

How do Hong Kong students learn? - Implications for teaching

“Students seem to be fairly quiet in class. They have few questions to raise. Language may be a problem here since I do not speak any Chinese.”

“They tend to memorize a lot. Just wonder if they understand or not.”

“Few would read the assigned readings before class. They like to be spoon-fed and lack initiative to explore by themselves.”

“Students are extremely exam-oriented, or be more specific, grade/mark conscious.”

“They predominantly use a “rote” learning approach to their studies since the teaching in both primary and secondary schools here is strongly didactic—a teacher-centered, content-oriented “telling” approach.”

Do these comments sound familiar with you? How true they are in reflecting the ways that Hong Kong students learn? Have you made similar observations at HKUST?

How do Hong Kong tertiary students learn?

In the past few years, several local educational researchers have been well aware of these comments and tried very hard to find out how Hong Kong students learn, particularly in the higher education setting, so that improvements can be made to both teaching and learning effectiveness.

Professor John B. Biggs at the University of Hong Kong is one of the group who has spent more than 10 years researching how Hong Kong students learn and the implications for teaching and assessment. He proclaimed that “Students construct knowledge from their own perceptions, needs and existing resources; they do not simply absorb with more or less accuracy what their teachers transmit.” (Biggs, 1992)

This view, a version of ‘constructivist’ theories of learning is shared by many local educational researchers and has become “the primary theory base for construing student learning, tertiary teaching, and staff development.” (Biggs & others, 1994)

To these researchers, learning is not a simple and straightforward process of knowledge transmission, from teacher to students. Students have to construct meaning themselves. “There are several ways to going about learning, some leading to good, well-structured outcomes, others to low level outcomes. The approach to learning that students typically adopt depends on factors both within the student and in the teaching context. Students interpret their classroom experience in terms of what they see as required, what their own goals are, and what they feel they can cope with. How they learn depends on why they learn.” (Biggs, 1992)

Dr. David Kember from the Hong Kong Polytechnic University added that students’ predisposition to learning is also intimately related to their conceptions of learning. Students may see learning as a quantitative increase in knowledge; as acquisition of facts, procedures; or as an interpretative process aimed at the understanding of reality, for instance. (Kember & Gow, 1989)

There are two major implications here:

- Changing the role of the teacher to set up the conditions most conducive to quality teaching; and
- Student-oriented teaching—Teachers need to take into account the different learning approaches that students adopt.

There are two components of **an approach to learning**, from a learner’s perspective:

1. **Motive:** Why am I engaging in learning?
2. **Strategy:** How in this case, will I go about my learning?

The “approach” here refers to the way a student typically goes about most academic tasks. Students might change their approaches before and during the process of learning a particular task due to internal forces, such as personality changes, or external forces, such as different teaching methods or ways of assessment.

Two distinct approaches to learning are identified:

Surface Approach

A student who adopts a surface approach:

- sees the task as a demand to be met, a necessary imposition if some other goal is to be reached (a qualification, for instance);
- sees the aspects or parts of the task as discrete and unrelated either to each other or to other tasks;
- is worried about the time the task is taking;
- avoids personal or other meanings the task may have; and
- relies on memorization, attempting to reproduce the surface aspects of the task (the words used, for example, or a diagram or mnemonic).

This approach is driven by an extrinsic motive, such as gaining a paper qualification with minimal trouble or effort, avoiding the unpleasant result of failure, etc. The strategy most commonly used is 'rote learning'. Students adopting this approach do not see interconnections between elements, or the meaning and implications of what is learnt. To them, accurate reproduction is important since this practice always helps them to get a passing grade. In brief, this is a "get by" approach to get the learning task out of the way. However, "rote learning" in itself does not necessarily indicate a surface approach since it can be an appropriate part, or a prerequisite to further learning tasks. An example is mastery of keyboard operations before one can do word processing effectively.

Deep Approach

A student who adopts a deep approach:

- is interested in the academic task and derives enjoyment from carrying it out;
- searches for the meaning inherent in the task (if a prose passage, the intention of the author);
- personalizes the task, making it meaningful to his or her own experience and to the real world;
- integrates aspects or parts of a task into a whole (for instance, relates evidence to a conclusion);
- sees relationships between this whole and previous knowledge; and
- tries to theorize about the task, forms hypotheses.

This approach is driven by an intrinsic motive or curiosity, to seek meaning. There is a personal commitment to learning. Students adopting this approach usually read widely, think and talk about their learning tasks constantly and get involved with the tasks personally. They gain a great deal of relevant content knowledge through the searching process, theorize and conceptualize on what they have found in order to construct meaning. They would use optimal strategies to learn, depending on the nature of the task. In brief, this is an approach which focuses on the learning process.

Another personal factor that affects a student's approach to learning is the need for achievement. Some students are "achievers" who are committed to obtaining high grades. They are disciplined, plan well, systematic and use both deep and surface strategies to learn. Therefore, there can be deep-achievers and surface-achievers who use different learning strategies.

Is there a best approach to learning?

It is generally agreed that higher education as a whole favors the deep approach to learning. It is the aim of higher education to develop self-directed learners, to whom a deep approach to learning becomes indispensable.

Spinks et.al. studied examination anxiety among local students and found that students predisposed to a deep approach appear better able to handle stress arising from examinations and workload. (Spinks & others, 1990)

Similar findings come from Lee's study on local part-time adult learners. Findings show that students with deep approaches can overcome the problem of time-constraint successfully and they can cope with stress better, making a delicate balance between the demands of work, study and family. (Lee, 1993)

Hong Kong students are not 'rote learners'!

Research findings from Biggs, Kember, Watkins, Tang and others all dispel the 'rote learner' myth among local students. They compared local students with their counterparts in Australia and found that Hong Kong

students as a whole show a low-surface/high-deep achieving profile. They use highly adaptive modes of learning, emphasizing both memorization and understanding to deal with assessment demands and learn in a second language environment. To many students, they simply cannot afford to fail (due to pressures to 'succeed' in a highly competitive environment) and so, often memorization seems to be a safe strategy to get a passing grade.

As Biggs (1994) mentioned, local students use repetition as a means of ensuring accurate recall of already understood information for high stress situations, like examinations, so that they can “automate lower order task components and free working memory for the higher order ones.”

Another adaptive strategy that local students use is collaborative learning, which appears paradoxical in an exam-oriented and highly competitive environment. Tang's research on student-initiated collaborative learning practice in her physiotherapy class shows that this practice promoted the engagement of a deep approach and use of high level cognitive strategies in their learning. The practice also helps students to cope with the work demands. (Tang, 1993)

Ng, who has been using the student-centered mini-project approach in his chemistry classes at Hong Kong Polytechnic University since the 1980s confirmed this observation. (Ng, 1989-91) Simsen and her team at the Chinese University of Hong Kong used a problem-based approach in their Nursing Leadership class found the method useful in developing self-directed learners. (Simsen, 1996)

The 'backwash' effect of assessment on students' learning

However, both Tang and Ng found “the backwash of assessment on learning is closely related to the student's perceptions of the demand of the assessment, which in turn determines the ways the students go about the learning task, and hence their study approach”. Ng disclosed that some of his students refused to work in projects which “take up a lot of study time but only account for 10 to 20 % of the final grade”. Tang found that test and assignments methods do call out different assessment preparation strategies, with tests tending to elicit surface-related and (open-ended) assignments deep-related, preparation strategies. (Tang, 1993)

Teaching style, workload and student learning

Kember and Gow (1994) tried to identify teachers' orientations to teaching and found that the quality of teaching and attitude of lecturers influence students in their approach to learning. Freedom of learning is positively related to deep strategies.

Overseas studies also point out that students' perceptions of an overwhelming curriculum and a heavy workload were statistically related to high scores for a reproducing (surface) orientation.

Use of English in instruction and its impact on student's approach to learning

Research findings show that low proficiency in English is associated with a surface approach and high proficiency may even enhance a student's preference for a deep approach. Gow, Kember and Chow (1991) in their study of learning approaches of Hong Kong Polytechnic University students found that students who are weaker in English language are more likely to employ a surface strategy to cope with the overwhelming demands on their processing capacity. On the other hand, students with a typical deep learning approach and high proficiency in English would think consistently in terms of main ideas. English language ability has a positive correlation with the deep motive scale and becomes a pre-requisite to the adoption of a deep learning approach if the course is taught in English.

Alarming findings from longitudinal studies!

Gow and others (1989) tried to track students' learning approaches as they progressed through their academic coursework in Hong Kong Polytechnic University and City University and found a pattern of decline of deep and achieving motives and strategies from first year onwards! The same was found in Australian tertiary institutions.

It is commonly recognized by various researchers that students with deep learning approaches shift to a surface approach if they are continually presented with surface type demands!

Can surface learners employ deep strategies?

Not easy! Biggs concluded from his studies that a deep approach requires prior knowledge and intrinsic interest: students do not suddenly acquire knowledge about, or interest in, a topic simply because the situation demands it. It is, on the other hand, fairly easy to switch into a surface approach if interest flags, or one is tired, or there is pressure to get the task finished, or if one is instructed ‘to concentrate on the facts and details...’

What can teachers do to help?

Kember summarized four approaches to this difficult task of re-orienting students to a deep predisposition towards learning: (Kember & Gow, 1989)

1. Teaching appropriate study skills with an emphasis on the development of metacognitive skills among students so that they are aware of what is needed to perform effectively, what are their own limitations and the complexity of the task at hand. Also during the process of solving a problem, students need to have the skills to check the outcome, plan the next move, monitor the effectiveness of any attempted action, testing, revising and evaluating one’s strategies for learning.
2. Attempting to reorient students’ conceptions of knowledge to more sophisticated levels, i.e. seeing learning as the abstraction of meaning and an interpretative process aimed at the understanding of reality (Saljo, 1979), through structured group discussions and study skills and techniques which are personally relevant, based on their purposes in learning.
3. Altering the learning environment through the use of preliminary organizers, activity-based learning, case studies and projects. Knowing that students learn in different ways helps the choice of the various teaching methods and assists in monitoring their impact on students’ learning. (Tang, Ng and Simsen have set some examples for us!)
4. Minimizing factors in the learning environment which encourage surface approaches. For example, remove any explicit requirement or hidden curriculum which rewards reproductive learning (The assessment system is critical here!) and actively promote intrinsic motivation for the content in the student.

Some of the above mentioned approaches have been experimented with in Hong Kong in the secondary school setting with remarkable results. (Please refer to *Learning and Teaching in Hong Kong, What is and What Might Be*, edited by John Biggs and David Watkins.) However, not many of these innovative practices are recorded in the local higher education setting. Do you want to try these suggested approaches to help your students learn better and contribute to the knowledge of local tertiary teaching?

References

Biggs, J. and others have prepared a most comprehensive working paper “*Research into tertiary teaching and learning in Hong Kong: An annotated bibliography, 1994*” for the Action Learning Project. Copies of this bibliography and some quoted articles are available at the Instructional Development Unit, ETC.

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