Learning internationally in a future context.

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Paper presented at the Alliance For International Education Conference Shanghai. Educating for Global Citizenship. 27-29 October 2006

Dr. John Munro Head of Studies in Exceptional Learning and Gifted Education Faculty of Education The University of Melbourne Vic. 3010 Australia Phone: 61 - 3 - 8344 0953 Email : j.munro@unimelb.edu.au Learning internationally : A critical construct in successful international education provision

Abstract: This paper is referenced on the assumption that successful international education provision needs to be informed by a clear and explicit model of learning internationally. It uses a knowledge acquisition and enhancement framework to identify key processes associated with contemporary models of autonomous learning. By examining how these processes are implemented from multiple cultural perspectives, a model of learning and teaching internationally is developed. This model is used in a range of ways, one of which is to develop an awareness of and to broaden the traditional Western 'models' of education and learning.

Key words : international learning, cultural differences, knowledge acquisition

In recent years around the world there has been an increased interest in international education. This has derived from a range of perspectives, some linked with increased international mobility communication and information transfer, some linked with changes in the concepts of national and international and some with the belief that an increased capacity to operate in the global community of the future is likely to be enhanced by learning and understanding ideas in international contexts.

One aspect of international education is its provision. This, too, covers a range of issues. One relates to the provision of curriculum that has the characteristics of being 'international' rather than 'national'. Linked with this is the implementation of credentialing that also meets this criterion. A third relates to the provision of school leadership, governance and administration that meets the criterion (Dimmock & Walker, 2000). A fourth relates to the resourcing of the provision. A fifth relates to the relationship between the relevant international and national provision. The present paper examines a sixth aspect; the fostering of learning and teaching interactions that meet the 'international' criterion. This includes a knowledge of how to learn internationally and an awareness of pedagogic practice that could be described as 'international'.

The international classroom, bringing together students from many cultural backgrounds to a common learning context, is an increasingly common phenomenon in educational provision around the world. Various challenges and possibilities confront educators working in this context. Challenges include strategies for optimizing academic learning success across variation in cultural backgrounds and for implementing pedagogy that values this cultural diversity and uses it to foster enhanced learning outcomes for all members of the classroom. Possibilities include the opportunity for levels of knowledge, understanding and appreciation that would be more difficult to achieve in a monocultural classroom.

Some of these challenges have been explored recently in the Report of the National Study Group for the Affirmative Development of Academic Ability titled *All Students reaching the Top: Strategies for closing Academic Achievement* Gaps (Bennett, Bridglall, Cauce, Everson, Gordon, Lee, Mendoza-Denton, Renzulli & Stewart, 2004). The Report identifies the challenge of the influence of culture on academic learning success at any time and the capacity for future knowledge enhancement. It examines the affirmative development of academic ability in the multicultural classroom and identifies the need for high-quality pedagogy that nurtures personal intellectual competence and that facilitates the transfer of knowledge. In particular, it recommends access to research-based educational interventions that acknowledge how students from different cultural backgrounds learn.

The present paper is based on the assumption that, to be effective, pedagogic practice in the international classroom needs to be informed by a knowledge of professional practice that includes an awareness of that interactions during learning and communication generally are shaped by the worldviews of the participants, that these are culturally determined and that they differ among cultures (Crocker, Major, & Steele, 1998). It needs to include not only a consideration of the worldviews of the students but also a recognition and acknowledgement of those of the teachers, administrators and educational providers (Sodowsky & Kuo, 2001; Triandis & Singelis, 1998).

The present paper assumes that, to be effective, the provision of international education needs to be informed by a knowledge of how to learn internationally. In addition to positive dispositions and attitudes towards world views and learning, it proposes that the work of educators in international classrooms can be enhanced by an explicit understanding of processes that contribute to knowledge enhancement (that is, learning) and how they are implemented in various cultures. This professional understanding can be fostered through the use of conceptual 'tools' that assist educators to 'unpack' and understand aspects of learning in international contexts.

One example of a conceptual tool used to identify the influence of culture on the learning patterns of international students in Australia is provided by Flavell (2004). The study used procedures called Activity Theory to evaluate essay writing and mathematics learning by these students, whose earlier social and educational experiences had been in cultures outside Australia. These procedures permit the analysis of components of learning, and links them with factors in the broader institutional, educational and societal contexts.

The procedures assume that human action and decision making involves three interacting aspects; the learner (or 'subject'), the task or goal of the activity (its 'object), the mediated actions ('tools' or 'instruments') that the subject uses to achieve the object and the 'outcome' of these interactions. The outcome depends on how the learner interprets or understands the object, that is, what learners see as their reasons for engaging with it. The learning activity occurs in a social context that involves three related concepts; the group in which the learning occurs (the 'community'), the division of tasks, power and status between the members of the group (the *division of labour*) and the explicit and implicit rules, regulations, norms and conventions used by the group to manage the learning (that is, the '*rules'*).

The study showed that the learning activities of international students studying in Australia, whether writing an essay in an MBA course or completing secondary level mathematics tasks, can be best understood when they are seen as part of the collective social system. In the case of essay writing, the outcomes of two tertiary students are compared. Both students approached the essay writing task conscientiously; they researched the topic thoroughly, used references and lecture

materials effectively and completed several drafts. Both essays displayed a good understanding of the topic and used written language conventions with equal efficiency.

The marks earned by the two essays, however, differed substantially. The major difference was how the two students presented their arguments. The student who did better used more fully the social networks available to him within the "community" of the system to discover what was the key to success for this essay. He learnt that the particular lecturer preferred authors to argue strongly and persuasively for their position. This student sought the 'rule' that designated the expected genre. The second student did not access or use the broader socio-cultural elements of the activity system. Rather than arguing quite emotively for his point of view, the second student discussed the topic more objectively. The outcomes differed in the extent to which they accessed the wider social context and purpose of their essay writing activity. A corresponding outcome was observed for the mathematics learning context.

Flavell proposes when the students in a learning activity system come from outside its collective socio-cultural system, they are less likely to access or use its broader socio-cultural elements. This influences the learning purposes the students frame up for themselves and the comparative quality of their outcomes as they are evaluated within the system. He suggests that many international students have greater knowledge of the specific learning activities than of the broader aspects of the socio-cultural and institutional contexts in which they are learning and that these latter factors are more influential on their results. He recommends that this area merits further investigation.

In Flavell's study, the two students had constructed approximately similar levels of knowledge of the topic they were learning. In some cases the teaching-learning interactions in international contexts differentially foster the learning of students from different cultures, as noted in *All Students reaching the Top: Strategies for closing Academic Achievement* Gaps. A second aspect of the influence of culture on learning in international classrooms relates to how knowledge is acquired, that is, how learning occurs. Intuitively one would expect that cultures differ in how they learn. In order to investigate possible differences systematically, it is necessary to use an explicit and robust model of learning. There is a range of learning theories, that differ in their applicability to contemporary pedagogy and the world of 21st Century classrooms. The present paper examines a set of tools for examining the processes involved in knowledge acquisition in international classrooms.

Autonomous learners engaged in knowledge acquisition

One model of learning that has guided research and curriculum provision in Western education is that of the autonomous, self managing and self directing learner (Ablard & Lipschultz, 1998; Boekarets, 1997; Pintrich, 1995). This paper assumes that the self directed learning activity at any time is in balance or

'equilibrium' with learning that is directed by others. The terms 'self directed' or 'autonomous' indicate extent of this balance.

Cultures differ, for example, in how they conceive of autonomous, self directed learning. It is frequently proposed that Western culture has a preference for learners who are independent, focused on achievement, who have decided their goals and who value rational decision–making (Fiske, Kitayama, Markus & Nisbett, 1998; Oyserman, Coon, & Kemmelmeir, 2002). This preference is contrasted with that of Australian aboriginal or Asian cultures where the preference is more for interdependence with others, conforming to social norms, and subordination of personal goals and objectives to those of the group (Fiske et al., 1998).

This variation is illustrated in the recent Australian film Rabbit Proof Fence (Munro 2006). This film told part of the life story of three indigenous girls who had been removed from their home in Western Australia to a Western community school approximately 2500 miles distant. The girls displayed a low level of self managed learning in the school context. When they left the community and made their way back to their home, they showed a much higher level of self managed learning. Their capacity to understand and 'read' unfamiliar environments and contexts, to make effective decisions and to solve problems allowed them to survive and to avoid capture by the police and skilled indigenous trackers.

Cultures differ in how they interpret the adjective 'autonomous' when used to describe thinking and learning. They differ in the areas of knowledge in which they permit, teach or foster autonomy in thinking. The opportunities students have to learn to be autonomous thinkers and learners vary.

A classroom context may offer students a limited range of opportunities for to learn autonomously. Teachers need to be aware that their students differ in what they understand by it and how they engage in it. They may differ in their earlier experiences of learning and thinking in self directed versus externally directed ways. Those who achieve autonomy in ways not fostered by the classroom climate may display higher dependence, less initiative and disengagement from learning. Teachers need to understand and to account for this variation in their teaching.

The balance between self directed versus externally directed learning has a matching distinction in constructivist theories of knowledge acquisition. One view is that knowledge represents the real world and exists independently of the knower (Jonassen, 1991) and that learning involves constructing this representation, that is, empirical constructivism. A second view is that reality does not exist, knowledge cannot be objective or absolute (Von Glasersfeld, 1995) and that individuals construct their own interpretations of it (radical constructivism). This has been modified into a third view that individuals

agree to construct a consensus interpretation, that is, social constructivism (Heylighen 1993). Cultures differ in their composite position on these interpretations of knowledge construction and on the learning activities they encourage for each.

The present discussion uses the model of the autonomous learner as a first step in understanding the range of ways in which students from different cultures learn. It is proposed that: (1) learners may show culturally specific ways of learning autonomously; and (2) an awareness of the multiple ways in which students do this can enhance the education and understanding of all students.

A knowledge acquisition model of learning : learning actions

Learning activity can be described from the perspective of knowledge acquisition and enhancement. This perspective defines learning in terms of the processes involved in increasing or modifying what one knows, does, believes and thinks. It explores the question: What do individuals need to do to acquire knowledge of a topic ? The present paper examines cultural influences on learning using the autonomous learner framework as a reference point.

The model for identifying how learners acquire and enhance their knowledge was developed as follows (Munro, 2003a and b, 2004, 2005). A range of largely Western public domain theories of learning was analyzed to identify the learning activities that each validated to describe how students change what they know. These were synthesized into a generic framework. In this context the term 'knowledge' refers to the totality of what one knows and includes one's (1) propositional and conceptual knowledge and the associated procedural knowledge; (2) attitudinal beliefs; (3) beliefs about learning and how to learn and how to apply one's knowledge; and (4) world beliefs.

The key learning actions include the following: Learners:

- 1. develop a reason for engaging in learning an idea.
- 2. form an impression of the possible outcome of the learning.
- 3. activate what they know about the topic; their existing or prior knowledge.
- 4. plan a learning pathway to their goal.
- 5. learn the new ideas in 'scaffolded' ways in specific contexts.

- 6. deepen and abstract what they have learnt.
- 7. invest positive emotion in the new knowledge.
- 8. identify the learning strategies they used to learn.
- 9. monitor their learning, see themselves making progress.
- 10. store what they have learnt in memory and practise remembering it.
- 11. automatize what they have learnt.
- 12. apply, transfer and generalise the new knowledge and use it creatively and innovatively.
- 13. organise what they have learnt for assessment purposes.

Each learning action is a thinking strategy that individuals or groups can use to modify or enhance their knowledge. Together they provide an explicit, systematic framework for transforming or enhancing knowledge. Learners use them as 'self scripts' to guide their thinking and to manage, direct and regulate their learning activity. The self scripts can catalyse or 'trigger' each action.

The learning actions are used in phases

The learning actions are not used in a linear one-directional sequence. Instead, they can be categorized into three phases: those to do with:

- 1. orienting one's knowledge for learning and for 'getting ready' what they know;
- 2. acquiring new knowledge, both conceptual, attitudinal and how to learn;
- 3. consolidating, storing and transferring the knowledge acquired.

Within each phase, two or more actions may share a reciprocal relationship at any time. As well, in line with parallel information processing theories, learners can potentially use more than one at once.

During the early phase of learning, learners use actions 1-4 to orient their existing knowledge to the problem or focus of the learning. They switch between their purpose for learning, likely outcomes and

what they know. They may revise what they think the outcome will be, re-shape the challenge and modify their proposed learning pathway.

One source of individual difference in learning at this phase of learning is a learner's existing knowledge. One learner's knowledge of a topic may be largely experiential or episodic while a second learner may know the topic in a largely abstract way. One learner may have a rich network of meanings for a topic while a second learner may have a much smaller network of meanings.

During the knowledge change phase, learners switch mainly between interactions 5-8. They learn new experiential, conceptual, attitudinal and thinking aspects of the ideas. In many situations they learn new ideas in specific contexts in 'scaffolded' ways first and then generalise these, even when new ideas are introduced in abstract ways. Once they have begun to abstract an idea, they switch to particular contexts to test their comprehension.

They link emotion in the new knowledge across this phase. They can also reflect on and review the actions they use to learn across this phase. They may also revisit what they knew earlier as they make links with the new knowledge.

Even when new ideas are introduced in an abstract way, students often try to make sense of them by thinking them in particular contexts. Once they have begun to abstract an idea, they switch to particular contexts to explore and test their comprehension. In problem based learning they find that a solution works in some situations and then investigate its efficacy more generally.

The third phase of knowledge change is when the learners consolidate what they have learnt. They review explicitly the new ideas, link them with what they knew, build memory "icons" for them and practise recalling them. They see their learning progress and may automatize aspects of what they have learnt so it can be used more easily to build further learning. Cultures differ in how they encourage learners to prioritise and link ideas, the memory icons they use and the extent to which they value automatising the new knowledge.

They can now generalise the new understanding more widely and think more creatively about it. They explore and analyse it from a range of perspectives, see how far they can transfer it (near and far transfer) and use the knowledge in open-ended creative problem solving. As well, they can organise it for assessment purposes. They reflect on the contexts in which they need to display the knowledge and how they can align it with various assessment criteria.

How learners manage and direct their learning

Even though several actions are potentially available at any time during learning, some dominate. Learners differ in how they direct or manage how their use these actions (their metacognitive knowledge, Schraw & Moshman, 1995). This depends on several factors, including their beliefs about the topic they are learning, whether they can learn it successfully (Pajares, 1996), or how particular learning contexts will allow them to learn (Zimmerman & Schunk, 1998).

Learners' beliefs are linked with learning actions. The belief that a goal is to discover a new way of solving a problem triggers different learning and thinking actions from the belief that the goal is to learn an established solution procedure (Biggs, 1987). As well, the amount of control learners believe they have in the learning context influences the actions they use. Time constraints, needing to meet external criteria and a need to learn and memorize the ideas in an unquestioning way for later reproduction lead to restricted knowledge enhancement.

Learners can use the actions spontaneously or be cued to use them. Those who use them mainly when instructed or cued are more dependent and externally managed. Learners who use them autonomously and spontaneously in a strategic, selective way are the more self managing and directing learners. Their use in a self directed way depends on the content or subject being learnt. Learners may be more self managing in some areas of knowledge than in others.

The set of actions is learnt through meaningful interactions with one's culture

Cultures differ in how they construct and value each action. The work of Au and Entwistle (1999), Chan (1999), Walker and Dimmock (2000) and Drake (2004) assist in elucidating potential sources of variation. The following differences illustrate these (Munro, 2006). While they are presented as dichotomous, it is recognised that each 'dichotomy' represents a continuum, with a difference in degree or extent.

- Cultures differ in their assumptions about what constitutes knowledge and the areas of knowledge available for change. They vary in the extent to which (1) culturally valued knowledge is available for change during learning and (2) the focus is on learning as enquiry versus learning as inculcation and transmission. Some value increased knowledge generally, a knowledge of how to learn and a positive disposition to 'lifelong learning'.
- 2. Cultures differ in the nature of creative outcomes they value. Some cultures prefer bounded creative activity that does not question deep cultural values. Others tolerate or encourage this level of questioning. Believing that a culture's knowledge of a topic is its best impression at one point in time has different implications for creativity and innovation than believing that knowledge is absolute and 'fixed'.

- 3. Cultures differ in how the perceived locus of knowledge; referenced either within the individual or withir the group or culture. This difference influence beliefs about the source and ownership of knowledge and the preparedness to question or change what is known.
- 4. Cultures differ in the extent of focus on learning as an individual versus group activity. Rather than a focus of self-talk by individuals during learning, the culture may foster group dialogue. Teaching strategies for stimulating existing knowledge may vary from individually focused provocative questions to small group activities to telling students the areas of existing knowledge that will be required or assumed by the teaching.
- 5. Cultures differ in the opportunities they give learners to show what they know. This influences how knowledge is assessed and the pedagogy used. They differ in the extent to which they encourage students to question what they know during learning, identify explicitly what they don't know, take risks with what they know, tolerate uncertainty and learn through modelling and imitation.
- 6. Cultures make characteristic assumptions about what constitutes effective learning-teaching interactions. These are usually coded implicitly in their metaphors and beliefs about educational provision. They are rarely made explicit in Western approaches to formal education.

Cultural influences on the learning actions

Each action has both generic and culturally specific aspects. The set of learning actions provides a valuable tool for analysing learning internationally. We can examine how students from different cultures go about using each action (Munro, 2006).

1. *A purpose for learning* The first learning action relates to learners framing up a purpose or reason for learning a topic. The 'challenge to learn' can be conceptualised as lying on a dimension ranging from an interest in knowing more about a topic and reducing uncertainty to achieving outcomes unrelated to the topic such as being accepted by others or course entry criteria.

Cultures differ in how they encourage students to frame up purposes for learning. Some encourage students to question their existing knowledge in terms of its relevance or appropriateness. Individual curiosity leads to challenges and goals for learning. Other cultures encourage students to internalise the existing knowledge of the culture. The goals of learning are framed in terms what is known by others (Chan, 1999). Questioning key concepts is not valued and may be perceived as threatening.

Cultures also differ in the extent to which students are encouraged to frame up purposes independently, for example, to develop a personal curiosity about areas of knowledge versus leading all students to frame up shared purposes for learning. Students from different cultures may differ in the extent to which they learn to develop their own reasons for learning and the contexts under which they frame up challenges or problems.

Western theories of learning use the concept of the state of 'cognitive conflict' (Lowenstein, 1994). It is the mechanism for catalysing or stimulating learning in both the Piagetian and Vygotskian frameworks, in which it is developed as "sociocognitive conflict" (Tudge, 1990). It can range from a emotional drive to satisfy one's curiosity to an explicit challenge or question to be answered. Western approaches to pedagogy frequently focus on stimulating this state. It may be inappropriate for learning from some cultural perspectives (Chan, 1999). Some students in an international school may not feel motivated to learn by being encouraged to question what they know about a topic.

2. *Possible outcomes of the learning* Learners form an impression of possible desired outcome of the learning. For example, they visualize where they will end up, what they will know, be able to do or what they may believe or feel. They 'see' the goals as personal experiences (Locke & Latham, 1990; Pintrich & Garcia, 1991). This gives them a direction or focus of their learning.

Cultures differ in how they foster this. A key dimension here is the focus on individual versus group learning. Some cultures encourage learning through the individual pursuit of knowledge, for example, through personal enquiry and problem solving. Students may visualize the outcome of the learning as a report of an investigation in which they display their changed knowledge of the topic.

Others focus more on collaborative or group learning, with information presented didactically and with limited opportunity for learning through personal pursuit. Students may visualize the learning outcome as completion of a set of tasks that will be administered to the group as a whole and in which they will show their awareness and mastery of the knowledge taught to the group.

3. *What learners know about the topic* Learners make links with what they know about the topic. Knowledge change begins here. This action involves several aspects:

(i) One aspect is what they know about the topic. Students' existing knowledge of a topic can be represented and stored in a range of ways; in imagery as experiences in particular contexts (their 'episodic knowledge'), in more abstract, decontextualised ways and in action ways. These multiple forms of knowledge have been described in terms of dual coding theory (Paivio, 1991) and multiple intelligences, (Gardner, 1995). These descriptions have been simplified into learning styles (for example, Riding & Cheema, 1991) and cognitive styles (for example, Munro & Howes, 1996).

Cultures differ in the problems they need to solve, the tools they use and the valuing they place on different types of knowledge. Episodic knowledge is more culturally specific than abstract knowledge. Students from different cultures differ in how they use their knowledge to make decisions and to solve problems and to meet the range of needs of the culture.

The Australian film Rabbit Proof Fence mentioned earlier illustrates this. One can only marvel at the knowledge displayed by the three young girls as they made their trip home. They showed a spatio –temporal and environmental knowledge of their world, a spiritual knowledge, focus and determination that differed significantly from that of the conventional Western Australian adolescent. Their capacity to use this knowledge and their relationship or affinity with the country is difficult for non- indigenous Australians to understand.

Cultures differ in the symbolism they use to represent complex ideas. Western cultures use discrete, atomistic and depersonalised linguistic concepts and abstract symbolism while other cultures may use icons, actions, linguistic narrative, song and poetry. The more analytic, decontextualised, detail –oriented ways of thinking that characterise Western thinking is less likely to accommodate the links between ideas shown in indigenous Australian knowledge and thinking.

- (ii). A second aspect relates to what they know about how to transform their knowledge or how to learn,
 (for example, Biggs, 1987; Davidson & Sternberg, 1998; Jausovec, 1994). Students from
 different cultures differ in what they know about how to learn (Au & Entwistle, 1999; Chan 1999).
- (iii). A third aspect relates to what they believe about themselves as learners of the topic, how they value it, whether they believe they can learn it successfully (their self-efficacy, for example, Nichols & Utesch, 1998; Pajares, 1996). Learners' self efficacy judgments affect how they learn and the

effort they invest. They make these judgments quickly and unconsciously and independently of their actual level of ability.

(iv). A fourth aspect relates to students' beliefs and metaphors about the accepted roles of learners and teachers (Pintrich, Marx & Boyle, 1993). Student roles can vary from the belief that students learn by being programmed to the belief that students learn by questioning, analysing and building ideas.

Cultures differ in the beliefs they foster about the role of formal education. Those that see it as 'enculturation' foster metaphors that value the internalisation of existing cultural knowledge. Those that see it as a route to a cultural transformation foster the questioning and challenge of existing cultural knowledge.

(v). A fifth aspect relates to self initiated enquiry-based learning. A catalyst for autonomous learning involves students identifying what they don't know about a topic, or 'holes' in their existing knowledge. They frame these up as unanswered questions about it. These are the challenge for learning mentioned earlier. They provide the basis for self initiated learning and for learning in enquiry and problem based curricula.

Identifying what one doesn't know about a topic assumes both that the learner takes an active role in the learning and that learners are encouraged to see their knowledge of a topic as being incomplete or 'our best interpretation at this time', rather than being absolute and 'set in concrete', not to be questioned. Cultures differ in the extent to which they see subjects or topics open to interpretation and available to be questioned. Some students may be reluctant to question topics that other students are comfortable questioning.

(vi). A sixth aspect relates to cultural beliefs about when to display knowledge. The display of knowledge is frequently critical in formal Western educational contexts. Students are identified as having learnt a topic when they can display knowledge of it. Some cultures encourage students to display knowledge spontaneously and to make opportunities for showing what they know. Some encourage students to show what they know only when the students are invited to do so. Other cultures do not encourage the display of knowledge except when there is a particular problem to be solved or dealt with.

4. *A pathway to the goal* Learners plan and develop possible ways of getting to their goals. Those who can see a possible pathway are more likely to maintain independent engagement and

perseverance. While the pathway may change direction during the learning activity, at any time it assists in orienting the learning.

Cultures differ in how they conceive of the learning pathway and the opportunities they provide students to do this. The autonomous learner model assumes the ability to develop and implement personal learning pathways. Students learn to plan their path through a topic, decide the learning resources they may need to use and indicators of progress to their goal.

Cultures in which student learning is more directed externally require students to perceive the learning pathway in terms of group or collaborative issues. Their learning pathways specify the learning outcomes and progress points the group will be intended to meet.

5. **Learn in specific contexts** Learners learn the new ideas in specific contexts in limited, supported, 'scaffolded' ways by linking what they know into new ideas. They make new links between ideas they already know. They differ in how they do this. Their new knowledge may be encoded as experiences. They may learn aspects of the ideas at a time, in particular formats (as actions, as imagery, in language), intuit or speculate about particular components and trial them. They may ask questions that bridge from existing knowledge to new ideas, for example: *How can we get from..to?* These question sequences allow them to move gradually from what they know, recode between the different forms of the ideas (for example, change imagery, action knowledge of new ideas into words) and practise the new ideas.

The learning process at this point draws on and integrates contemporary learning research from a range of sources: the role of imagery in learning, multiple ways of learning (for example, Paivio's Dual Coding theory (Paivio, 1991; Sadoski & Paivio, 1994), learning through internalised actions or operations, learning through specific episodes (Tulving, 2002) and the role of short term working memory in learning (Baddeley, 1990).

These differences are to some extent learnt from one's culture. We can describe the various ways in which learners do this on a number of dimensions that indicate how they 'balance' their learning activity:

(i). some cultures encourage individuals to make small, sequential links between ideas, with a focus on detail while others encourage making larger, wholistic links between ideas. Some cultures think in more linear, serial ways while some think in more circular ways.

- (ii). some cultures link ideas more in specific contexts in time and space and may link ideas in action sequences; they form images episodes or experiences of new ideas. Others value more linking ideas in verbal, abstract, less contextualised ways. Some cultures may value imagery thinking over abstract thinking. Individuals in these cultures may have difficulty expressing creative ideas, for example, in abstract ways such as in sentences and may prefer to make models or represent the novel ideas pictorially.
- (iii). some cultures encourage individuals to think intuitively about the ideas, explore and trial particular components and then use context-evaluative thinking while others prefer to learn deductively by identifying rules and procedures and place greater value on 'objective logic'.
- (iv). some cultures encourage individuals to question what they know and to challenge conventional knowledge and beliefs in adversarial ways and to use this to bridge from existing to new ideas.
 Others prefer individuals to learn not by questioning what is known but to learn by accepting and internalising more complex relevant knowledge and by building collaboratively on this.

Chan (1999), for example, notes that Chinese students are taught to respect knowledge and the expertise of their teachers and parents and to avoid challenging either the knowledge they are being taught or its teachers. Students inculcated in these values may be expected to learn differently from those who have learnt in a culture in which questioning the existing knowledge and the teacher are valued.

Pedagogic practice in classes that include students from a range of cultures needs to respond to the challenge of balancing the use of different ways questioning. Some students may prefer to question overtly a topic and seek a dissonance in it. They may prefer to learn by asking questions and then to pursue the knowledge to answer the questions. Other students may prefer learn and internalize the topic, inherently trusting it and their teachers and then to explore and extend within the topic, maintaining a 'harmony' within it.

These different ways of learning a new set of ideas, informed in part by one's earlier cultural experiences, influence how students approach learning at any time and need to be taken into account by the teaching that is provided.

6. Abstract or deepen the new understanding. Western approaches to education frequently require students to 'deepen their new understanding' or to generalize their knowledge through abstraction. The Western focus assumes that students have access to particular type of symbolic systems and ways of thinking. These include analysing aspects ideas taken out of specific contexts (or "decontextualizing"),

selecting and re-organising the main and subordinate ideas, summarizing and re-prioritizing the ideas and generalising from specific instances.

They review the new knowledge, integrate various aspects of it, consolidate it with what they knew, reprioritize their knowledge and identify a range of contexts in which they can use it. This interaction is consistent with the notion of abstraction proposed by Anderson, Reder & Simon (1996, 1997).

Other cultures place less value on abstraction and differ in the ways in which they encourage it. Chinese approaches, for example, tend to value the functional and practical aspects of knowledge and focus on the concrete rather than abstract forms of ideas (Chan, 1999). The Western focus on scientific objectivity and inductivism is not the preferred way of thinking for all cultures. This focus may conflict with alternative value systems.

It may not be unreasonable that international curricula requires this level of understanding. They need to recognise, however, that learners from different cultures may differ in their disposition to thinking that leads to this form of knowledge and their valuing of it.

7. *Invest positive emotion in the new knowledge* When students invest positive emotion in their new knowledge, they will be more motivated to learning about the topic and using it on future occasions (Zimmerman, Bandura & Martinez-Pons, 1992). To make this investment, they need to see that : (1) the new ideas have a value or use for them; and (2) it was their mental activity that learned the ideas (Nichols & Utesch, 1998).

Most of the research on this aspect has been from a Western perspective. Western cultures tend to neglect the emotional aspects of learning. Perhaps as a consequence, reduced motivation to learn culturally valued ideas is a characteristic of many Western cultures. Particularly in the adolescent years, student disengagement and alienation is a commonly reported problem.

Cultures differ in the types of learning outcomes they value and the values they want students to link with them. The teaching conditions for motivating students from one culture may not work as effectively for students from other cultures. Teachers in international contexts may need to examine the conditions under which their students are both (1) prepared to make an emotional commitment in the ideas they are learning and (2) motivated to be self directing learners of the ideas. It may be inappropriate to assume that all students will be motivated in identical ways to learn the same topic or subject.

8. Store what they have learnt in memory Storing what has been learnt in memory and recalling it is a critical aspect of knowledge enhancement (Baddeley, 1990). Students do this by 'compressing it' into its key ideas, linking it with what they know, building memory "icons" and practise recalling it. Teaching can 'take for granted' this aspect of learning and assume that all students can use memory processes with equal efficiency.

Cultural influences on memory have several sources. Students differ in their dominant forms of existing knowledge and earlier experience adding to it. Some cultures value storing knowledge in imagery forms while others value more abstract forms (Chan, 1999). Cultures also differ in how the processes of memorisation and understanding of new ideas are integrated (Kember, 1996; Marton, Watkins and Tang, 1997).

9. *Identify how they learnt* This is a key action for teaching students to be autonomous, self directing learners (Ablard & Lipschultz, 1998; Boekarets, 1997; Pintrich, 1995). To achieve this, they reflect on their learning activity and identify what helped them to learn. This includes both the learning strategies and the metacognitive control they use. They may build an explicit knowledge of how they learnt and the learning strategies they used.

The little research available suggests that cultures differ in both the goals or purposes, contents and processes of the reflective thinking activity. Western approaches focus on verbal descriptions of thinking. Students learn the language for talking about how they learn. These approaches can neglect nonverbal aspects of thinking. The cultures of students in an international classroom may differ in the extent to which they value or encourage the dominance of verbal thinking.

The Western relationship between language, culture and thinking has been described within the sociocultural framework proposed by Vygotsky (1978). A key aspect of this is that students learn the ways of thinking and conceptualisations used in their culture through their social interactions with significant others (Wertsch, 1985). Language is seen as the most complex way in which ideas are shared.

Obviously, cultures may differ in how they think about the same ideas, how they construct thinking and learning and in their attitudes or dispositions to them. They may differ in their use of verbal versus nonverbal reasoning and in the distinctions they make between various forms of reasoning. The same learning outcomes may be generated by different cognitive strategies in different cultures.

Teaching practice needs to be aware of the Western assumption that ways of thinking employed by all students can be described most effectively in verbal propositions, that students' thinking can be

differentiated and that aspects can operate independently. Teaching that assumes largely verbal descriptions of thinking may limit the extent to which alternative ways of thinking emerge or are valued. Some students may begin to doubt the 'inherent' ways of thinking they had learnt in earlier cultural interactions

The focus here recommends that students in international contexts learn to increase their knowledge of how to learn and think in a range of ways. International educators intending to enhance their students' knowledge in this area may need to give consideration to this issue and to examine the ways in which different cultures think about learning and thinking. This will influence both what is taught and the pathway and means of teaching it.

10. **Making progress as a learner** We noted earlier that a key influence on learning is students' self-efficacy, or belief that they can learn topic successfully. These beliefs are learnt when students perceive they can learn particular topics. Teaching and cultural variables influence how students do this.

Individuals develop these beliefs by reviewing and reflecting on their learning progress. They are determined in part by (1) the criteria or indictors of progress students use, such as the apparent ease of learning the topic, the level of interest it elicited from them, the value of the learning outcome for them; and (2) the feedback they receive from significant others in the learning context, such as their teachers and peers. The indicators that students use to gauge their progress can either be learnt from the learning context or be largely self generated.

Cultures differ in what they teach students about the criteria for success or progress in learning. Chan (1999), for example, compares the attributes of learning valued by Confucian and Western based cultures. Learning in the former context is more likely to seen as successful if the student achieves various social and collaborative achievement criteria; the indicators for learning success are determined by the group. Thus, while students across cultures are likely to monitor their learning progress, they differ in the criteria and the types of feedback information they use to do this.

11. *Automatise what they have learnt* Learners automatize aspects of what they have learnt so it can be used for further learning. They do this by strengthening links between ideas and organizing what they know into larger "chunks". This action has frequently been confused with 'learning by rote'. The distinction between the two is based on students' access to meaning during learning. Learning by rote is usually used to refer to situations in which this access is not available. Automatising what has been learnt, on the other hand, involves learning ideas initially in attention demanding meaning based ways

initially. Repeated use leads to links between ideas becoming 'better programmed' and less demanding of thinking space or attention.

Cultural influences on this action have frequently been misinterpreted (Biggs, 1994). Chinese students, for example, use repetitive learning strategies which have often been incorrectly described as rote, to assist them to recall knowledge (Au & Entwistle, 1999). Once they understand the new ideas, these strategies help them to link them with other ideas in increasingly sophisticated ways.

12. *Transfer and generalise the knowledge* This action, increasingly fostered in Western education in recent decades, involves thinking about the new knowledge in creative ways, exploring their transferability and generalisability using a range of 'higher order' thinking strategies. Students analyse, evaluate and synthesise aspects of the new knowledge from a range of perspectives and develop an enhanced understanding of it.

Cultures differ in how they foster these 'open ended' ways of thinking about a topic. Chan (1999), for example, comments that Chinese classrooms are less likely to foster creative thinking or active and critical enquiry. She reports Biggs' (1994) observation that while there is a valuing of the one "right way" convergent learning outcomes, teachers encourage students to learn these by using higher- level thinking rather than the simple rote learning strategies. It is important that international education examines the ways in which different cultures elaborate and extend their knowledge, in both creative and critical ways.

13 **Organise what they have learnt for assessment** Being able to show what one knows is a key aspect of successful learning. The autonomous learner model focuses students' attention on 'reading' assessment contexts and tasks and on aligning what they know with the 'window of opportunity' provided by these contexts. They need to organize what they have learnt for display purposes and to reflect on how they will apply their knowledge in particular assessment contexts.

This action contributed to the difference in marks gained by the two students in Flavell's (2004) study. Students need to learn the different purposes for which their knowledge is assessed and what the feedback they receive during assessment means for what they know and themselves as learners. They benefit, for example, by knowing how to use the feedback they receive during formative assessment activities to reflect on and modify, if necessary, what they know.

Cultures differ in the ways in which they encourage and teach students to show what they have learnt. Increasing students' knowledge of the conventional ways in which this is done in a range of cultures increases students' capacity to learn and to think internationally. A curriculum is more internationally equitable if all students share a common knowledge about how to show what they know.

The learning actions model as a tool to unpack and understand learning internationally

The sequence of learning actions provides a useful tool for analysing learning internationally in a range of ways. It can be used :

- to focus attention on specific aspects of knowledge acquisition and identify how students from different cultural backgrounds typically implement each. Teachers can use it to engage in dialogue with students about each aspect and analyse, in their approach to learning, how students use them. Teachers can design questionnaires based on the sequence to ask students how the aspects of teaching help them learn effectively. It was used in the present article to summarise and collate what it known about particular aspects of cross cultural learning.
- 2. to develop pedagogic practice that takes account of the range of cultural perspectives from which students come. Options for teaching procedures associated with each of the learning actions provide by Munro (2004, 2003b) can be used as a starting point for this professional learning.
- 3. to teach their students how to be self managing and regulating learners in ways that are consistent with their cultural background by teaching, systematically, the learning interactions as student self –talk. Students can learn to ask themselves the above set of self instructions as self scripts (Munro, 2001).
- 4. to analyse student learning problems from an 'effective learning' perspective. The sequence has been used to deal with problems in teaching such as lack of student engagement and behaviour problems, by describing them in terms of learner interactions (Munro, 1997). It helps teachers to interpret the problems learners show from a learning perspective and solve them using pedagogy. Teachers can use it to examine the learning interactions students use and the learning interactions fostered by the teaching.

Conclusion : A framework for looking at learning internationally

This paper assumes that international education needs to be informed by an explicit consideration of international learning. We live in an increasingly 'internationalising' world. The need to understand

international learning is not restricted to teachers in 'international schools'. Our students and our cultures experience information that is increasingly international in its sources and dispositions.

This paper focuses on learning in international contexts and what this means for teaching and teacher knowledge. Learning is influenced by a range of cultural factors that need to be acknowledged explicitly in classroom practice and school organization. It has developed one perspective on learning internationally and identified how culture might influence knowledge acquisition by using the autonomous learner model as a starting point.

Learning in international contexts is a complex process. Teachers and schools need a tool for unpacking its components. The explicit learning framework can be used to explore learning from a range of cultural perspectives and to encourage reflective learning and thinking from multi-national perspectives. It can assist in the internationalisation of tasks, in professional development and teacher training through its explicit focus on learning and thinking internationally.

It assumes that an international education approach would capitalize on the multiple cultural embodiments of topics and ways of learning. These can be used to enrich and maximise the learning processes and outcomes of all students. It could foster both (1) positive international values by encouraging positive attitudes to and a valuing of specific concepts from a multi-national perspective and (2) a high level of cultural awareness, sensitivity and acceptance. In short it provides the positive values and beliefs that characterise an international educational perspective for 21st century thinking and living.

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