

Paper to SMC for Discussion

Paper for : Discussion

Subject : Active Classroom for the 21st Century: Directions for learning and teaching in PolyU to prepare tomorrow's students to meet the challenges of a knowledge-based society

Proposed by: VP(SSD) & Chairman(LTC)

Background

Many academic colleagues are aware of the importance of having effective learning and teaching processes to achieve EQW of student learning. Many endeavours of adopting innovative methodologies have been carried out by colleagues. The Learning and Teaching Committee has recently discussed the idea of 'Active Classroom' that would provide a stimulating environment for students' effective learning. It is hoped that such development can be conveyed to all departments, and colleagues can have joint efforts in practising the concept of 'Active Classroom' and share valuable experience with each other.

Proposal

The following is a vision of an ideal classroom that helps prepare the students to meet the challenges of a knowledge-based society of the 21st century. The details would vary with every teacher imagining the scene. But there is likely to be agreement on a few very important features.

The ideal classroom for the 21st century would be one characterised by the following four key features:

- **Thinking:** *Students do not learn merely by rote or memorisation. They are motivated to think deeply with and about the important concepts and theories in their respective disciplines, and to apply the new understanding and skills in exploring and dealing with real-life problems in their future professions. Students come up with their own "burning questions" they want answers to, and are interested and able to grapple with the questions put to them.*
- **Task-focused:** *Students do not simply sit and listen passively in class. They are frequently engaged in meaningful learning tasks where they are challenged to ask questions, think, discuss, apply and evaluate their new understanding and skills.*
- **Teamwork:** *Students do not learn in isolation. They are often involved in learning activities that require them to work with their peers in small groups and teams, both inside and outside the classroom. They are encouraged to be an active member of the wider learning community and operate in a caring and supportive learning environment.*
- **Transcendence:** *Learning is no longer bounded by the four walls of the classroom or the class contact hours but transcends across time and space. Students learn not only through interacting with their teachers and peers in the scheduled face-to-face sessions, but also through interacting with other people in different kinds of out-of-class activities such as technology-enhanced discussions and forums, workplace and/or community-based experiences in partnership with professional, and international exchanges, etc. Students are encouraged to make connections with and appreciate a broader context of learning.*

A "value-added" aspect of this ideal classroom is that it helps students learn more than the subject matter of the discipline. By regularly working with others, grappling with challenging tasks, and applying new knowledge and skills to realistic problems students are also developing many of the skills identified in PolyU Strategic Objective 1.1 to promote their all-round development. (i.e. global outlook, critical and creative thinking, social and national responsibility, cultural appreciation, life-long learning, bi-literacy and tri-lingualism, entrepreneurship, leadership)

Let's call this vision the “**Active Classroom**”.

What is needed to make this classroom vision a daily reality in PolyU? First, recognition that the present climate presents challenges and demands changes to longstanding learning and teaching practices that the *Active Classroom* can address. Second, further refinement of this vision by considering what is currently known about how people learn to identify practical targets and best practices that can make the *Active Classroom* a reality. Finally, taking a systemic approach to promote and support the *Active Classroom* so that it becomes widespread regular practice that continues to evolve over time.

Challenges to higher education and to PolyU

- Information explosion coupled with rapid technological advances: neither feasible nor desirable to teach ‘everything’
 - More volatile economy: rapid changes within ‘old’ professions, and emergence of ‘new’ professions: importance of transferable generic skills and lifelong learning skills
 - Widened access to higher education: changing nature of students with more varied goals, aspirations, abilities, and approaches to learning
- Hence, PolyU strategic plan objective #1.1: Students need to develop the various aptitudes and skills for higher order thinking and lifelong learning to function as effective and responsible members of society
- Furthermore, what worked well in the past for teaching the ‘elite’ group of university students may not work for the diversity of tomorrow’s students

Advances in understanding of student learning

- Students have “multiple intelligences”
 - Information is not knowledge. While *information* can be transmitted, *knowledge* must be ‘constructed’ or made sense of by students
 - Students learn the most from actively engaging in meaningful learning tasks
 - Both in-class and out-of-class activities and experiences are important in determining how well students learn
 - The ‘seven principles of good practice in undergraduate education’ derived from a synthesis of over 20 years of research
 - Encourages student-staff contact
 - Encourages cooperation among students
 - Encourages active learning
 - Gives prompt feedback
 - Emphasizes time on task
 - Communicates high expectations
 - Respects diverse talents and ways of learning
- Need for a paradigm shift: from a teacher-centred to a student-centred approach (PolyU position paper on philosophy of teaching and learning)

Real meaning of active student-centred learning

- It is NOT about:
 - leaving the learning to the students to struggle on their own,
 - pleasing the students, or
 - making the learning less demanding
- It involves students in searching for meaning and in making sense of the subject matter through analysing, relating, applying and reflecting on ideas.
- It entails more than the mastery of knowledge. It also puts high priority on the skills students need to acquire in order to continue learning as an independent, life-long learner, and the skills to apply what they have learned to solve real-life problems.

- It involves a shift in responsibilities for both the teacher and the students. Students will be given greater responsibility for their own learning, more opportunities for engaging in tasks like identifying and tackling problems, proposing ideas and discussing with them with others... Teachers will assume the responsibilities of creating such opportunities to facilitate student learning, instead of direct lecturing.
- It requires high challenge for students while at the same time high support from teachers.

Promoting the development of the *Active Classroom* in PolyU

The *Active Classroom* is instrumental to achieving PolyU strategic objective #1.1, and is consistent with the philosophy of learning and teaching as reflected in the PolyU position paper on learning and teaching.

However, it is not possible to prescribe a single classroom model or teaching technique that will work for all teachers, all subjects and all kinds of students. Instead, a shared vision of the *Active Classroom* can be created through dialogue. Methods for achieving this vision can be drawn from relevant research on student learning. Innovative strategies that have been tried and found effective by colleagues in PolyU can be identified. A vast array of learning and teaching techniques can also be called upon according to the specific needs of each teacher, subject and learning situation.

A systematic review of the literature and good practices in PolyU and other higher education institutions worldwide suggests six major directions for changes that are needed for promoting the development of the *Active Classroom*:

- **Interactive classes:** A shift from a didactic form of teaching toward a more interactive form of teaching and learning where students are actively engaged in meaningful learning tasks inside and outside the classroom.
- **Enquiry-based learning:** A move from an expository mode of teaching to more enquiry-based learning approaches (for example, problem-based learning, case-based learning, resource-based learning, etc.) where students learn through systematic exploration and investigation of problems or cases on their own, with appropriate support from their teachers.
- **Experience-based learning:** Instead of learning primarily from what is taught in class, students are increasingly encouraged to learn from real-life experiences outside the classroom, through participation in community service learning projects, community-based classrooms, workplace experience, etc. They learn by investigating and dealing with real problems in the work setting, interacting with prospective clients as well as other professionals in the field, and reflecting on their own experiences.
- **Collaborative learning:** An increasing emphasis for students to work collaboratively on various types of tasks to help develop their own understanding from, as well as the respects and skills in, working with others.
- **Authentic and challenging assessment:** A shift from relying mainly on closed-book written examinations focusing on “bookish” knowledge, to adopting a wider range of innovative methods of assessment that challenge students to think about and reflect on their learning experiences, demonstrate their competence in authentic tasks, and to develop the ability to assess their own as well as other people’s work – a skill that is much needed for students’ future personal and professional development.
- **Integration of technology in teaching and learning:** A move toward an integrated use of information and communication technology (ICT) in learning and teaching, not merely for disseminating information such as lecture outlines, content, or notes, but as a means to increase accessibility, a tool to provide enhanced learning experiences for students, and a flexible channel to facilitate interaction and communication between students and teachers, and between students and their peers.

Designing and implementing the six changes described above are not without difficulties, but they have been found to be both viable and rewarding. In the last few years, colleagues in PolyU have experimented with a wide variety of innovative strategies and techniques for enhancing student learning – some worked on their own while others

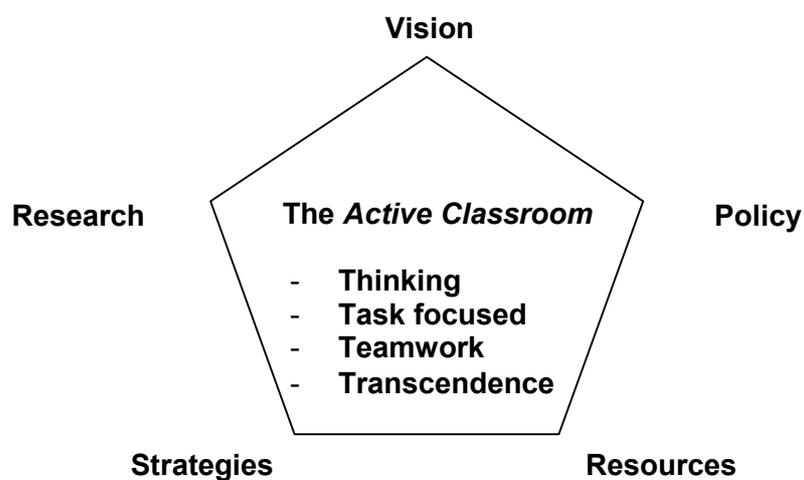
implemented changes through the large number of Teaching Development Grant projects funded by the UGC and/or PolyU – with varying degrees of success. They provide a rich source of experience and examples of good practice from which other colleagues may learn, to develop their own repertoire of strategies and techniques for promoting the *Active Classroom*. Some examples of the innovative strategies and techniques currently in use at PolyU are:

- PISER (Peer Instruction and Student Electronic Response System)
- Interactive lectures
- 3-column table
- Problem Based Learning
- Case-based learning
- Simulations
- Community service learning projects
- Community-based classrooms
- Workplace learning
- Peer tutoring
- Discussion groups
- Structured essays
- Reflective journals
- Peer and self assessment
- Learning contracts
- Web-based PBL activities
- Web-based forum/discussion groups
- On-line classes
- Students’ electronic profiles/websites
- Internet searching activities

SMC is also supportive of initiatives that promote the *Active Classroom* ethos. In a recent SMC meeting one suggestion was to “revamp the teaching format” so that lecture time was limited to no more than 40-45 minutes to allow for at least 10-15 minutes of interactive activities such as Q&A in every class session. A further suggestion for revamping the teaching format was to use more web-based teaching to supplement classroom teaching and provide learning activities outside of class time. These two suggestions support the above-mentioned six major directions for promoting the *Active Classroom*. The SMC suggestions explicitly promote **interactive classes** and **enquiry-based learning** in class sessions and the **integration of technology in teaching and learning**. In addition, activities that would carry out the intent of these suggestions can also be designed in such a way to draw on the positive benefits of **experience-based learning**, **collaborative learning**, and work synergistically with **authentic and challenging assessment**.

How to get there? Policies and strategies for promoting the *Active Classroom*

- Pedagogical innovations involve educational changes
- Promoting the *Active Classroom*: A change model



- Pedagogical innovations cannot be mandated. Individual departments/staff members should decide on implementation strategies appropriate to their own contexts.
- Educational changes can only be effected through changing people’s beliefs, knowledge, skills, and behaviours.

- Develop a clear shared vision through strong leadership and clear direction: What is truly valued by PolyU, and why?
- Create incentive, motivation and a context conducive to change.
- Provide resource and support: e.g., TLRC and/or other specifically developed resource materials for supporting the *Active Classroom*.
- Help staff to acquire a repertoire of strategies and techniques for promoting the *Active Classroom* through various types of staff development and sharing activities organised by EDC.
- Policies and effort must be informed by research; and there is a definite need to monitor and evaluate progress and achievement.

Action Required

The SMC is requested to endorse the proposal of LTC to promote the development of the concept of 'Active Classroom' in PolyU, and encourage all departments to make joint efforts in this endeavour to provide a stimulating environment that facilitates effective student learning.