Hong Kong students' approaches to learning: Cross-cultural comparisons

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Abstract: Anecdotal evidence abounds in Hong Kong to the effect that students entering tertiary education are predisposed to a "rote" learning approach. With the internalisation of higher education in many countries, there is still insufficient understanding of how Chinese students approach their learning. Except few studies were conducted locally, there have been no systematic studies undertaken and there is a tendency to rely on anecdotal statements about Hong Kong students' approaches to learning. This study was designed to see if Hong Kong Chinese students who enrolled into a 3-year undergraduate programme in occupational therapy predisposed to a surface or deep approach to learning react differently when moving progressively from one stage to the next stage in their curriculum. The study adopted a longitudinal design method and measured students' changes in their approaches to learning using the Biggs' Study Process Questionnaire (SPQ). The internal consistency reliability estimates for SPQ scales for samples of Hong Kong, Australia and UK were compared. The results of this study indicated that Hong Kong Chinese students demonstrated a higher mean for the deep approach learning and a lower mean for the surface approach, similar to other Hong Kong studies conducted in other tertiary institutions in Hong Kong and Australia.

Key words: Chinese learner; approaches to learning; occupational therapy students; cross-cultural comparisons

1. Introduction

Approaches to learning have been the subject of a great deal of research over the past few years. There is now a substantial literature which describes the various ways, in which the learning environment and particularly assessment procedures and teaching methods affect the quality of student learning (Biggs, 1989, 1994b; Ramsden, 1992; Laurillard, 1997; Entwistle, 1998; Kember, 1998; Scouller, 1998; Trigwell, Prosser & Waterhouse, 1999; Kember, 2000; Entwistle, McCune & Walker, 2001). Deep learning and attributes of autonomy, responsibility and critical analysis are championed in Western countries. They are also valued in traditional Confucian belief, which places great value on education both in terms of learning and as a process itself. Unfortunately, Confucian traditional belief appears to be contradicted by reports of Asian students as "rote learners" who are passive and complaint (Samelowicz, 1987; Kember & Gow, 1991; Watkins & Biggs, 1996; Kember, 2000). The research on student learning has shown the importance of shifting the focus from learning approaches to learning conceptions in developing and improving the outcomes of student learning.

An approach to learning was first described by Marton and Saljo (1976) as essentially a way of handling a task, in order to achieve a desired end. In their initial study, the task was reading a text, which students went about in basically two different ways, called "surface" and "deep" approaches. A student adopting a surface approach intended to meet requirements minimally, on the other hand, a student adopting a deep approach intended

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precisely to comprehend content, seeing the facts and details as there to help to arrive at that meaning. To these two approaches, Biggs (1987a), Entwistle and Ramsden (1983) added an "achieving" approach where a student's motivation is to obtain the highest possible grades and so strategies are adopted which he or she believes would maximise those grades.

According to Biggs (1987a), there are two components in a student's relationship to academic learning: his or her motive for learning and ensuing strategies for going about learning. Students' motives influence their strategies of learning (Biggs, 1992), but teaching and learning environment (or context) also influences their choice of strategy. The students' overall approach to learning thus depends upon two factors: students' motivation and the learning/teaching environment (Kember, et al., 1997). Students' preferred approach to learning and preferred learning environment are two important components of classroom learning to consider before learning takes place (Biggs, 1992). Motives and strategies tend therefore to be congruent with each other, besides, they combine to form approaches to learning.

In developing his Study Process Questionnaire (SPQ), Biggs (1976) drew his descriptions of contrasting learning processes from work on cognitive psychology. Factor analysis of this inventory suggested the existence of distinct study processes, which have subsequently been identified as "deep" and "surface" approaches to learning. A qualitative research by Marton and his colleagues (1976) in Gothenburg helped to clarify the meaning of this distinction, and introduced the term "approach to learning". Subsequent quantitative and qualitative research within the everyday university context has been developed further by other studies (Biggs, 1987a, 1993; Tait & Entwistle, 1996; Marton, Hounsell & Entwistle, 1997).

There have been a number of qualitative investigations of the learning approaches and conceptions of Chinese learners in China Hong Kong and mainland (Kember, 1996, 1999; Kember & Gow, 1991; Watkins & Biggs, 1996; Smith, 2000; Wong, Wen & Marton, 2002). These studies have partially supported the conceptual validity of the constructs underlying the SPQ for Chinese students, as deep, and surface approaches to learning were clearly identifiable in their descriptions of how they went about tackling actual learning tasks. However, it is also clear that memorisation and understanding are more closely interwoven in the experience of learning of many more Chinese than Western students where these concepts are often seen virtually as opposite. Indeed, Kember (1996) has proposed that a new approach to learning may be needed for Chinese students involving an intention to both memorise and understand. With Chinese students, the main difference is between memorisation and memorising with understanding (Watkins & Biggs, 1996).

The literature review also revealed some more studies involving Chinese students. Gow, et al (1989) suggested that a "narrow" approach characterises Hong Kong tertiary students, on the basis of a second order factor analysis of a group of Hong Kong Polytechnic students' responses to the ASI (Entwistle & Ramsden, 1983), which has aspects both deep and surface. This approach is characterised by the sequence "understand—memorise— understand—memorise …" on tasks that are clearly defined by the lecturer. In another study, Tang (1991) based on her study carried out with Hong Kong Polytechnic students on the effects of two modes of assessment on students' approaches to studying concluded that deep and surface approaches used by her students were in much the same way as they are in Sweden, UK, or Australia. Furthermore, while some "deep" students stressed the importance of both understanding and memorising as Gow, et al (1989) also found.

1.1 Hong Kong students

Since this study is concerned with the Hong Kong Chinese students, it is appropriate to ask whether the construction of conceptions of and approaches to learning at the heart of the student approaches to learning

position, which is the theoretical basis for the SPQ (Biggs, 1987a, 1993), are relevant to this group of students, and to other non-Western cultures and is the SPQ reliable and valid for use in such cultures?

To understand fully the Hong Kong student, it may be appropriate to consider learning from a Confucian perspective (Figure 1). When it comes to learning, Chinese learners are more pragmatic, taking in every detail such as personal ambition, family values, peer support, material reward and other interests (Kember & Gow, 1990; Salili, 1996).
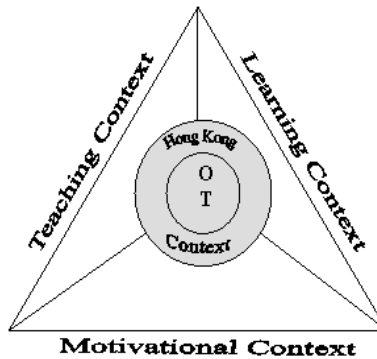

Figure 1   The Hong Kong context

According to Biggs (1991), Asian students were perceived by someone as relentless rote learners—syllabus dependent, passive and lacking in initiative. Such comments were also endorsed the stereotype of Asian students studying in Australia (Ballard & Clanchy, 1997; Bradley & Bradley, 1984; Samuelowicz, 1987). It was also reported that Hong Kong students enrolling in the tertiary institutions would exhibit tendencies to passivity and non-participation. There is also some evidence that, in common with other countries like Australia and United Kingdom, the tertiary educational environment in Hong Kong may encourage the adoption of inappropriate approaches to learning. Interview data from Tang (1991), Kember and Gow's (1990) research showed that Hong Kong students do not simply have a rote learning unprocessed information but attempt to understand the new information in a systematic step-by-step fashion first. Once each part of the task is understood, they memorize the "deeply processed product" (Biggs, 1991). "Deep memorising" as a means towards understanding (Tang, 1991) might seem to be equivalent to a surface approach. However, since students' reliance only on the memorisation may be appropriate and even necessary in some situations, and it should not be equated with rote learning of unprocessed information.

1.2 Occupational therapy students

The student cohorts for this study comprised of 80 occupational therapy students who enrolled for the study at the end of their first year of the three-year undergraduate (Honors) degree in occupational therapy programme, having satisfied the minimum requirements for entry into the Bachelor's programme of the Hong Kong Polytechnic University (PolyU), where the medium of instruction is English. The average age of the group is 18, and all are native Cantonese speakers (The Hong Kong Polytechnic University, DCD, 1999).

With regard to the admission procedure, 85% students enter into the programme via JUPAS (Joint University Polytechnic Admission System) and the remaining 15% students join via non-JUPAS as mature or other category students and these are clearly stipulated in the PolyU prospectus. Students are usually aged 19 or 20 years except mature students who are above 26 years old. It is PolyU policy that encourages students to speak in English in classroom situations at all times.

In relation to Hong Kong students' family structure, the Hong Kong Polytechnic University students tend to live at home with their parents and families during their years of study. Family expectation for success in study is very high. In Hong Kong as in most Chinese societies, there is a cultural responsibility to the family (Bao, 1998). In Hong Kong society, parents attach greater importance to taking a collective decision when deciding a course or a career of their children. This may be a causal factor in the determination of high motivation for performance for students in the Hong Kong school system (Salili, 1996).

It is suggested strongly that changing the learning environment, in particular the task students are required to engage in, can have a major influence on how and what students learn. In the next section, the importance of situations in which learning occurs and the Hong Kong students perceptions of the academic environment, that is, how students respond to the context of learning defined by the teaching and learning contexts.

(1) The teaching context

Teaching style is one of the contextual variables, which affects approach to studying (Entwistle & Ramsden, 1983; Biggs, 1996). The interview data by Entwistle and Ramsden (1983) show that, in addition to course structure, the quality of teaching and attitudes of lecturers influence students in their approaches to studying. Occupational therapy students through their Students Feedback Questionnaire in fact echoed this factor, which is one of the most important feedback mechanisms being used in the PolyU at present. The students also reported other factors as most important categories during researcher's interview with occupational therapy students, such as commitment to teaching and relationship with students, which emerged from focus group interviews.

Observation by the researcher of this study suggests that occupational therapy students tend to work cooperatively in small group situations but do not respond to direct questions in lecture situations. However, their study behaviour tends to be collaborative and cooperative in seeking understanding. This in a way endorses the constructivist beliefs of the Confucian tradition. In the Confucian tradition, there is a belief in skill development prior to exploration, allowing for creativity to be based on foundation. It is in the student-centred scale that students may be engaged collectively in the academic environment on task-oriented problem solving in a warm social atmosphere/learning climate where there is an emphasis on student activity and where high cognitive level outcomes are expected (Salili, 1996).

According to Biggs and Watkins (1996), students are used to a hierarchical relationship with the teacher, but this does not exclude a warm and caring approach. It incorporates respect and acceptance. Students are not passive learners as reported earlier but use receptive learning skills in the classroom and elaborative learning with peers outside the classroom. Students appear to view their teacher as the "expert" and prefer the teacher to provide the "best" solution.

(2) The language context

Hong Kong students like any other Asian students who are studying in a second language frequently face considerable challenges and occupational therapy students are no exception. Hong Kong students not only have to master the content and concept of their discipline, as well as do so through the medium of a language which they may not fully command, but also have to do this within an educational and cultural context quite different from their own. Occupational therapy students who in particular face another problem need to develop not only their own awareness of personal values but also approaches to dealing complex healthcare issues in the light of their experience of disability. These personal, cognitive, linguistic and cultural challenges may interact to restrict, or at least modify the nature of learning.

There is clear evidence in the literature that students learning in a second language are likely to encounter a

number of sources of difficulty, above and beyond those inherent in the materials that they are studying. Biggs (1990) investigated the effect of the language medium of instruction (LMI) in the way students typically approach their learning and addressed the question of whether teaching academic content in second language (L2) medium lead students to adopt a rote-reproductive approach to learning. There are two possible explanations for the strengthening of Biggs (1990) findings:

The first concern is about the English language ability of the students. As reported, the first language of the sample is almost invariably Cantonese. From the researcher's experience, occupational therapy students' use of English is very much restricted to formal interaction within the classroom. As the population of Hong Kong is almost all Cantonese speakers, English is used outside of class so little that few students have acquired the level of fluency in the language, which qualifies it as a second language. Rather, the limited use of English in Hong Kong in general means it is effectively as auxiliary language (Luke & Richard, 1981) rather than a second language.

The second explanation is that as a result of schooling and/or cultural tradition, the Hong Kong students have a high regard for authority and are therefore comfortable with a regulated approach to study (Ho, 1986; Murphy, 1987; Dunbar, 1988; Tobin, et al., 1989).

One factor of note however, is that learning in a second language may lead to a surface approach as students have to focus on well-defined "important" topics, though this may be debated as the findings of this study demonstrated that the student cohort of this study, who are Hong Kong Chinese, scored higher on deep approaches to learning than Australian students did (Biggs, 1990; Salili, 1996). Biggs (1990) also reported that although intuitively one would expect that the use of English would encourage a surface approach, that much depends on the language competence of the student. Kember and Gow (1990) explained this phenomenon as a survival strategy, noting that Chinese students learning in a second language are highly focused and selective in their learning.

(3) The motivational context

The context of learning as an important determinant of motivation and learning from a Confucian perspective has a complex character that goes beyond motivation in the Western culture. The Chinese learners are more pragmatic about learning, taking into account personal ambition, family face, peer support, material reward and interest (Ho, 1991; Biggs, 1996; Yang, 1996).

The negative picture of Southeast Asian learners provided in the literature contrasts sharply with evidence from university statistics which indicates that when English language proficiency is not an issue, Asian students tend to obtain better results in their courses than local students. Many academic staff may explain the high academic achievement of Asian students in terms of stronger achievement motivation and extremely hard work compared with local students. But research in Hong Kong has revealed that there is more to explanation than simply motivation and hard work, and that the assumption about Chinese students' learning in Hong Kong (Biggs, 1991; Kember & Gow, 1990; Watkins, Regimi & Astilla, 1991) and of Singaporean students enrolled at a Western Australian university (Volet & Kee, 1993; Volet, Renshaw & Tietzel, 1994; Volet & Renshaw, 1995) have challenged the stereotyped view of Asian students as reproductive and surface learners, excessively focused on isolated facts and details, and lacking the experience and skills for interacting in group discussions.

2. Methodology and study design

2.1 Sample selection

This study adopted a longitudinal research design. The student cohort of this study were composed of a class

of 80 occupational therapy students who enrolled at the end of their first year of the three-year Bachelor of Science (Honours) Degree in Occupational Therapy programme. The average age of the group was 18 years, and all were native Cantonese speakers. Students had satisfied the minimum requirements for entry into the bachelor's programme of The Hong Kong Polytechnic University, where the medium of instruction is English. The Study Process Questionnaire (Biggs, 1987c) was used pre- and post-clinical education placements.

2.2 The Study Process Questionnaire (Biggs, 1987c)

The SPQ, like the Learning Process Questionnaire (LPQ), was developed to reflect the findings of both quantitative and qualitative research into how students study (Biggs, 1987b). Both research paradigms have confirmed the two most basic approaches that students tend to utilise which were first identified in qualitative research by Marton and Säljö (1976). As reported discussed earlier, students who are learning because of extrinsic motivational factors or fear of failure tend to adopt superficial strategies, and students who are interested in what they are studying are likely to adopt strategies, which help their understanding of the material. These contrasting ways of studying are known as the "surface" and the "deep" approach, respectively. While students tend to be relatively consistent in terms of which of these approaches they adopt, they also modify their approach depending on their perceptions of course requirements and other factors (Biggs, 1987a; Entwistle & Ramsden, 1983).

The SPQ contains 42 items equally and systematically divided among the three approaches to learning (deep, surface and achieving) into six motive and strategy scales as shown in Table 1 below. Each response to an item is to be answered on a five point Likert scale that describes the match with the respondent's behaviour: 1= never or only rarely true of me; 2= sometimes true of me; 3= true of me about half of the time; 4= frequently true of me; 5= always or almost always true of me.

Table 1   Description of subscales with corresponding item numbers of Study Process Questionnaire (SPQ)

SPQ subscale		Description	Item Number
Surface approach	Surface motive (SM)	Motivation is utilitarian: main aim is to gain qualifications at minimum allowable standard.	1, 7, 13, 19, 25, 31, 37
	Surface strategy (SS)	Strategy is to reproduce bare essentials often using rote learning.	4, 10, 16, 22, 28, 34, 40
Deep approach	Deep motive (DM)	Motivation is interest in subject and its related areas.	2, 8, 14, 20, 26, 32, 38
	Deep Strategy (DS)	Strategy is to understand what is to be learnt through interrelating ideas and reading widely.	5, 11, 17, 23, 29, 35, 41
Achieving approach	Achieving motive (AM)	Motivation is to obtain highest possible grades.	3, 9, 15, 21, 27, 33, 39
	Achieving strategy (AS)	Strategy is highly organized and designed to achieve high marks by being a 'model' student, e.g. being punctual, doing readings, etc.	6, 12, 18, 24, 30, 36, 42

Source: Adapted from Biggs (1987c).

The SPQ has many research uses and its scale and subscale scores can be used either as independent variable, for classifying subjects, or as dependent variables, for assessing outcomes. There are many examples of classroom research where it is important to know what kinds of students are affected, or are unaffected, by an intervention; or where it is important to be able to find out which approaches to learning are significant or not, performing a particular task adequately.

2.3 Research design

This study adopted a longitudinal non-experimental (descriptive) design documenting conditions, attitudes, or characteristics of a group of trainee occupational therapy students (Portney & Watkins, 2000; Trochim, 2001). This study adopted a non-experimental design because the investigations are generally descriptive in nature and as

such they do not exhibit direct control over the studied variables (Portney & Watkins, 2000; Trochim, 2001). The study adopted the longitudinal design method which followed a cohort of 80 occupational therapy students over two years and performed repeated measurements at different stages of their clinical development. Because the same sample of subjects was tested through the study at intervals, personal characteristics remained relatively constant, data collected on the same individuals and differences observed over time could be interpreted as developmental change. This study is termed as a descriptive type of research because investigator describes students' development over a period of time. This method is educationally important in the sense that this research is concerned with development of clinical reasoning abilities of individual students over a period of time.

3. Results

3.1 Learning approaches of the student population

Table 2 (below) shows the total number and percentage of students in each approach (surface, deep and achieving) between pre-and post-test SPQ questionnaires.

The data from the above results indicated that there was no significant movement in the deep approach between pre-and post-tests over the period of two years (p=1.00, McNemar's test). From the post-test results, it was observed that two more students appeared to be using deep approach, which is a positive shift. The results further confirmed that 5 (6.5%) more students moved towards achieving approach. These findings are in agreement with Biggs (1987a) in that students change from one approach to another over time because of contextual variations.

Table 2   Comparison of learning approaches of the sample population

Learning approach	Pre-test (n=80)		Post-test (n=80)	
	Numbers	%	Numbers	%
Deep-biased	24	30%	26	32.5%
Surface-biased	34	42.5%	27	33.75%
No-biased	22	27.5%	27	33.75%

3.2 Reliability of the Student Process Questionnaire (SPQ) scales and subscales.

Like any measuring instruments, the scales and subscales of the SPQ instrument were assessed for reliability. The following Table 3 shows the comparison of the internal consistency reliability estimates alpha for the SPQ scales for samples of Hong Kong, Australian and British university students and compared their alpha estimates with the present study.

The Australian norms are for 2365 students at 10 Australian colleges of advanced education and five Australian universities, reported in Biggs (1987a).

From the results shown below in Table 3, it can be noted that:

(1) Alpha estimates of this study (a) varied from 0.56 to 0.75 and compares favourably with other studies reported in Hong Kong, Australia and UK (for example, O'Neil & Child, 1984; Hattie & Watkins, 1981; Biggs, 1987a; Biggs, 1992; Chan & Watkins, 1995; Watkins & Biggs, 1996).

(2) What Alphas reported in the present study are considered adequate for research purposes by Biggs (1987a, 1992), Biggs and Watkins (1996) in their SPQ tertiary norming sample in Hong Kong (d), which ranged from 0.53 to 0.77, as well as in Australia, which ranged from 0.61 to 0.77 for college of advanced education students (g).

(3) Alpha estimates of the present study and compares favourably with the alphas reported by O'Neil and Child (1984) for their British undergraduate students whose alpha values ranged from 0.53 to 0.77 (i).

(4) Alpha estimates between this study and a study reported by Chan and Watkins (1995) with their Hong Kong Nursing students' revealed favourable results in which alpha estimates ranged from 0.56 to 0.77 (h). This is an important observation in that occupational therapy and nursing are closely related health care professions and they follow a curriculum in which clinical education forms an important and integral part of their curriculum.

Table 3　Internal consistency reliability coefficient alpha of SPQ scales and subscales

SPQ scales and subscales	Hong Kong students					Australian students			British students
	N=80	N=2338	N=1043	Alpha range	N=190	N=2365	N=823	N=255	N=245
Sub-scales	a	b	c	d	e	f	g	h	i
Surface motive (SM)	0.56	0.53	0.61	0.53-0.56	0.56	0.51	0.61	0.60	0.53
Surface strategy (SS)	0.65	0.65	0.57	0.55-0.65	0.55	0.62	0.66	0.69	0.56
Deep motive (DM)	0.64	0.60	0.66	0.60-0.67	0.67	0.63	0.65	0.67	0.64
Deep strategy (DS)	0.70	0.75	0.72	0.68-0.75	0.76	0.73	0.75	0.72	0.65
Achieving motive (AM)	0.71	0.74	0.73	0.71-0.77	0.71	0.71	0.72	0.70	0.72
Achieving strategy (AS)	0.75	0.69	0.76	0.69-0.77	0.77	0.75	0.77	0.74	0.73

Notes: a. Present study; b. Biggs (1992); c. Kember and Gow (1990); d. Biggs and Watkins (1996); e. Chan and Watkins (1995); f. Biggs (1987a); g. Biggs (1992); h. Hattie and Watkins (1981); i. O'Neil and Child (1984).

Source: The HK norms are derived from the survey of over 5000 students in degree level courses at five institutions in Hong Kong, reported in Biggs (1992).

4. Discussion

4.1 Cross-cultural differences in students' approach to learning

With the internationalization of higher education, tertiary institutions in many countries such as Australia, USA, UK and Canada, have now become extremely diverse. Despite this diversity and the implications for teaching and learning, there is insufficient understanding of how students from diverse backgrounds approach their learning, or how they may differ in their learning behaviour. This section reports on the findings of this study that investigated learning diversity using the Biggs' Study Process Questionnaire (SPQ) in a sample of 80 Chinese undergraduate occupational therapy students in the Department of Rehabilitation Sciences at the Hong Kong Polytechnic University. Furthermore, this section also focuses on cross cultural learning behaviour of the study cohort in relation to other students from other countries because of a pressing need to understand the learning styles, needs and expectations of these students based on the results of this study which supports the findings of some other studies in the literature on cross cultural learning and refutes others. This section also serves to question some of the anecdotal evidence relating to the learning approaches of Asian students, particularly Chinese students, and discusses implications for teaching, learning and diversity management within tertiary institutions' classrooms.

There are conflicting stereotypes existing in the literature about Asian students; this was discussed at length in the literature review. As noted earlier, anecdotal evidence also abounds in Hong Kong to the effect that students entering tertiary education are predisposed to a "rote" learning approach, the cause of which is identified either with innate abilities, their school experiences or some mixture of these. However, until the research studies at City Polytechnic of Hong Kong and Hong Kong Polytechnic (Balla & Stokes, 1989; Gow, et al., 1989; Kember & Gow, 1991; Davies, Sivan & Kember, 1994), there have been no systematic studies performed locally that actually look at the learning styles and approaches exhibited by students emerging from the secondary system, nor of any modifications that might occur as a result of their tertiary experiences.

Analysis of the data in this study indicated that, contrary to some anecdotal evidence cited in the literature (Biggs, 1987c; Kember & Gow, 1991), the Hong Kong Chinese students in this study demonstrated a higher mean for the deep approach to learning (47.3 in Year 1 and 46.3 in Year 3) and a lower mean for the surface approach (42.7 in Year 1 and 42.4 in Year 3), similar to other Hong Kong students from other tertiary institutions in Hong Kong and Australian students from CAE (College of Advanced Education) courses. However, when comparing the findings of this study to Hong Kong nursing Year 2 students, a reverse trend was observed in which nursing students displayed a lower mean for the deep approach to learning (43.48) and a higher mean for the surface approach to learning (44), a trend similar to Australian students with higher mean scores on the surface approach as reported by Biggs (1990), Kember and Gow (1991). To what extent the fact that these findings may be influenced by the large sample population needs to be further investigated. The overall scores for Hong Kong students for achieving approach are higher than the CAE scores, suggesting that Hong Kong students use well motivated strategies, take a keener interest in their studies and are more competitive. Overall, the results of this study were consistent with the research conducted in Hong Kong by Biggs (1992) and others (Balla & Stokes, 1989; Gow, et al., 1989; Kember & Gow, 1991; Dasari, 2006), which challenge much of the anecdotal literature on overseas students' learning. The findings of this study have not only confirmed Biggs' studies, but also supported other studies of the learning approaches of Chinese students at Polytechnics in Hong Kong (Gow, et al., 1989; Kember & Gow, 1991) which found no support for the notion of students from Asian backgrounds adopting essentially surface rote approaches to learning.

When comparing the above results of this study with other cross-cultural studies involving Asian students at universities in the Northern Territory (Niles, 1995) and New South Wales (Ramburuth, 1997), and Singaporean students at Western Australia (Volet & Renshaw, 1996), it is not surprising to note that the learning approaches of Hong Kong students were not vastly different from other Asian students from Northern Territory, New South Wales and Singapore. Furthermore, on the basis of the evidence gathered from this research, it is reasonable to conclude that Chinese students show no difference in their patterns of adaptation to academic demands and that their approach to study was, like that of other Asian students, influenced by their perceptions of course requirements rather than any "typical" personal or cultural characteristic. To sum up, based on the findings of this current study and some other evidence in the literature, the stereotypic description of Asian learners being more prone to rote learning than western students is not supported.

Despite its limitations in terms of sample size, this study draws attention to "the gap" in on-going perceptions of the learning behaviour of cross-cultural students and their actual practices. This study confirmed that the cross-cultural students in fact engage in deep learning, as identified by Biggs (1987a, 1987b, 1987c), perhaps even more than their Australian counterparts. Consequently, it could serve to dispel the myths and generalizations relating to cross cultural learning behaviour. For the Health and Social care professions, this study provides useful data and information that could enable staff to understand more clearly the learning behaviour of their students and differences that exist, and on the basis of this understanding, to reconsider misplaced perceptions. Furthermore, the findings of this study clearly suggest combined usage of the deep and surface approaches by cross cultural students. However, the extent to which these approaches are influenced by cultural factors, as in the practice of memorization, or by learning context and environmental factors, as suggested by Volet and Renshaw (1996) and Niles (1995) also needs further investigation.

5. Conclusion

This study offered the resolution to one of the most central and baffling problems in the field of approaches to learning, namely whether students from Hong Kong or other parts of Asia are more prone to rote learning than their western counterparts; or alternatively whether there is a similar balance of students with propensities towards surface and deep learning approaches, and similar tendencies to be influenced by their learning context. The cultural differences identified in this study support the assertion by Biggs (1996) that the misconceptions that some western observers have reported in relation to the learning of Asian students "exist only by taking too narrow and a systematic view of the components in classroom learning" (p. 196). Furthermore, the author of this paper also believes that the anecdotal observation of rote learning in Chinese learners may also be explained by the nature of curriculum and the teaching environment rather than as an inherent characteristic of the student. The findings suggest that although students from different countries may differ in their ways of learning, the difference would be more subtle than those represented by their dichotomies (surface, deep and achieving) that many educators express. Moreover, the requirements of learning tasks, whether or not assessment is involved, plays a crucial role with the behaviours of teachers in determining whether and how often students use certain learning behaviours.

One of the note-worthy observations made about this problem is that learning in a second language may lead to a surface approach as students have to focus on well-defined "important" topics, though this may be debated as the research literature including the findings of this study showed that Chinese learners in Hong Kong scored higher on deep approaches to learning than Australian students did (Salili, 1996). Kember and Gow (1990) explained this phenomenon further as a survival strategy, noting that Chinese students' learning in a second language, and they were highly focused and selective in their learning.

Based on this study, it is reasonable to assume that trainee students need critical thinking skills and the ability to organize knowledge in a meaningful way. A student adopting a deep approach relates the content to meaningful contexts, theorizing about what is learned and how it relates to understanding the client's problems. The findings also supported a view that the achieving approach is different from the deep and surface approaches and according to Biggs (1991), the former refers to arranging the context for carrying out the task that is not to handle the content of learning, as surface and deep learners do, but to manage its context: organizing time, working space and syllabus coverage in the most-effective way (study skills). Students need these skills in order to gain specific learning outcomes. The results indicate that novice students use theories and frames of reference for understanding clinical problems for planning and implementing treatment relevant to the patients/clients needs. From the study findings, it is also realistic to conclude that learning through experience calls on deep learning, that is learning for understanding and meaning rather than rote learning of facts and principles.

From the results, it is also noticeable that some scales, subscales and particularly, surface strategy, deep motive, deep approach and achieving approach were not found to be correlated with students' academic grades. Although, it would be expected that students' approaches to learning would influence their academic performance and findings of this study, however, do not fully support this. The results may, however, suggest that it may be due to the fact that the correlations are a reflection that university grades are often not a true indicator of the quality of learning outcomes (Tang & Biggs, 1996). It would seem logical that students who do well in their academic studies would do well in their clinical performance. However, results of this study do not fully support this evidence and are in agreement with other studies (Mann & Banasiak, 1985). While SPQ is a quite useful predictor of academic achievement, it is evident from other research studies that there may be differences in teaching styles of faculty and their relationship with GPA scores (Kember & Gow, 1994; Watkins, 1996; Watkins & Biggs, 1996).

This study has provided evidence that Biggs' Study Process Questionnaire (SPQ) can be used validly to

assess student learning in a number of countries differing in terms of cultural values, ethnicity and educational systems. Even for Hong Kong students, for whom the extensive SPQ reliability and validity evidence is encouraging, further work is needed to fully justify cross-cultural comparisons of student learning and if appropriate extend the use of SPQ and other instruments measuring approaches to learning as an evaluation strategy for educational innovation in other locations.

Overall, the findings of this study reinforced previous research and support the proposition that the move from stage one of study to the next higher stage can increase students' preference for independent thinking and thus promote deep learning in all three types of students, surface, deep and no-bias approach. It is important to recognize that different students may perceive a learning environment differently, based on their learning preferences and styles, understanding the learning behaviour may provide insights into students' learning across cultures and into individual students' learning needs. Therefore, educators should pay more attention in determining how students' learning preferences and styles affect their attitudes and study skills (Gow, et al., 1989; Entwistle, McCune & Walker, 2000; Coffield, et al., 2004; Entwistle & Peterson, 2004).

6. Limitation

While the SPQ provides a useful evaluation of the learning outcomes consistent with the deep approach construct, whether the nature of the evaluation can be generalized to a wider context outside Hong Kong is open to debate since the studies were conducted in a naturalistic style in a limited setting. It certainly does, though, seem to be appropriate to extend the use of SPQ and other instruments measuring approaches to learning as an evaluation strategy for educational innovations in other countries.

7. Future research

While SPQ offers a tool for directly assessing the quality of students' learning processes which are known to have a strong impact on the quality of learning outcomes, further research is needed to fully justify cross-cultural comparisons of student learning, in particular the possibility of cross-cultural differences in social desirability and context. Furthermore, even the extensive SPQ reliability and validity evidence are encouraging for Hong Kong students; it may be possible to tailor the items to reflect differences from Western students in terms of both motives for learning and the use of memorizing and understanding strategies. The author of this paper hopes to investigate the culture/learning approach more thoroughly through the administration of SPQ scales representing a range of Hofstede's (1997) cultural dimensions such as individualism-collectivism and masculinity-feminity.

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