Asian students from Confucian-heritage cultures (CHCs) have been criticised for their commitment to a rote-biased or 'surface' approach to learning. The environments in which they are taught are perceived as encouraging just such an approach; these environments are also ones that Western research would categorise as academically unhealthy. Such descriptions are by now stereotypes. Yet CHC students generally have a more 'academic' approach to learning (low surface, high deep) than Australians, and their academic performance in international comparisons is consistently higher than that of students from most Western countries. It is suggested that these hard data are correct; if there is any paradox it is because of Western misperceptions, both of CHC students' approaches to learning, and of the environments in which they are taught. Some implications for handling international students in Australia are discussed.

Introduction

Educational research conducted in Western countries has established what is now conventional wisdom about the conditions for good learning. Good learning involves the use of deep approaches to learning, by which students engage tasks appropriately; they use abstract frameworks for conceptualising the task and for illuminating the data, they are metacognitive in planning ahead and in monitoring their own progress, they achieve well-structured and integrated outcomes, and they actually enjoy the learning process. But let us not get too carried away; correct answers, and scoring well in attainment tests, are to most people (educational researchers included) the bottom line of good learning. High attainment and deep approaches are however complementary bedfellows; one of the reliable outcomes of a deep approach is a correct answer.

Good learning is more likely to take place in teaching environments that possess the following characteristics, as indicated by a number of studies (summarised in Biggs & Moore 1993):

- teaching methods are varied, emphasising student activity, self-regulation and student-centredness, with much co-operative and other group work;
- content is presented in a meaningful context;
classes are small;  
classroom climate is warm;  
high cognitive level outcomes are expected and addressed in assessment;  
assessment is classroom-based and conducted in a non-threatening atmosphere.

Observers remark that such conditions are rare in classrooms in East and S E Asia. I am here concerned with what Ho (1991) refers to as 'Confucian-heritage' cultures: China, Taiwan, Singapore, Hong Kong, Japan and Korea. The abbreviation 'CHC' is used here to refer to these countries or educational systems, with the main focus being on Chinese CHC students.

Typically, CHC classes are large, usually over 40, and appear to Western observers as highly authoritarian; teaching methods are mostly expository, sharply focussed on preparation for external examinations. Examinations themselves address low-level cognitive goals, are highly competitive, and exert excessive pressure on teachers and exam stress on students (Biggs 1991; Ho 1991; Morris 1985). Even in affluent CHC countries such as Hong Kong and Singapore, per capita expenditure on education is much less than in the West, and support services such as counselling are correspondingly lower.

These characteristics have been associated empirically in the Western context with low cognitive level learning strategies and with poor learning outcomes (Biggs 1987; Bourke 1986; Crooks 1988; Ramsden 1985). The CHC classroom appears to be the antithesis of what has been identified as a 'good' learning environment in Western research.

The learning of CHC students

Now let us look at the evidence on the quality of learning in CHC classrooms:

Low quality?

Western observers frequently complain that Asian students are prone to use rote-based, low-level, cognitive strategies, both in their own culture (Hong Kong) (Murphy 1987), and overseas in Australian
tertiary institutions (Ballard & Clanchy 1984; Bradley & Bradley 1984; Samuelowicz 1987). The following observations by Australian tertiary teachers of overseas students are typical:

*In my discipline they all want to rote learn material rather than think.* (Animal Science and Production)

*Students from Malaysia, Singapore, Hong Kong appear to be much more inclined to rote learning. Such an approach does not help problem solving.* (Dentistry)

(quoted in Samuelowicz 1987, p.123)

These perceptions are reinforced by classroom behaviour, which is seen as passive and compliant. Overseas Asian students typically take a very low profile, rarely asking questions or volunteering answers, let alone making public observations or criticisms of course content, as these quotations illustrate:

*(Asian students) tend to look on lecturers as close to gods. Often they are very reluctant to question statements or textbooks.* (Parasitology)

*... it can be difficult to cope, in small (graduate) classes, with overseas students who are reluctant to discuss, criticise reading and express an opinion.* (Commerce)

(quoted in Samuelowicz 1987, p.124-5)

Such behaviour is not, however, the understandable reaction of culture-shocked, second-language speakers. Ginsberg (1992), after a visit to China and Japan, reports:

*In China, knowledge is not open to challenge and extension (by students arguing with their instructors). ... The teacher decides which knowledge is to be taught, and the students accept and learn that knowledge. The lecturer is the authority, the repository of knowledge, leading the student forward into this knowledge, a respected elder transmitting to a subordinate junior.*

(Ginsberg 1992, p.6)

And even in 'Westernised' Hong Kong:

*Hong Kong students display almost unquestioning acceptance of the knowledge of the teacher or lecturer. This may be explained in terms of an extension or transfer of the Confucian ethic of filial piety.* Coupled
with this is an emphasis on strictness of discipline and proper behaviour, rather than an expression of opinion, independence, self-mastery, creativity and all-round personal development.

(Murphy 1987, p.43)

The perception of the student-as-tape-recorder could not be clearer.

Or high quality?

Yet CHC students achieve at considerably higher levels than do Western students. This disparity is possibly most dramatic when we look at overseas CHC students, who in general perform at levels much higher than would be predictable from their IQ (Flynn 1991; Sue & Okazaki 1990).

But more to the present point, CHC students in their own countries, obediently receptive in their own fierce and crowded classrooms, have over the years consistently outperformed Westerners. The best large-scale data we have are those obtained in the various International Association for the Evaluation of Educational Achievement (IEA) studies in mathematics and science (Baker 1993; Garden 1987; IEA 1988; Medrich & Griffith 1992), which regularly show Korea, Japan, and Singapore amongst the highest scoring countries, including Hong Kong towards the end of schooling, and nearly always higher than the US. This outcome is not necessarily at the expense of other attainment, as an ongoing IEA study indicates; Hong Kong students are above international norms on both mother tongue and second language competence (English) (Johnson & Cheung 1991).

More fine-grained data come from the careful comparative studies of Stevenson and his team in China, Taiwan, Japan, and the United States (Stevenson & Stigler 1992). They found that while US students read better than Chinese, Taiwanese, and Japanese in grade 1, by grade 5 the means were similar, but the variance much greater in US students. In mathematics, US students were significantly worse than CHC students in grade 1, a differential that grew progressively larger through to grade 11. For example, in a computation test at grade 5, only 1.4 per cent of Beijing students scored as low as the mean of corresponding American students.
Such outcomes could not be achieved through rote learning, and the evidence is that they are not. The superior performance of Chinese children in elementary mathematics, for example, can be traced to the fact that Chinese students are more sophisticated in the strategies they use. Chinese grade 1 students behave more like American grade 5 students in their preference for a decomposition strategy rather than counting, a strategy requiring a 'solid conceptual understanding of addition and number sets' (Geary, Liu, & Bow-Thomas 1992, p.183). One reason for this may be that the sounding of Chinese numbers takes much less 'space' in working memory than do Western number names, thus leaving more space for higher-level strategies (Hoosain 1991). Be that as it may, the fact is that Chinese students do use higher-order strategies, whatever the reason.

CHC preference for higher-level conceptual strategies is not confined to elementary arithmetic. Several studies, involving thousands of students, have compared the general approaches to learning of CHC secondary and tertiary students with those of comparable groups of Western students, on the basis of self-report questionnaire. In almost every case, CHC students report a stronger preference for high-level, meaning-based or deep-learning strategies, and avoidance of rote learning, than do Western students, both in their own culture (Hong Kong and Singapore) (Biggs 1990, 1991; Watkins, Regmi & Astilla 1991), and overseas in Australian institutions (Biggs 1987). One case where this pattern did not emerge was in a medical sample, where the Westerners were lower on rote, and higher on meaningful, learning approaches. However, the Western students were in that most learner-friendly of environments, problem-based learning, while the CHC students were in a highly traditional medical school in which rote learning of technical terms was emphasised (Biggs 1991).

This last finding, supporting as it does the conventional association between environment and approach to learning, validates as it were, the other comparisons. This then leaves the remaining studies pointing to a low propensity for rote learning and a strong meaning orientation in the general run of CHC classrooms, throughout the primary, secondary, and tertiary sectors.
A challenge to Western research

Evidence for each of the following can now be adduced:

a. CHC classrooms should be conducive to low-quality outcomes: rote learning and low achievement;
b. CHC students are perceived as using low-level, rote-based strategies;
c. CHC students achieve significantly higher than Western students;
d. CHC students report a preference for high-level, meaning-based learning strategies.

(a) is consistent with (b), and (c) is consistent with (d), but (a) and (b) flatly contradict (c) and (d).

We thus have some explaining to do, otherwise some well-supported propositions about the nature of teaching and learning are at risk. And what of the political implications (not to mention the face lost by researchers), if large classes, outdated teaching methods, poor equipment, inadequate public expenditure per student, and relentless low-level examining can produce students who see themselves as engaging in high-level processing, and who outperform Western students in many subject areas!

Possibly people in CHC countries are more highly evolved than Caucasians (Lynn 1987; Rushton 1989), an intriguing hypothesis that can be plausibly argued in view of the harsh conditions suffered by Asians trapped by the Ice Age between the Himalayas and the Arctic in a bitterly cold environment. But genetic arguments are currently very incorrect politically, and the problems with Lynn’s and Rushton’s particular proposals are extensively discussed by Flynn (1991).

To pile paradox on paradox, perhaps we are seeing that when schooling is poor, good students are forced to generate their own self-regulated strategies for deep learning precisely in order to survive bad teaching. That hypothesis at least suggests interesting further research, but at a first glance it seems inconsistent with the low variances reported by Stevenson and Stigler (1992); low variances indicate that all students, not just the metacognitively inclined, are benefiting from bad teaching! That hypothesis comes with a very high price tag.
Let us first try the lower cost assumption that our knowledge of teaching is not all wrong. The clue is that assertions (a) and (b) are based on Western observations and interpretations. Maybe those observations and interpretations are simply wrong. A first hypothesis, then, is that what some Western observers are seeing is not what they think it is.

The central paradox is that highly adaptive modes of learning emerge from CHC classrooms. This does need explaining; large classes, exam pressure, expository teaching, and the rest (not to mention teaching in an exotic language, as happens in Hong Kong), do not sound like good news in any system. But these features exist, and have achieved a degree of stability, in a system that produces high-level outcomes by any reasonable standard. Are they perhaps not quite what they seem to be to outside observers? Are there other factors that might cast quite a different slant on how a Westerner would interpret them? Let me now examine how Westerners might misperceive, first, the approaches to learning of CHC students; and second, the nature of their learning environments and the cultural context of which they are part.

**Approaches to learning: The mediating link**

The terms ‘deep’ and ‘surface’ when referring to approaches to learning are generic; what they specifically mean in any instance depends on the context, the task, and the individual’s encoding of both (Biggs 1993a). The surface approach, being based on an intention that is extrinsic to the real purpose of the task, aims to satisfice, not satisfy, task demands by investing minimal time and effort consistent with appearing to meet requirements. A decision to satisfice could well implicate rote learning, in which case material would be reproduced without understanding. But a decision to ensure accurate recall of already understood information, say for a high-stress situation such as an examination, may also implicate learning by repetition. The first is a surface approach, the second is not; indeed, the latter could, depending on context, be part of a deep or an achieving approach as it certainly appears to be in ‘deep memorising’, a strategy used by deep-oriented students for coping with examination requirements, as noted by Tang (1991) in Hong Kong students and by Thomas and Bain (1984) in Australian tertiary students.
A useful distinction to introduce at this stage is the difference between rote learning, which as the Macquarie Dictionary says is learning in 'a mechanical way without thought of meaning' (italics supplied), and repetitive learning, which uses repetition as a means of ensuring accurate recall. Both rely on a rehearsal strategy, and it could well be that rehearsing precludes conscious thought of meaning in both cases. The difference lies in the learner's intentions with respect to meaning. In rote learning meaning has no place in the learner's intentions, in repetitive learning it may have, at some point in the deployment of the learned material. A student who chooses a repetitive strategy to learn examination material after understanding it in order to optimise retrieval in the examination context is not using a surface approach but making a wise strategic choice.

Further, if to be deep is to relate to the task relevantly, then what is 'relevant' could depend on how it is culturally defined. If the point of learning is to understand (deep), and repetition is seen as a way of coming to understand, then repetition becomes a deep strategy. Thus, while Westerners may correctly see Asian students indulging in a high degree of repetitive work, they could be quite incorrect in seeing that activity as 'rote' learning and therefore as a surface strategy. It seems likely that Westerners are in fact seeing a great deal of repetitive learning in CHC students, but are mistaken in interpreting that as rote learning.

This illustrates the central thrust of that part of constructivist theory that has become known as the 'students' approaches to learning' or SAL research paradigm (Biggs 1993a), which stipulates that research into student learning adopts the perspective of the learner. In this view, as opposed to say a direct application from cognitive psychology, a process takes its meaning from its function in context. Thus, a subject in an experiment who chooses to use repetition in order to handle a serial word learning task, rather than an elaborative strategy such as imaging, is not using a surface approach to learning, as for example Christensen, Massey, and Isaacs (1991) assume, but is making a strategic choice in a laboratory context that is simply irrelevant to the choice the same person might make in an academic context.

Examinations aside, repetition in a Western context probably is part of a task-dodging surface approach, but in a CHC context it may not be. The choice to use repetitive learning strategically is more common in
Confucian-heritage cultures because of traditional beliefs about the role of repetition in learning. Let us examine such beliefs in context.

**Good CHC learning environments**

Gardner (1989) describes how he visited China several times to study art and music teaching. He was struck by the incredible skill that very young Chinese children displayed in their drawing, far in advance of American children of like age. On the other hand, they seemed only to draw from a few set models. This led him early in his visits to revive the distinction between ‘mimetic’ and ‘transformational’ teaching, the former highly directive and imitative, the latter student-directed and creative. Chinese teaching was, he then thought stereotypically, mimetic.

However, he began to see that matters were not that simple; for example, Chinese children were able to draw novel subjects, which they had not previously copied, very competently. The differences between Chinese and American teaching, then, was not simply that the former only stressed imitation. Rather, he saw that the differences lay in beliefs about the appropriate order of various learning-related activities. In the West, we believe in exploring first, then in the development of skill; the Chinese believe in skill development first, which typically involves repetitive (not rote!) learning, after which one would have something to be creative with. Chinese educators also believe that art should not only be beautiful but morally good; the idea of one right way pervades teaching.

Thus, skill is developed first, in service of the right way; teaching is ‘by holding the hand’, as Gardner puts it, not to direct for its own sake, but in order to create the beautiful. The end is a product, not a process; Chinese music and art teaching is performance oriented. Western education is more concerned with the process than with the product; exploring and creating are seen as more important than honing the particular skills needed to achieve a particular artistic product of an acceptable and specified standard.
Teacher-student relations

Gardner is one Western observer who quickly came to realise that his first impressions were simplistic, that things were not what they at first seemed to be. He is not the only one to make this point:

A common Western stereotype is that the Asian teacher is an authoritarian purveyor of information, one who expects students to listen and memorise correct answers and procedures rather than to construct knowledge themselves. This does not describe the dozens of elementary school teachers that we have observed.

(Stigler & Stevenson 1991, p.43)

The teachers that Stigler and Stevenson observed, in China, Taiwan, and Japan, saw their task as posing provocative questions, allowing reflective wait time, and varying techniques to suit individual students: Confucius' 'elicitation' mode in full swing. They use the term 'constructivist' to describe the commonest teaching approach they saw, an ideal espoused by progressive Western educators and realised in practice only by the expert few (Driver & Oldham 1986; Tobin & Fraser 1990).

'Constructivist' is also the term used by O'Connor (1991) in his study of PRC teachers. He presented a group of teachers with a series of classroom vignettes (e.g. a case of bullying, a student complains about a mark), and sought their analysis of the situation and their way of handling it. He found the teachers to be uniformly student centred, frequently engaging all students collectively in problem solving, both in the cognitive sense and in determining a course of action for a deviant student, and pushing for high-cognitive-level thought processes. The teachers were quite Rogerian in their concern for preserving an individual student's face.

This is not to say that teachers and schools are not authoritarian. There is after all only one 'right way', and students must tread that path, but it is by 'holding the hand', in Gardner's felicitous phrase, not by putting in the boot, which is what authoritarian Westerners are apt to do in the classroom.

Teacher–student relations in modern Chinese universities convey a puzzling ambiguity to Western observers. On the one hand, social relations are as complex as one might expect in a collectivistic culture.
Students live on campus in dormitories, and unsurprisingly this environment facilitates a tremendous amount of collective activities, including academic discussions, study groups, and the like (Chan, in progress; Tang 1993). The teachers too live on campus, often in the same building as their students, giving rise to much teacher–student interaction outside the classroom, and although teacher-student relations may be strongly hierarchical as compared to the West, they are also typically marked, if not by warmth, then a high degree of respect and responsibility on both sides. This is perhaps another area where Western observers see only part of the picture. Ginsberg’s (1992) observations that the lecturer is the authority, ‘a respected elder transmitting to a subordinate junior’ (p. 6), may in itself be true, but the model of teaching is not so much one of simple transmission as one based on much interaction. This occurs in a complex social context that is based on positive interpersonal motivation, of which the Western terms of ‘warmth’ and ‘respect’ only partially capture the flavour.

Despite classes of 50 students or even more, Chinese and Japanese teachers find time to interact one-to-one in their classroom rounds more frequently than do Western teachers, spending rather more time with each student. Western teachers see interaction more in whole class terms, with ‘quick and snappy’ public questioning (Hess & Azuma 1991), which does nothing for higher order cognitive engagement (Tobin 1987).

True, a Westerner teaching a class of Chinese tertiary students is likely to be disappointed at the apparent lack of interaction or responsiveness to public questioning (Biggs 1990; Murphy 1987), but the number of students seeking one-to-one interaction with the teacher as soon as class is over, and with each other, is almost certainly higher than is the case with Western students. Japanese and especially Chinese teachers have much lighter teaching loads, precisely to enable them to prepare their work more carefully, and to interact with students out of class hours (Stevenson & Stigler 1992).

Teaching methods

Another example of the apparently curious mixture of authoritarianism and student centredness is provided by Hess and Azuma (1991) who observed a teaching strategy they call ‘sticky
probing': a single problem is discussed by students, with teacher adjudicating, for hours until a consensus acceptable to the teacher and group is reached. The focus of the probing is typically a maths error made by a particular student, which the teacher believes would be instructive to publicly unpack and reconstruct, with the student the focus of public correction. A Western student would be mortified to be in the corrective spotlight for such a long and public time, but Japanese students don't see it as a punishment for making a mistake, but as an opportunity for everyone to learn: a collectivist as opposed to an individualistic perception.

Hess and Azuma also refer to 'repetition as a route to understanding', which appears as endless going over and over a point. However, this is not rote learning as previously defined; it is a means of gaining, not of side-stepping, understanding. The technique is important in learning to write and to interpret characters. There is obviously a good deal of repetitive learning involved in acquiring the thousands of characters in common use, but one must see this in context. Characters are traditionally learned by the two principles. The first principle involves much intertwined activity using the five organs: the eyes to see the shape, the ears to hear the sound, the hand to write the shape, the mouth to speak the sound, the mind to think about the meaning. The second principle is to contextualise; each character as it is learned is formed with another into a word, and each word is formed into a sentence. Repetitive certainly, rigid maybe, but embedded in meaning always (at least that is the intention), with much use of learner activity and involvement, a key ingredient in quality learning (Biggs & Moore 1993).

The limited number of characters means that new meanings are created according to which characters are juxtaposed to each other. Text thus becomes multi-layered, with shifts and shades of meaning being revealed on repeated readings. Repetition thus has an important role at the text level as well as at the word and sentence levels. The multi-layered aspect of written Chinese makes codification imprecise, hence the metaphoric nature of much Chinese communication, which is skilfully used in negotiation. A metaphor ('a second stove', 'a three legged stool') can be thrown on the table meaning what the initiator wants it to mean at any given point in the negotiations: a technique much in evidence in the current Sino-British negotiations over Hong Kong, to the enormous frustration of the British side.
Thus, in this complex situation repetition plays a key clarifying role, in the sequence remarked by Gardner: repetitive skill development comes first, followed then by meaning and interpretation, with repetition being used as one tool for creating meaning.

If we now review CHC classrooms, we get quite a different picture from that originally presented. Checking against the characteristics of good teaching environments, we find, including informal as well as formal learning situations:

- an emphasis on student activity, with much co-operative and other group work;
- a learning climate, both inside and outside the classroom, based on positive interpersonal motivation (in the West such a climate we would describe as ‘warm’; in CHCs it may be warm but it comprises other complex ingredients as well);
- embedded teaching, involving teacher and student in a mentor/mentee-like relationship;
- high-cognitive-level outcomes are expected.

This picture is significantly different from that originally presented as perceived by Westerners, who could be thrown by teaching techniques involving the use of repetition and sticky probing. The phenotypes of large class size, apparent authoritarianism, and exam orientation still exist, but the context of student expectations and perceptions transform their impact, which in the SAL research paradigm of course is the important thing. I now turn to some genotypic aspects of socialisation that form these students’ perceptions.

**Dispositions to learn**

Schools the world over require obedience, conformity to group norms, and persistence in the absence of feedback at essentially boring tasks the point of which is not evident. An important difference between Japan and the West is that Japanese children are socialised to be obedient, to conform, and to persist; Western children are generally raised to be assertive, independent, curious, and to explore on their own terms (Hess & Azuma 1991). What Hess and Azuma say about Japan can at least in this respect be generalised to other Confucian-heritage cultures, and the corollary is clear; children from CHC cultures are predisposed to formal teaching before they even arrive at
school, having internalised characteristics that are required in institutionalised learning anywhere, not only in Japan. Such 'docility dispositions' appear to include: a willingness to persist in the face of boredom and lack of immediate feedback, a high degree of metacognition or awareness of their own cognitive processes, and acceptance of rules governing group participation (Hess & Azuma 1991).

An important educational consequence of this process is that CHC teachers do not have to spend the sort of time and energy Westerns teachers do on 'motivating' their students. Docility dispositions create:

*a sense of diligence and receptiveness (which) fit uncomfortably into the more familiar American concepts of intrinsic and extrinsic motivation.*

(Hess & Azuma 1991, p.7)

In other words, Japanese children have less need to be motivated to learn because they are already predisposed to do those things that are required of them by their teachers. In the Western system, on the other hand, there is more of a mismatch, with children being socialised one way out of school, another way in school. Their previous socialisation does not particularly predispose them to do what they perceive to be pointless and boring tasks; if they are now to engage them in school, they need to be motivated to do so. Classroom activities need to be made attractive, and elaborate systems of positive and negative reinforcement employed. Western classrooms are therefore highly externally controlled, compared to Japanese classrooms (Hess & Azuma 1991).

There are several other culturally-based factors that distinguish Confucian-heritage from Western learners in ways that would encourage more favourable learning outcomes in CHC classrooms.

**Attributions for success and failure**

Numerous studies have drawn attention to the fact that people in CHCs attribute success to effort, and failure to lack of effort, whereas Westerners tend to attribute success and failure to ability and lack of ability, respectively (Hess & Azuma 1991; Holloway 1988). Effort attributions in the event of failure are obviously more adaptive than
ability attributions, which simply lead to resignation and disengagement. Even more effective than effort *per se* is directed effort, that is putting in the kind of effort that is related to skill, strategy, and know-how (Clifford 1986). Hong Kong secondary students attribute academic success to, in order: effort, interest in study, study skill, mood, and only fifth, ability (Hau & Salili 1991). The first four are more or less controllable; the fifth, which Western students see as most important for success, is not.

Thus, the attributions acquired by CHC students tend normally to help them see ways in which they can improve their performance; for example, that they can not only put in more effort, but can learn how to study more appropriately, and can try to create the right mood. In attributing past performance, successful or not, to ability, Western students are relinquishing control over their learning, and failure becomes a self-fulfilling prophecy.

Nevertheless, there is a CHC downside. Effort attributions that dictate persistence when the task is in fact beyond the abilities of the student may be devastating. There is little doubt that some at least of the recent suicides by Hong Kong students have been the result of the enormous stress that effort-attributing teachers and parents can create, as was pathetically illustrated recently in an essay left by a 10 year-old who jumped from his 19th floor bedroom, rather than tell his parents he could not do his maths homework:

"Nevertheless, there is hardship in studying as well. Every day, there are many homeworks. They are not only in large quantity, but also difficult to do . . .
Though after 12 o'clock in every night, I still have to revise my homeworks. I can't go to bed until one o'clock odd. At 6.50 hours, in the next morning, I have to get up. (I) am so hard.
I do wish no studying."

Lau Ka-chun, ten years
(reported in *South China Morning Post*, May 11, 1991)
There are two other consequences of effort attributions:

a  Time on task

For the same period of formal time, Asian teachers and students are more task oriented, with more student time actually spent on task (Stevenson & Stigler 1992). Students also spend more time on task than Westerners outside the classroom, either on homework, or in voluntary studying. Teachers, for their part, are allowed much more out-of-class time than Western teachers for lesson preparation, conferencing with other teachers, and extra-curricular contact with students. Where teachers and students are domiciled together, as is frequently the case in China, then this process is greatly enhanced.

b  Cue seeking

Attributions to effort and strategy would have quite a specific effect of encouraging cue-seeking in students (Miller & Parlett 1974). Miller and Parlett's concept was derived in the West, but it is certainly a behaviour to which CHC students seem particularly prone, and which their teachers encourage, as Morris's (1985) study of teachers' exam preparation strategies documents. Cue-seeking is especially tuned to assessment preparation strategies, which is an area where Hong Kong students are highly adept; they play the game without necessarily being corrupted by it (Biggs & Tang, in press).

Spontaneous collaboration

One reaction to the lack of perceived cues is for students to work collaboratively, to seek each others' cue-perceptions and views on how to handle particularly an unfamiliar situation (Tang 1993). Spontaneous collaboration is also a pronounced feature of mainland Chinese study behaviour (Chan, in progress). Such spontaneous collaboration seems a very CHC way of reacting in a system that is strongly expository and competitive.

These and other learning-related factors are founded in the culture and transmitted through socialisation. They all appear highly adaptive for learning.
So what happens when East studies in the West?

The short answer is that by and large CHC students do exceptionally well in Western classrooms. Classrooms everywhere, Western rhetoric notwithstanding, require the qualities of diligence, conformity to task requirements, attributions to effort and strategy, and the like: the docility dispositions with which CHC students are socialised.

Unsurprisingly, then, there is considerable evidence for the high achievement of overseas Asians. The University of California recently imposed quotas negatively discriminating against ethnic Chinese applicants, requiring them to score higher than other groups on the GRE to gain admission, in order to avoid hugely disproportionate numbers of Chinese on campus. Likewise, New Zealand's top medical school found that 22 per cent of enrolments were students of Asian descent, many times higher than the proportion of Asians in the general population. Accordingly, the original selection system, based solely on examination marks, was abruptly changed (amidst charges of racism) to include 'personal qualities . . . and awareness of community issues and New Zealand society' (reported in *South China Morning Post*, 25 May, 1992). In Australia, the story of high achievement by CHC students is the same, but happily that of official negative discrimination (as far as I am aware) is not.

This is not to say there are no problems. There are real problems of course to do with language, and the related one of coping with culture shock and homesickness. These social difficulties naturally impel international students to work and live in their own ethnic groups, which in turn brings charges of unwillingness to adapt, even of hostility to the host culture.

Language and social adaptation aside, CHC students will be moving from an academic culture based on a set of values and expectations that are congruent with their general socialisation to an environment lacking familiar support structures. While CHC students have developed study skills that are adaptive in their own environments, having developed good receptive learning skills in the classroom and elaborative learning with peers outside the classroom, overseas presents a new ecology, with different classroom methods. Peer back-up becomes more frequently social and recreational rather than task
related, and because of their restricted social contacts, elaboration of content in the mother tongue is much less likely than at home.

Two areas where problems arise have been noted before; relations with teachers, and classroom behaviour (Bradley & Bradley 1984; Samuelowicz 1987). The thrust of my present argument, which adds a different perspective I think, is that the misperceptions are two-way; we are dealing with an interactive system (several systems in fact), in which the strategy of ‘blaming the student’ for breakdowns in teaching is counterproductive (Biggs 1993b).

Orientation and communication skills

First, some CHC beliefs would lead to misperception of the Western context and need correcting. These are well-known and need only brief mention here. CHC students, for reasons that vary in different particular countries, have problems with writing. One major problem, particularly of students from Hong Kong, arises from the fact that they have been taught in English as a second language, in ways that emphasise good reception skills, listening and reading, but expressive skills, speaking and writing, are little exercised. In this situation, most examining is likely to have been in short-answer and objective format, or where examiners have out of kindness paid little heed to quality of expression in extended prose. But this is a matter not of misperception so much as lack of skill, and clearly needs attacking as soon as possible. At least these students have their attributions going for them: belief in effort and strategy, and a high degree of achievement motivation.

Misperception underlies many problems involving plagiarism. Some CHC countries, China in particular, simply have not recognised international copyright conventions, and so plagiarism to these students is an unappreciated concept. They need to be made to appreciate it, from day one. What appears to be plagiarism often occurs as a result of writing in a second language. Students who want to make a point particularly clearly see paraphrasing the source as a strange thing to do when the source itself makes the point better than they ever could rework it in an imperfectly mastered language. More complex still is when the teacher and marker is the author of the source; obviously, the student is not deliberately trying to mislead as to authorship, but there might be a question of ‘patting the horse’s
bum', as a Cantonese phrase delicately puts it. But that syndrome is universal, as is the cure.

The question of genre in writing may present problems because some CHC essay structures do not follow the Western convention of presenting a balanced argument and drawing one's own conclusions (Ballard & Clanchy 1984; Ginsberg 1992). In Chinese writing, the introduction is often historical and discursive to recall 'past lessons', not the focussed review the Western essay requires. But these beliefs and expectancies are not genetic, and certainly can be reviewed and replaced; it helps if Western teachers are aware of the nature of these problems.

**Relations with teachers and classroom behaviour**

Turning then to Western misperceptions, probably most teachers see a hierarchical teacher student relationship as 'cold', and many take active steps to avoid that and try to develop a 'warm' egalitarian relationship. CHC students, idealising a warm hierarchical relationship, cannot handle first names, encouragement challenge, and argument as the price of a warm relationship, and withdraw. Both sides need to realise that that space is at least two-dimensional: warm–cold and hierarchical–egalitarian.

As the quotations from Samuelowicz (1987) indicate, Australian teachers perceive the classroom behaviours of CHC students unfavourably: passive, not participating in groupwork, not asking questions. It is however mistaken to conclude that CHC students are engaged in surface learning, locked into rote mode. First Class Honours and university medals do not come that way. Of course, some students may indeed be simply rote learning, but the majority are likely to be engaged in deep learning, albeit with a misleading ingredient of repetition as one strategy.

It seems likely that a self-fulfilling prophecy exists. If CHC students are strong on cue-seeking, they will be particularly sensitive to what they perceive as demands to be met. Many studies have drawn attention to the wide gap between the qualities lecturers say they want from their students, and the tasks they set them to do, which frequently encourage question spotting, and rote memorisation of facts and theories considered important by the teachers (e.g. Bowden 1988;
Entwistle 1984; Snyder 1971). The following quotation from a British psychology student reveals this clearly:

... what you have got to do is to have a list of ‘facts’; you write down the important points and memorise those, then you’ll do all right in the test ... if you can give a bit of factual information—so and so did that, and concluded that—for two sides of writing, then you’ll get a good mark.

(Ramsden 1984, p.144)

Thus, if lecturers complain about CHC students’ inability to criticise, or their lack of breadth, it is possible that CHC students are simply responding more closely than Australian students to what they see as required of them. Lecturers then perceive what they have in part created.

Then again, if international students as a group are under more stress than local students, they will be likely as would anyone to rote learn, but that is state not trait; rote learning is a common way of handling stress anywhere. Thus, too, initial reluctance to join in discussion, which could be occasioned by shyness, L2 difficulties, or a number of other reasons, could lead to teachers wishing to save them embarrassment by passing CHC students over in class discussion: remaining silent, they prove the point.

The question of group work is particularly interesting. CHCs are collectivistic cultures, and so we would expect much collaborative group work. And of course it exists; at an informal level probably far more than is the case with Australian students. I have found in Hong Kong that formal tutorials can be a struggle, partly it is true because they are conducted in what is for the students a foreign language, but turn the students into smaller groups, and the interactive on-task din can be almost painful. More typically, students spontaneously collaborate outside the classroom, over 80 per cent in one class where this was monitored (Tang 1993), resulting in better structured and higher quality assignments. This figure is far greater, I think, than the extent to which Australian students are likely to collaborate over assignments and other work-related matters. In fact, Australian students are likely to resent the way in which CHC students form tight groups, whether for academic purposes or not. That is unfair; apart from the natural tendency for expatriates to club together in a foreign culture, a tendency particularly strong in Hong Kong academic
circles, collective activity is deeply embedded in Confucian-heritage culture.

These problems and difficulties are based on misperceptions, and the way to eradicate them is to entertain the possibility that that is what they are: misperceptions. One remedy is for lecturers to be correspondingly cue conscious: 'Are the messages I am sending the ones I want students to receive?'. Probably the most important realisation is the evidence that CHC students are no more prone to rote learning as such than are Australians. If CHC students are mindlessly rote learning then something is wrong, either with the way they are perceiving their context, or with the way the context itself is presented to them.

Conclusions

The academic performance of Asian students from CHC countries, and the conditions and methods by which they appear to learn, seem to place the credibility of much Western educational research on the line; it is a situation fraught with paradox and contradiction. Recent work on several fronts is, however, beginning to disentangle a complicated situation, the key to which is misperception across cultures, a situation made more complicated by the application of Western conceptions of teaching and learning to an Eastern context, in which Western structures of teaching have already been adapted and made functional.

The present analysis suggests that things are not what they appear to be in CHC learning environments, at least partly because socialisation prior to formal schooling transforms the way teachers and students perceive and react to formal school structures. Role expectations of teacher and student, the place of repetition in learning, and different conceptions of the way towards acquiring meaning, for example, are easily misread by round eyes wearing Western spectacles. Similar problems of misperception arise of course when CHC students bring their cultural frameworks with them to study in Western institutions, and then to confuse matters further, perform disproportionately well.

In this paper, I have alluded to some of the problems of international students from CHC countries, and what might be done about them if this analysis is correct. Obviously, however, there is much more research needed. Quite another issue is what we in the West might
learn about the conditions for good learning. What this analysis suggests is that its not what you do that matters, but the match with the context in which you do it (Biggs 1993b). Elaboration on that theme, however, raises many more, and complex, issues than can be addressed here.

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