TEACHING PROBLEM-SOLVING SKILLS WITHIN BUSINESS LAW:
THINKING REFLECTIVELY

by

Jennifer N. O'Reilly[*]

I.   Introduction

When business law professors discuss their curriculum in more depth than merely the selection of substantive topics to be addressed in the course, an educational goal often cited is that of analytical or 'problem-solving' skills. This aim is likely also to be espoused by schools/faculties and even tertiary institutions at the macro level. Certainly my own objective to promote students' development of analytical thinking is also espoused as a goal of tertiary education, by my institution, by universities in general and by government (in respect of public universities in Australia). As an example, the Higher Education Council report cited the importance of teaching 'such qualities as critical thinking, intellectual curiosity, problem-solving, logical and independent thought' and also the importance that those skills be 'introduced and refined in a subject-related context'.[1]

All skills, but particularly 'soft skills' like problem-solving, need to be learned and practised in a context. I see an obvious link between problem-solving skills and business law – where students' understanding of possible legal issues and likely outcomes is best demonstrated, practised and/or assessed in relation to problems. While business law courses are certainly not the only business degree courses to provide a suitable context for developing these skills, the opportunity exists for us to make maximum use of these courses to foster students' analytical thinking skills

This then raises a need to clarify the 'thinking skills' we seek our students to develop. As a generic term, 'problem-solving' might be used. A term that might also be used in this context is 'critical thinking' and a term more recently used and distinguished from critical thinking is 'reflective judgment'.

This paper begins with an introduction to reflective judgment as a tool for problem solving, before discussing the variety of epistemic assumptions that students (and teachers) may hold that could hinder their development of this skill. I then discuss the need for business law teachers to think reflectively about their own epistemic assumptions and models of teaching, with the aim of assessing the ways in which they can (better) assist students in turn to engage in reflective thinking within (and later beyond) the context of business law courses.

II.   Problem solving : Critical thinking vs reflective judgment

When pressed for an explanation of 'problem solving skills' that (business law) teachers aspire their students to develop, the phrasing may differ but usually the explanation will involve an ability to identify issues, to apply relevant concepts (from a particular discipline or across several) to the facts within the problem and after weighing up all possible arguments, to arrive at a justified concluding position.

Some would call this process 'critical thinking' in one of the accepted uses of that term. In this sense, critical thinking could be described as 'skilful, responsible thinking that facilitates good judgment because it (1) relies upon criteria, (2) is self-correcting, and (3) is sensitive to conduct'.[2] However, others have recently drawn a distinction between critical thinking in this sense and what they refer to as 'reflective thinking'.

In relation to developing students' problem-solving skills, King and Kitchener distinguish 'reflective judgment,' from common descriptions of 'critical thinking' on two grounds: the structure of the problem under consideration and the epistemic assumptions on which the thinker operates.[3]

> Reflective thinking is related to but not synonymous with critical thinking because critical thinking involves many types of reasoning, including deductive and inductive logic about well-structured problems. In addition, critical thinking is typically characterised as a set of skills that can be acquired through the learning of increasingly complex behaviour or rules. We take a different approach, suggesting instead that the development of reflective judgement is the outcome of interaction between the individual's conceptual skills and environments that promote or inhibit the acquisition of these skills.[4]

The difference between well-structured and ill-structured problems lies in the extent to which the problem can be clearly described and the degree of certainty with which a solution can be stated to be 'correct'.[5] King & Kitchener maintain that 'reflective judgment refers to the thinking process needed to consider ill-structured problems, with the problem-solver constructing and then defending reasonable 'solutions' to the problem.[6]

King & Kitchener are not alone in making such a distinction. Warren distinguishes between what he sees as the basis of the 'critical thinking' movement prevalent in the US education system during the preceding decade, and 'thinking' as he understands that term.[7] Warren distinguishes between *reasoning* (involving 'primarily the skills of rationality (logic) and calculation'),[8] and *thinking* ('characterised essentially by reflection, "ponderment", or "feeling"').[9]

This paper focuses on reflective judgment as a valuable skill for both teachers and students due to its relevance for ill-structured problems like those our students will face in the 'real' world' and also similar to the 'problem' for teachers of what 'teaching' involves and how to achieve the underlying aims.

The second distinction between 'critical thinking' and King & Kitchener's 'reflective judgement' lies in the fact that models of critical thinking tend to ignore the relevance of epistemic assumptions (assumptions about knowledge) held by the 'thinker'.[10] Given this essential role of epistemic assumptions in the concept of 'reflective judgment', these assumptions need to be explored before the reader can seek to apply this 'thinking' to their own teaching. Only by first considering our personal assumptions about knowledge and the effect these have on our teaching, can we, as teachers, think reflectively about alternative teaching models and methods by which it may be possible to (better) teach our students to exercise a similar reflective thinking process in solving *their* problems.

III.   Epistemic assumptions assisting/hindering reflective judgment

A.   Students' assumptions/ conceptions

In addition to the obvious differences between students relating to age, gender, experience and interests, students have different cognitive styles and ways of thinking in addition to different learning styles and different learning strategies[11].

One potential area of difference in learning styles that has been explored since the 1970s is 'deep learning' and 'surface learning'. Marton and Saljo identified among students two possible different levels of processing, 'deep-level processing' (involving a perception that knowledge is *meaning* that the student must find within the 'material' that is given)' and 'surface-level level processing' (involving a perception of knowledge that needs to be memorised and reproduced).[12] Although that study was small (30 students), it also reported a connection between the level of processing (deep or surface) and the students' learning outcomes in terms of the level of understanding attained by the students from the text material set. Saljo also identified a number of different student conceptions of learning.[13] Although Saljo although initially identified only five stages, a sixth stage was added later by Marton.[14] These stages were:

1. Learning as a quantitative increase in knowledge, involving acquiring information or knowing 'a lot';
2. Learning as memorising, involving the storage of information that is later reproduced;
3. Learning as acquiring facts, skills and methods, involving remembering knowledge and procedures that will be useful in the future;
4. Learning as making sense or abstracting meaning, with learning being a constructive activity;
5. Learning as a process that helps us to interpret and understand reality, involving comprehension of the world by reinterpreting information in the light of personal experiences;
6. Learning as personal development.

Earlier research by Perry in the 1960s and 1970s had described a nine-stage progression of undergraduate university students' perceptions about learning, ranging from an absolutist point of view at the first stage in the progression to a relativistic point of view at the highest stage.[15] Under Perry's model, students at the early stages perceived that all knowledge is known, with the role of the teachers being to know the truth and the role of students to receive the same, and the most preferred task by these students was to memorise definitions and the most difficult task was to decide which of two conflicting authorities is correct. At the highest stage in the progression students perceived that different knowledge was needed in different contexts, with teachers having a guiding role but students being responsible for choosing the 'best' ideas. It was at stages 5 and 6 of Perry's model that students'

epistemological outlook changed as the students began to see knowledge as contextual and that theories were not necessarily true but instead were metaphors to be interpreted.[16]

There is research to support the view that students' conception of learning (and therefore of knowledge) is *progressive*, with Saljo finding that 'the transition from upper-secondary school to university is a process which for many results in a realization of the complex nature of the phenomenon of learning: students perceive learning in a university context to be very different from learning at early stages'.[17]

However, the (best) process by which to promote/accelerate students' shift in perspectives on and approaches to learning is less clear. Hartley writes:

> Changing teaching methods and approaches may help some students to become deeper learners, but it is clear that other institutional constraints embedded in the demand for low-cost modular systems may have more over riding considerations as far as the students are concerned. It is a sad fact that many courses today contain those features … that are likely to encourage surface learning.[18]

Teaching and learning strategies that Hartley believed were likely to promote *deep learning* included project work, problem-based learning, group assignments, providing authentic tasks, rewarding understanding and penalising reproduction and encouraging student reflection.[19]

It is not difficult to see the important role that King & Kitchener's second distinction between critical thinking and 'reflective judgment' – the importance of the thinker's epistemic assumptions – might play when students are required to 'solve' ill-structured problems. In situations of real uncertainty, the thinker's conception of knowledge and indeed their openness to even the possibility that uncertainty may exist will be critical to that thinker's approach and ability to deal with the ill-structured problem. Accordingly, the 'Reflective Judgment Model' developed by King & Kitchener insists that 'the ability to engage in reflective thinking cannot be understood without considering the cognitive characteristics (*specifically the epistemic assumptions*) of the developing person'.[20] A total of seven stages of thinking are identified by King & Kitchener, three of which are '*pre*-reflective', two are '*quasi*-reflective' and the final two are 'reflective'.[21] The distinction between each of the seven stages lies in two elements: the thinker's 'view of knowledge' and thinker's 'nature of justification'. At the 'least advanced' stages, the thinker assumes that knowledge is certain and he or she is unable to see differences between well-structured and ill-structured problems. In the intermediate stages the ('quasi-reflective') thinker acknowledges uncertainty exists in ill-structured problems, but judgement, although based on evidence, will be 'individualistic or idiosyncratic'.[22] At the 'most advanced' stages identified by King & Kitchener, the ('reflective') thinker holds a constructivist conception of knowledge, believing that there is no absolute truth, but that competing interpretations can be *evaluated* as being more plausible in terms of conceptual soundness, coherence, degree of fit with the data, meaningfulness, usefulness and parsimony'.[23] King & Kitchener presume that these seven stages of epistemic assumptions and thinking are *progressive*, as the aim of their 'Reflective Judgment Model' is to promote students' developmental progression through the necessary stages until they arrive at the final stages that allow them to engage in reflective thinking.

Rather than using the traditional critical thinking tests[24] or other existing models and tests of post-formal reasoning,[25] King & Kitchener developed an interview consisting of four problems and questions to probe the interviewees' use (or otherwise) of reflective judgment. A longitudinal study conducted using this interview model was conducted on high school, college and advanced doctoral students over a 10 year period and provided data to support the proposition that the stages are developmental. Not only did the doctoral students began at higher stages than the college students, who in turn began higher stages than the high school students, but also over 10 years there was a significant progression of both the group as a whole and most individual towards 'higher' stages.[26]

Apparently, many studies have since been conducted using this reflective judgment model and interview system to explore reflective judgment across cross-sections of students (high school, university/college and graduate), and to explore gender and cross-cultural differences in reflective judgment,[27] however, in relation to cross-cultural research only one study is reported and that involved German students in the mid 1980's. Perhaps in time a study will be conducted involving 'thinkers' from a diverse range of cultural and educational systems, particularly from the Middle East and Asia.

B.   Teachers' conceptions of teaching & learning

Teachers work with (and around) their students' conceptions of learning (and teaching), but they are also regulated, at least on a subconscious level by their *own* conceptions of teaching (and learning). In attempting to

think reflectively about our own teaching, our conceptions of teaching and learning must come under scrutiny. In considering possible methods to change/improve students' learning outcomes in relation to problem-solving, and reflective judgment in particular, one cannot analyse only students' conceptions and approaches, but must also consider those of the *teachers*.

Different teachers of (business) law may have widely differing perspectives on law (from law as being 'black letter') through to a legal realist perspective or perhaps another perspective such as a critical legal studies perspective, for example. Just as different (business) law teachers/professors take different perspectives on law, so too they may hold different conceptions and assumptions about 'knowledge', 'learning' and, therefore, 'teaching'.

In discussing teachers' conceptions of teaching, it may be helpful to break down conceptions into three aspects: beliefs, intentions and actions. This is consistent with the approach adopted in an multi-national study investigating different conceptions of teaching undertaken in the late 1980s and early 1990s. Pratt reports the results of a series of interviews with 253 people, mostly teachers of adults, in five different countries[28] exploring their conceptions of teaching.[29] Pratt states that beliefs 'often represented the most stable and least flexible aspect of a person's conceptions of teaching. People were able to accommodate a variety of changes in circumstances as long as they were able to hold onto their central beliefs related to teaching'.[30] Pratt's study revealed five different (but not mutually exclusive) conceptions of teaching:

1. 'Engineering conception' - teaching involves delivering content, with teachers and content as the (separate) dominant elements and knowledge being perceived as stable and external to the learner.
2. 'Apprenticeship conception'- teaching involves modelling and introducing to the students 'ways of being' or ideas, values and methods of practice that have been mastered by the role-model teachers.
3. 'Developmental conception' – teaching is a more student-centred process, with the teacher encouraging students to enquire and think about the content and focusing on the students' cognitive development, stimulating curiosity and encouraging students to think in new ways about previously held beliefs and understandings.[31]
4. 'Nurturing conception' – teaching is student-focused, concentrating on nurturing the students' concept of self identity and self-confidence, with the teacher striving for a balance between caring on the one hand and challenging, supporting and directing on the other. Under this conception 'learning' is measured against the students' 'enhancement of self-concept and personal agency'.[32]
5. 'Social reform conception' – teachers' ideals (social, cultural/religious, political and/or moral) linked to a vision of a better society are *explicit* and guide the teaching, with the underlying 'conviction that this ideal was appropriate for all and necessary for a better society'. Pratt also found that 'within this conception, there were multiple views of knowledge, learners, self and content, depending upon the particular ideal'.[33]

Pratt's study is certainly not the only research that has been conducted into teachers' conceptions of teaching and learning and students' conceptions of the same. In a 1994 phenomenograhic study, Trigwell et al also identified five different approaches to teaching,[34] however these were not identical to those identified by Pratt. Trigwell et al did not identify any approach(es) resembling Pratt's fourth or fifth approaches. The differences in approaches identified could perhaps be due to the fact that the Trigwell study was conducted only on *science* teachers, whereas Pratt's study involved subjects in a diverse range of areas. Trigwell et al's five different identified approaches were:

1. A *teacher-focused* strategy aimed at *transmitting information*
2. A *teacher- focused* strategy aimed at assisting students to acquire the *concepts* of that discipline
3. A strategy of *teacher/student interaction* aimed at assisting students to *acquire the concepts* of that discipline
4. A *student-focused* strategy intended to promote students *developing* their conceptions
5. A *student-focused* strategy intended to promote students *changing* their conceptions

Kember cites and compares 14 independent studies into university teachers' conceptions of teaching, mostly conducted in the early 1990s.[35] Following meta-analysis of these studies, Kember derived a set of characteristics that seemed to describe the different categories of conceptions of teaching found in most of the studies. On that basis, Kember expressed the five different conceptions as:

1. Imparting information
2. Transmitting constructed knowledge
3. Student-teacher education
4. Facilitating understanding

5. Conceptual change/intellectual development.

Thus, there have been many studies supporting a view that teachers' conceptions of teaching fit a bi-polar model. At one 'pole' there are teachers holding conceptions of teaching as merely presenting information to passive recipients, which is consistent with the teacher having a concept of knowledge as involving a mass of information that can be attained simply by communication. Kember refers to this pole as 'teacher-centred/content oriented'.[36] At the other 'pole' ('student-centred/learning oriented')[37] there are teachers who conceive of teaching as focusing on students' intellectual development by way of changing their conceptions, consistent with the view that knowledge is something that students must construct for themselves by exploring new and potentially conflicting ideas with a view to developing their own understanding. In addition to this bi-polar model, there is also research indicating two other possible dimensions to teachers' conceptions of teaching, namely 'nurturing students development of self-identity' and 'social reform in accordance with explicit ideals'.[38]

C.   Working with students holding different epistemic points of view

If the ability to exercise reflective judgment and 'solve' ill-structured problems depends initially on the ability of the student to *believe* that solutions are not necessarily right or wrong, then students holding absolutist conceptions of knowledge will find this almost impossible. This begs the question as to how students can be supported while at the same time be encouraged to progress to a less absolutist epistemic point of view.

Magolda gives some ideas for a transition strategy to assist absolute knowers by creating a transitional culture.[39] The key aspects of this transitional culture would involve the following techniques:
-   simultaneously respecting and challenging the students' assumption that knowledge is certain and objective;
-   participating with the students in the mutual construction of knowledge (engage the students in dialogue about course goals and process of assignment tasks);
-   talking *with* the students rather than *at* them.[40]

IV.   Thinking reflectively about our teaching

Whichever model of learning is dominant in our thinking as a teacher, whether it be a model involving learning as information-acquisition or learning as constructing (individual) understanding, this will have an influence upon the kinds of tasks we set and teaching methods we use.

The research discussed so far examined students' and teachers' different conceptions and approaches, as separate groups. This then begs the question as to how different conceptions, and therefore different approaches, of teachers *cause* or are *reflected by* corresponding conceptions and approaches by their students. It seems likely to a naively logical mind that teachers who perceive knowledge as being transferable to students merely by communication will adopt a 'traditional lecture-style' approach and thereby encourage students to 'learn to' reproduce that transmitted material, hence encouraging in students a surface approach to learning. At the other extreme, teachers holding a different (perhaps more *progressive*) view of knowledge acquisition as requiring students to construct meaning for themselves, would be expecting their students to take a deeper and more independent approach to learning.

However, evidence to support this perceived likelihood of a (strong) link between teachers' epistemic assumptions and students' conceptions of and approaches to learning appears neither prolific nor strong. From the searches I conducted, there appears to be little research (yet) into the connection between teachers' perceptions of teaching/learning and the approaches to learning adopted by the students of those teachers (as perceived by the students themselves). Trigwell et al, conducted a quantitative study involving 46 science teachers and 3956 science students in 48 classes at Australian universities in an effort to explore correlation between teachers' approaches to teaching (according to the teachers' own perceptions) and students' approaches to learning (according to the *students'* perceptions).[41] The emphasis on the perceptions of the teachers and the students of their approaches to teaching and learning respectively, qualifies this as using a phenomenography research technique (allowing findings about the subjects' perceptions as opposed to findings about actual experiences). To determine the teachers' approaches, the teachers completed an inventory questionnaire that then enabled the researchers to categorise their approaches, and similarly students completed an inventory questionnaire to enable determination of their orientation or approaches to learning. The study showed only weak overall correlation between different approaches to

teaching (by teachers) and different approaches to learning (by students). The study did show a strong correlation between teachers with an 'information transmission/teacher-focused' approach to teaching and students adopting a 'surface approach' to learning, but a less strong link between teachers adopting a conceptual change/student-focused approach to teaching and students taking a 'non-surface approach' to learning. However the authors themselves admitted that, as with most quantitative studies, the resulting findings of correlation do not indicate *causation*. However, at least the study did show a correlation between teachers who perceive themselves as taking an 'information transmission' approach and students who believe they are adopting a surface learning approach, and perhaps more importantly the study did *not* reveal a lack of (or a negative) correlation between teachers who profess to adopt more progressive or constructivist approaches and students who believe they are adopting 'deeper' approaches to learning.

Given that a link between teachers' conceptions and students' conceptions has not been *disproved*, I believe that it is appropriate for teachers to think *reflectively* about their own conceptions of teaching and learning. As for the ability of individuals to learn new approaches to knowledge, learning and therefore teaching, there is evidence to suggest that students may change their approaches to learning with experience.[42] For changing tertiary teachers' conception(s) of teaching and learning, Kember[43] states that it *is* possible, via a long-term approach under which teachers observe and/or evaluate the impact of their teaching methods (with the underlying conceptions of teaching) upon their students' learning and thus take note of the intended or unintended outcomes arising from their own actions and beliefs as teachers.[44]

The very essence of reflective thinking is that there is no single universally correct answer to the (ill-structured) problem. Similarly for the 'problem' of conceptions of teaching and teaching models, there is no single 'correct' answer. However I suggest that by exercising on this problem the same reflective thinking skills I propose our students should be developing, we open ourselves to considering new/alternative 'solutions'.

For the purposes of providing an initial framework for reflective teaching on our conceptions of and approaches to teaching generally and also specifically on teaching reflective thinking within business law I have listed a set of questions.

- How would I define 'knowledge'?

- How would I describe 'learning'?

- What forms, foci and processes of assessment and evaluation do I use and what do these reveal about my beliefs about knowledge and learning?

- In my teaching of course Bus.LawXXX:

  - How much responsibility for learning are my students required to take on for themselves?

  - In what ways are my students encouraged/required to reflect on their learning?

  - What steps do I take to assist my students to learn appropriate cognitive and metacognitive strategies associated with a deep approach to learning?

  - What tasks do my students undertake that involve application of these 'deep learning' approaches in ways that may involve them reflecting on or possibly transforming their conceptions?

  - What attempts do I make to encourage students to continually make *connections* :

    o between aspects of the material?

    o between new material and prior knowledge?

    o between their naive beliefs and their 'informed' beliefs ?

- What techniques do I employ to make my students responsible for their own meaning-making in this course?

- In my use of problem based learning, what efforts do I make to engage students in considering *ill-structured* problems?

- In what ways do I encourage/require peer group teaching, as this can promote reflection, and reconstruction, and perhaps metacognition?

- In taking what I believe to be a constructivist approach, do I seek to change students' conceptions or do I watch and support students to explore changing or justifying their own conceptions?

- In trying to promote students' development of skills in reflective thinking, what steps do I take to cater for students holding an 'absolute' conception of knowledge? . Can I reframe my business law and problem-solving / reflective thinking skills 'content' to (better) suit my students' epistemological assumptions, (which may change as the students interact with the 'content' and discover that legal problems often have more than one possible outcome)?

- If 'progression' of students' conceptions may be possible, what approaches and teaching methods do/can I can use to assist/accelerate students' progress in their conceptions of knowledge and learning and to promote reflective judgment?

V.   Conclusion

There is a vast amount of research indicating that students (and teachers) have different conceptions of learning (and teaching), influenced at least in part by their different underlying assumptions about knowledge.

If business law professors think reflectively about learning and, in turn, teaching, they should be able to firstly consider their current conceptions and further, think reflectively on alternative epistemological positions, perhaps with a view to re-considering the epistemological assumptions underlying their teaching. If it is indeed correct to see students' perceptions of knowledge and learning in terms of a set of different but progressive approaches, then teachers (also as learners) should also be open to progress their position and approaches. While it may be difficult for teachers even with the most 'progressive' conceptions to achieve the desired approach in view of class sizes, outside expectations of 'content delivery', not to mention students' expectations (particularly those whose view of knowledge as information has been reinforced by years of culture and prior education), I believe it is a goal worthy of constant pursuit and self-evaluation. I suggest an appropriate teaching method might combine the case method and problem-based learning (including ill-structured problems), *together with* innovative student-centred methods strategies such as student-generated problems, role plays, reflective journals, interviews, debates and other approaches that encourage students to listen to others views for the purpose of *thinking* about their own thinking . Most importantly, however, I believe that the teacher should periodically think reflectively on their underlying conceptions of teaching and learning and the correlation between that theoretical approach and the teaching/learning and assessment techniques they practise.

Further, if fostering reflective thinking in business students is seen as a worthwhile goal, then the task remains for teachers to create and implement teaching techniques that both suit their personality and fit within the external constraints (such as class sizes, teaching hours), but which might work within students' differing initial epistemic assumptions and at the same time, foster the students' progression through to more advanced developmental levels in terms of their epistemic assumptions and reflective judgment. King & Kitchener suggest that in attempting to promote reflective thinking among students, teachers should develop an approach that understands that students are at different developmental levels and hold different assumptions about knowledge.[45] Within that framework, suggestions for fostering their development of reflective judgment include familiarising them with ill-structured problems within your discipline (even early within their degree and course), creating as many opportunities as possible for them to reflectively examine different points of view on a topic and to make judgments with explanations of their beliefs and to explain what they believe.[46]

In light of the possible link between teachers' conceptions and students' conceptions, it seems appropriate for teachers to think *reflectively* about their own conceptions of teaching and learning. As for the ability of teachers to learn new approaches to knowledge, learning and therefore teaching, there is weak evidence to suggest that students (and teachers) may change approaches to learning with experience.[47] For changing tertiary teacher's conception of teaching and learning, Kember states that it is possible via a long-term approach that involves the teachers observing and or evaluating the impact of their teaching methods (with the underlying conceptions of teaching) upon their students' learning and thus taking note of the intended or unintended outcomes arising from their own actions and beliefs as teachers.[48] 'Difficult' or 'slow' are very different to 'impossible'. As for the students whom we seek to prompt into reflective judgment as a problem-solving technique, the first step is to (re-)consider our underlying epistemic assumptions and beliefs – to acknowledge that there *may be* other approaches with possible merit. Also required is the effort to persistently re-think our thinking on the teaching methods that we use – in what ways are they based on our beliefs, what are the intentions behind our teaching methods and do those teaching methods (best) achieve those intentions?

Footnotes

[*] Lecturer, Department of Business Law and Taxation, Monash University, Australia.

[1] Higher Education Council (Australia), ACHIEVING QUALITY 20 (1992) as cited by John Clanchy & Brigid Ballard, *Generic Skills in the Context of Higher Education,* 14 HIGHER EDUCATION RESEARCH AND DEVELOPMENT 155 (1955).

[2] M. Lipman, *Critical Thinking: What Can It Be?*, 46 EDUCATIONAL LEADERSHIP 38 (1988) as cited in Patricia M. King & Karen Strohm Kitchener, DEVELOPING REFLECTIVE JUDGMENT – UNDERSTANDING AND PROMOTING INTELLECTUAL GROWTH AND CRITICAL THINKING IN ADOLESCENTS AND ADULTS 8 (1994).

[3] King & Kitchener, *supra* note 2, at 8

[4] *Id.* at 18.

[5] *Id.* at 10, citing P. K. Wood, *Inquiring Systems and Problem Structure: Implications for Cognitive Development,* 26 HUMAN DEVELOPMENT 249 (1983).

[6] *Id.* at 13.

[7] Thomas H. Warren *Critical Thinking Beyond Reasoning: Restoring Virtue to Thought* in RE-THINKING REASON – NEW PERSPECTIVES IN CRITICAL THINKING 222 (K.S. Walters ed. 1994).

[8] *Id.* at 221. Examples of 'reasoning' given include quantitative analysis, argumentation, conceptual analysis, fallacy recognition, syllogistic reasoning, symbolic logic, statistics and information processing.

[9] *See also* John Cowan ON BECOMING AN INNOVATIVE UNIVERSITY TEACHER: REFLECTION IN ACTION 66-77 (1998).

[10] King & Kitchener, *supra* note 2, at 9.

[11] For research findings supporting gender-based, age-based or discipline-based differences in students' approaches to learning, *see* D. Watkins & J. Hattie, *The Learning Processes of Australian University Students: Investigational of Contextual and Personological Factors*, 51 BRITISH JOURNAL OF EDUCATIONAL PSYCHOLOGY 384 (1981) and P. Ramsden & N. J. Entwistle, *Effects of Academic Departments on Students' Approaches to Studying*, 51 BRITISH JOURNAL OF EDUCATIONAL PSYCHOLOGY 368 (1981). The finding in both studies that that economics students are less likely than Arts students to take a deep level approach is of particular interest to myself as a teacher of law in a *business* faculty.

[12] Roger Saljo QUALITATIVE DIFFERENCES IN LEARNING AS A FUNCTION AS A FUNCTION OF THE LEARNER'S CONCEPTION OF THE TASK (1975).

[13] Roger Saljo, *Learning About Learning*, 8 HIGHER EDUCATION 443-451 (1979).

[14] F. Marton & R. Saljo, *Approaches to Learning* in THE EXPERIENCE OF LEARNING: IMPLICATIONS FOR TEACHING AND STUDYING IN HIGHER EDUCATION 55, (Ference Marton et al. eds. 2nd ed. 1997), citing F. Marton et al, 'Conceptions of learning', 19 *International Journal of Educational Research* 277 (1993).

[15] *See* James Hartley LEARNING AND STUDYING: A RESEARCH PERSPECTIVE 88 (1998).

[16] King & Kitchener, *supra* note 2, at 37.

[17] Saljo, *supra* note 12, at 450.

[18] Hartley, *supra* note 15, at 96.

[19] *Id.* at 51.

[20] King & Kitchener, *supra* note 2, at 18.

[21] *Id.* at 14-16.

[22] *Id.* at 16.

[23] *Id.* at 17.

[24] *E.g.* Cornell Critical Thinking Test derived by Ennis and Millman or Watson and Glaser's Critical Thinking Appraisal.

[25] For a description of the models and tests rejected, *see* King & Kitchener, *supra* note 2, at 89-97.

[26] King & Kitchener, *supra* note 2, at 130-153

[27] *Id.* at 159-188.

[28] Of the subjects interviewed, 218 were teachers of adults and the remainder were adults. The interviews were conducted in Canada, People's Republic of China, Hong Kong, Singapore and U.S.A.

[29] Daniel D. Pratt, *Conceptions of Teaching*, 42 ADULT EDUCATION QUARTERLY 203-220 (1992).

[30] *Id.* at 208.

[31] The study showed that this conception was most visible within North American formal higher and continuing education, and this conception alone was *absent from* their interviews within the People's Republic of China.

[32] Pratt, *supra* note 29, at 215.

[33] *Id.* at 216.

[34] Keith Trigwell et al, *Qualitative Differences in Approaches to Teaching First Year University Science*, 27 HIGHER EDUCATION 75 (1994).

[35] David Kember, *Teaching Beliefs and Their Impact on Students' Approaches to Learning* in TEACHING AND LEARNING IN HIGHER EDUCATION (Barry Dart & Gillian Boulton-Lewis eds. (1998).

[36] *Id.* at 16.

[37] *Id.*

[38] Pratt, *supra* note 29.

[39] Marcia B. Baxter Magolda, CREATING CONTEXTS FOR LEARNING AND SELF-AUTHORSHIP 239-246 (1999)

[40] *Id.* at 245.

[41] Keith Trigwell et al, *Relations Between Teachers' Approaches to Teaching and Students' Approaches to Learning*, 37 HIGHER EDUCATION 57 (1999).

[42] Hartley, *supra* note 15, citing D.D. Nulty & M.A. Barrett, *Transitions in Students' Learning Styles*, 13 STUDIES IN HIGHER EDUCATION 85 (1996), Ramsden & Entwistle, *supra* note 11, Watkins & Hattie, *supra* note 11.

[43] Kember, *supra* note 35.

[44] *Id.* at 23. *See also* Bowden, *Achieving Change in Teaching Practices* in IMPROVING LEARNING (P. Ramsden ed. 1988).

[45] King & Kitchener, *supra* note 2, at 237-256

[46] *Id.*

[47] Hartley, *supra* note 15, citing Nulty & Barrett, *supra* note 42, Ramsden & Entwistle, *supra* note 11, Watkins & Hattie, *supra* note 11.

[48] Kember, *supra* note 35, at 23. *See also* Bowden, *supra* note 44.