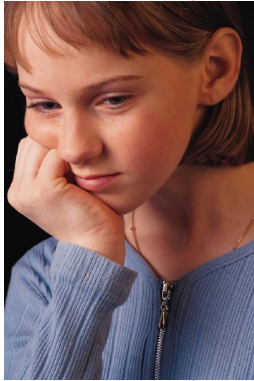
Give students a number of different examples of writing about the same event/idea/or piece of writing. The examples should display varying degrees of critical engagement. Students can be asked to identify examples of critical thinking in the accounts, explain the reasons for the sections they identify and possibly rank the different pieces of writing according to the quality of their critical engagement (adapted from Moon, 2008).

### ***Use examples from everyday life***

Moon suggests that a gradual understanding of critical thinking can be developed by inviting students to practise evaluative and questioning skills in relation to examples from everyday life.

### ***Create thinking time and spaces***

Moon (2008) suggests that we can deliberately design thinking time and spaces in our teaching and learning environments to develop students' habits of more active thinking and engagement. She suggests that teachers can develop a recognisable terminology to alert students to these moments, such as "think time" or "stop and think" (p147).



### ***Collaborative learning***

According to Bean (2001), one of the most effective ways to coach students in the development of critical thinking skills is through focussed small group work. Bean suggests that small group work of this kind needs to be carefully planned and usually involves students having to work in groups to respond to a discipline-related problem or issue, record their process, their different perspectives and conclusions and then report their findings. This exercise can be linked to a subsequent written assignment if desired. See attachment from Bean (2001) on the next few pages for a number of ways of posing questions or problems for group discussion and resolution.

### ***Creating dissonance***

Creating a sense of discomfort/dissonance or unease is a good stimulus to thinking. Sometimes this can be done through very simple strategies such as framing a lecture with a provocative question, a problem scenario which needs to be approached in the light of lecture material or creating a critical incident. Other prompts can include critical incidents, unresolved questions, or an invitation to respond to hypothetical possibilities.

For an extended list of strategies and resources, see Moon (2008).



<b><i>Students' Problem</i></b>	<b><i>Helping Strategy</i></b>
Poor reading problem	<ul style="list-style-type: none"> <li>▪ Give tests or writing assignments on readings that you don't cover in class.</li> <li>▪ Require students to write expressively in response to texts (reading logs, summary/response notebooks).</li> <li>▪ Require marginal notes.</li> <li>▪ Show students your own reading process.</li> </ul>
Failure to reconstruct arguments as they read	<ul style="list-style-type: none"> <li>▪ Assign summary writing.</li> <li>▪ Have students make outlines, flowcharts, or diagrams of articles.</li> <li>▪ Help students write "gist statements" in margins summarizing main points as reading progresses.</li> <li>▪ Go through a sample text with students, writing "what it says" and "what it does" statements for each paragraph.</li> </ul>
Failure to assimilate the unfamiliar; resistance to uncomfortable or disorientating views	<ul style="list-style-type: none"> <li>▪ Explain this phenomenon to students so that they can watch out for it; point out instances in class when students resist an unfamiliar or uncomfortable idea; draw analogies to other times when students have had to assimilate unfamiliar views.</li> <li>▪ In lectures or discussions, draw contrasts between ordinary ways of looking at the subject and the author's surprising way.</li> <li>▪ Emphasize the "believing" side of Elbow's "believing and doubting game".</li> </ul>
Limited understanding of rhetorical context	<ul style="list-style-type: none"> <li>▪ Create reading guides that include information about the author and the rhetorical context of the reading.</li> <li>▪ Through lectures or reading guides, set the stage for readings, especially primary materials.</li> <li>▪ Train students to ask these questions: Who is this author? Who is he or she writing to? What occasion prompted this writing? What is the author's purpose?</li> </ul>

Failure to interact with the text	<ul style="list-style-type: none"> <li>▪ Use any of the response strategies recommended in this chapter—reading logs, summary/response notebooks, guided journals, marginal notations, reading guides.</li> </ul>
Unfamiliarity with cultural codes	<ul style="list-style-type: none"> <li>▪ Create reading guides explaining cultural codes, allusions, historical events, and so forth.</li> <li>▪ Show students the function of cultural codes by discussing the background knowledge needed to understand cartoons or jokes</li> </ul>
Unfamiliar vocabulary	<ul style="list-style-type: none"> <li>▪ Urge students to acquire the habit of using the dictionary.</li> <li>▪ Create reading guides defining technical terms or words used in unusual ways.</li> </ul>
Difficulty with complex syntax	<ul style="list-style-type: none"> <li>▪ Have faith that practice helps.</li> <li>▪ Refer severe problems to a learning assistance centre.</li> <li>▪ Have students “translate” complex passages into their own words; also have students practice rewriting particularly long sentences into several shorter ones.</li> </ul>
Failure to adapt to different kinds of discourse	<ul style="list-style-type: none"> <li>▪ Explain your own reading process: when you skim, when you read carefully, when you study a text in detail, and so forth.</li> <li>▪ Explain how your own reading process varies when you encounter different genres of text: how to read a textbook versus a primary source; how to read a scientific paper; how to read a poem; and so forth.</li> </ul>

### ***1. The Problem-Posing Strategy***

In this approach, the instructor gives students a disciplinary problem framed as an open-ended question to which students must propose and justify an answer. To keep students on task, I often ask groups to summarise their answers in one-sentence “thesis statements”, which they write on the chalkboard. Recorders then present justifying arguments supporting the thesis when they make their reports. If groups cannot reach consensus, I ask for a majority thesis and at least one minority thesis.

We have examined four alternative approaches to the design of a digital data-recording device for Company X’s portable heart defibrillator. Which solution should be chosen and why?

In what way, if any, is Jackson Pollack’s *Autumn Rhythm* different from the results of a monkey throwing paint at a canvas?

According to Fullinwider, three theories are frequently used to define preferential hiring for both African Americans and women: compensatory justice, social utility, and distributive justice. Using one or more of these theories, address this question: Is the legislature’s proposed veterans preference law just?

Your author has quoted Peter Berger, an important American sociologist, to the effect that we are in “bondage” to society. Elsewhere that same author says, “In sum, society is the wall of our imprisonment in history.” Your friend, I.M. Punker, rubs his hand through his orange hair, touches his nose ring and says, “Nonsense, I am my own person, free to do



whatever I want.” Which of these two views does your group most agree with? Defend your choice with arguments.

## ***2. The Frame Strategy***

Using this strategy, the instructor gives students a mapping sentence that predicts the shape of a short essay but not the context. Students have to create content topic sentences to head each predicted section and develop a supporting argument for each one. Often the instructor can include in the task a blank tree diagram or an outline indicating the slots that students’ ideas must fit. This task requires not only that students generate ideas but also that they place these ideas within a clear structure. (For further examples of frame questions, see Chapter Six, pages 115-116, and Chapter Seven, pages 115-116, and Chapter Seven, pages 115-117, and Chapter Seven, pages 126-127.)



Based on the data about the Pabst Brewing Company that you studied last night, what do you now think are the causes for this company’s precipitous loss of market share? Place your solution into a frame that begins with the following sentence:

“There are X main causes for Pabst’s loss of market share. First, [state the cause and support it... Second,... Third,...” Continue with as many causes as your group determines.

Although Krauthammer’s argument for rebuilding state mental institutions is persuasive in a number of ways, our group finds potential problems with his plan. First, ... Second, ... [Third,... Fourth,...]

### **3. The Question-Generating Strategy**

This strategy is particularly effective for teaching the art of question asking in a discipline. After instruction in the kinds of questions asked by a particular discipline, the teacher breaks students into groups and has them brainstorm possible questions related to topics that he or she provides. After this phase, groups must then refine their lists into the two or three best questions and explain why each question is a particularly good one. (This is the strategy used in the earlier *Crito* example.)

Carefully observe this [poem, graph, statistical table, painting, advertisement]. What aspects of it puzzle you or intrigue you? As a group, pose three good questions that emerge from your observation of the item.



Now that you have studied the six levels of questions in Bloom's taxonomy, use the taxonomy to develop test questions about Chapter Six in your text. Ask at least two questions at each level of taxonomy. Recorders should be prepared to explain why you think each question fits its respective level.

Scientists often pose research questions that have the following generic structure: "What is the effect of X and Y?" For example, "What is the effect of varying amounts of light on the growth of *Escherichia coli*?" or "What is the effect of an improved freshman advising system on students' retention rate between the freshman and sophomore years?" Using these examples as models, develop three good research questions that you could ask about each of the following topics: steroids, day-care centres, the human immunodeficiency virus, gangs.

#### **4. The Believing and Doubting Strategy**

The “believing and doubting game”, coined by Elbow (1973, 1986), asks students first to enter imaginatively into the possible truth of any statement, arguing in its favour (the believing game) and then to stand back from it, adopting a healthy scepticism (the doubting game). To use this strategy with small groups, the instructor gives students a controversial thesis and asks them to generate reasons and supporting arguments for and against the thesis. Angelo and Cross (1993, pp. 168-171) discuss a similar strategy using pro and con grids. (For further discussion of the believing and doubting game, see Chapter Seven, page 124, and Chapter Eight, pages 142-143.)



The overriding religious view expressed in Hamlet is an existential atheism similar to Sartre’s.

Baccalaureate engineering programs should be extended to five years.

The eighty-three-year-old stroke victim described in the case study should be informed of her daughter’s terminal cancer.

#### **5. The Evidence-Finding Strategy**

The instructor’s goal here is to have students find facts, figures, and other data or evidence to support a premise. In my own discipline of literature, this task often means finding textual detail from a poem, novel, or play that might be used to support an argument. In other

disciplines, it might mean using data from library, laboratory, or field research. Such tasks teach students how experts in a field use discipline-appropriate evidence to support assertions. (Note that this strategy is ineffective if it leads simply to students thumbing through their books or lab notes during a collaborative session. I usually assign data-finding tasks several days in advance so that students can find the evidence as homework. Collaborative groups then work to sort, classify, and evaluate the evidence gathered in advance by participants.)

Our design group recommends the choice of air bearings over conventional steel bearings for this application because air bearings will give better performance at a lower cost. Support this claim with the evidence needed to make it persuasive to both engineers and managers.



“Although Hamlet claims to be putting on an antic disposition, at several places in the play he goes over the line and seems to lapse into genuine madness.” What places in the text could be used to support this assertion?

Your textbook describes typical kinds of problematic behaviours that children exhibit in kindergarten. You believe that a particularly unruly child— we’ll call him Martin— would benefit emotionally from repeating kindergarten next year rather than entering first grade. Martin’s parents are adamantly opposed to holding Martin back. What evidence might you use to help Martin’s parents appreciate your side of this issue?

Note that in working on an evidence-finding task, students usually discover what teachers already know: that the evidence is ambiguous and that a strong evidential case can often be made against the thesis as well as for it. Such ambiguity generally unsettles beginning college students, who expect the “experts” to know the right answer and who have not yet realized the extent to which arguers select and shape data to support a point. (See the discussion of Perry’s developmental theory in Chapter Two.) Teachers need to help students confront and endure such ambiguity, confident that doing so helps them move higher on Perry’s scale of intellectual growth.

### ***6. The Case Strategy***

Among the most popular ways to use small groups is to devise cases that require decision-making and justification. If a case involves different roles, each group can initially be assigned one or two of the roles and asked to devise the best arguments it can from the assigned perspectives. (For further discussion of cases and for an example, see Chapter Seven, pages 130-131.)

### ***7. The Norming Session Strategy***

This strategy, which is also discussed in Chapters Thirteen and Fifteen, helps students internalise the criteria by which the instructor will judge their formal essays. The instructor passes out three or four student essays from previous classes (with names removed) and lets students, in groups, rank the essays and develop arguments justifying their rankings. Later, in the plenary

session, the instructor reveals his or her own rankings and initiates a general discussion of grading criteria for essays. Often teachers discover that students have erroneous notions about what teachers look for in a formal essay, particularly when they are learning the thinking processes and stylistic conventions of new disciplines. (See also Chapter Thirteen, page 219, and Chapter Fifteen, pages 259-262.) For an excellent illustration of how a sociology professor conducts a collaborative norming session (complete with examples of student essays on the topic of ethnocentrism), see Bateman (1990), pp. 110-116. For examples of norming sessions based on freshman placement essays, see White (1973-1981, 1992).

#### **8. The “Rough Draft Workshop” Strategy**

Perhaps the most common use of small groups in writing courses is the “rough draft workshop”, in which students read and respond to each other’s work in progress. The goal of these workshops is to use peer review to stimulate global revision of drafts to improve ideas, organisation, development, and sentence structure (Chapter Thirteen, pages 222-225, gives detailed suggestions for using small groups for peer review.)

#### **9. The Metacognitive Strategy**

Another effective use of small groups, discussed in detail by Bruffee (1993, p.47), is to ask students to consider their own thinking and negotiating processes metacognitively. This strategy is especially useful when small groups

produce solutions that strike you as off-base or just plain wrong. Our authoritarian impulse is to tell the groups that their answers are wrong and show them the right answer. Another approach, however, is to say instead that the class's solutions differ considerably from those of most experts in this field. A subsequent metacognitive task is to send students back into small groups to analyse the differences in reasoning processes between themselves and the experts. According to Bruffee, "The task is to examine the process of consensus making itself. How did the class arrive at its consensus? How do the students suppose that the larger community arrived at a consensus so different from their own? In what ways do those two processes differ?" (p. 47). The effect of this approach, in my experience, is to deepen students' understanding of how knowledge is created: instead of accepting (and perhaps just memorizing) the "right answer" based on the teacher's authority, students struggle to understand the principles of inquiry, analysis, and problem solving used by the experts to arrive at their views. They consider an answer not only a product but also the result of a process of disciplinary conversation.

Bean, J. C. (2006), pp. 146-148. 155-159.

## References

Bean, J. C. (2001). *Engaging ideas*. San Francisco: Jossey Bass.

Moon, J. (2008). *Critical thinking*. Routledge: London & New York.

Perry, W. (1970). *Forms of intellectual and academic development in the college years*. New York: Holt, Rhinehart & Winston.

Svantesson, I. (1998) *Learning Maps and Memory Skills* (2nd Edition). London: Kogan Page



*Produced by:*

Teaching Development Unit | Wāhanga Whakapakari Ako  
Private Bag 3105  
Hamilton 3240 New Zealand

Phone: +64 7 838 4839  
Fax: +64 7 838 4573  
[tduadmin@waikato.ac.nz](mailto:tduadmin@waikato.ac.nz)  
[www.waikato.ac.nz/tdu](http://www.waikato.ac.nz/tdu)