

The Hong Kong University of Science and Technology

Teaching and Learning Quality Process Reviews

Self-evaluation Supplement on Research Postgraduate Education

July 2002

I. Self-evaluation Supplement

A. Overview

1. Organization of research postgraduate education programs

The mission statement of the University distinctly stipulates that HKUST as an educational institution is ‘to advance learning and knowledge through teaching and research, particularly at the postgraduate level.’ From the outset, the University aimed at becoming a leading world-class research university in this region. Consistent with this goal, all nineteen departments and divisions of the University offer research degree programs up to the PhD level. Governance of research degree programs is organized through four levels of committee structure - including postgraduate studies committees at the departmental, school and University levels, and lastly the University Senate.

2. Distribution of research postgraduates (RPgs) among schools

Among the four schools, Engineering has the largest percentage share of RPg enrolment (54.7%). This is followed by Science (29.4%), Business and Management (8.1%), and Humanities and Social Science (7.8%). The following table provides a breakdown of the distribution of faculty and RPg student numbers among the schools. Although the Business School employs about a quarter of the faculty of the University, its percentage share of RPg enrolment is relatively small. This pattern is consistent with that in the 1998 PESG review visit. Faculty members of the school have focused their teaching efforts on the development and delivery of high-quality coursework programs as well as executive education programs. This seems to be a universal pattern among business schools.

School	Total RPg	%	Faculty Strength	%	Faculty vs RPg Ratio
Science	268.5	29.4%	111	26.0%	1:2.4
Engineering	500.0	54.7%	148	34.7%	1:3.4
Business & Management	74.0	8.1%	117	27.4%	1:0.6
Humanities & Social Science	71.5	7.8%	51	11.9%	1:1.4
Total	914.0	100.0%	427	100.0%	1:2.1

3. Improvements made to research postgraduate programs

3.1 Issues raised in the Postgraduate Education Sub-Group (PESG) visitation in 1998 – In the last review conducted by PESG on research postgraduate education of the University in the summer of 1998, the University, in its self-critique, identified six areas for improvements to be made. These include : (i) Supervision and monitoring of study progress, (ii) Programs with high attrition rates; (iii) Supply of quality local RPgs, (iv) the English Language proficiency of RPgs, (v) Course availability, and (vi) Communication and environment. Part of the observations of the PESG Panel coincided with areas (i), (v) and (vi) above. In addition, PESG suggested that IT training for Humanities and Social Science (HSS) students be strengthened. It also commented on the adequacy of library resources allocated to HSS and some RPgs were too engrossed in their study that they did not have time to benefit from other aspects of postgraduate education.

3.2 Courses of action taken – The issues raised in the 1998 PESG visitation have been duly considered by the appropriate committees, administrative offices, schools and departments concerned. Actions have been taken to address the issues raised, many of which will be covered in latter parts of this report.

B. Assurance of the quality of research education

1. Admission of students – Selectivity

Although the authority to admit students to research degree programs rests with individual academic departments, all departments adhere to the minimum admission requirements applicable to all postgraduate programs of the University as stipulated by the University Senate. Applicants with non-standard qualifications whom departments wish to admit are individually considered by the Senate Committee on Postgraduate Studies. In addition to the University-wide admissions requirements, departments may impose other admission requirements as appropriate. At the departmental level, matters concerning the admission of students are either considered by a postgraduate admissions committee or, in the absence of such, the departmental postgraduate studies committee.

In an effort to enhance the quality of its RPg intake, beginning 1998, the University, through arrangements of the Ministry of Education of China, recruited finishing undergraduates in the top 2% of their own cohort from major Mainland universities to attend RPg programs at the University. They have helped to enhance the quality of RPg

students. For the recruitment of local students, departments have put efforts into attracting the University's own finishing undergraduates to pursue research studies. The quality of RPg students has been improving.

In terms of selectivity for the two types of RPg programs, the average number of MPhil applications received in the 2001-02 year was 2.9 for one local student place, whereas that for a non-local place was 12.5. For PhD programs, the number of local applications has been 2.3 and that of non-locals 4.7 for each student place. Comparing the number of local and non-local applications received, the latter has always far exceeded the former.

On statistical information on PG students, the University publishes annually a statistical booklet on PG students, which is disseminated to all departments and units concerned for their reference.

2. Monitoring of student progress

At the time an RPg student commences work on thesis research, a thesis supervision committee comprising the supervisor and two other faculty members is appointed to oversee the student's work. The supervisor meets with the student fairly regularly, whereas the thesis supervision committee may meet at least once a semester to consider the progress made by the student. In addition, an RPg student is required to write an annual progress report, which is reviewed by the thesis supervision committee and discussed with the student. The committee is required to consider the report and rank the student's performance as well as progress. If a student's progress is found to be unsatisfactory, a warning will be issued to ensure that the student will take appropriate action to improve. If no improvement is made in the next semester, the student may be required to either take Leave from Study or transfer to an MPhil or taught masters program.

3. Program completion rate

The completion rates of MPhil and PhD programs vary between the two types of programs and also from year to year. In general, the completion rate of MPhil programs has stood consistently high at above 80% for cohorts between 1995/96 and 1997/98. The completion rate for PhD programs is comparatively low, at 53.3%, 46.8% and 33.6% respectively for cohorts of the same period at this point of time. The completion rate for PhDs will improve for all the three cohorts as the percentages of those continuing are 9.7%, 11.7% and 34.4% for the same cohorts. Many are finishing this summer. For both MPhil and PhD programs, these are improved percentages compared with those of cohorts of earlier years reported in the 1998 PESG visitation exercise.

There are reasons for the longer time needed to complete PhD studies at the University. In general, RPg programs of the University require longer time to complete than similar programs at sister institutions because of the heavier coursework element required. Normally, the longer time it takes for students to complete a program, the greater is the attrition rate. For the PhD cohort admitted in 1999/2000, a total of 24 (16.6%) out of 145 withdrew in their first two years of study. The figure is reduced to 15 (7.6%) out of 198 for the 2000/01 cohort. For 2001/02, the number of withdrawal after one year has been 10 (6.0%) out of 166 admitted. There are indications that these figures are improving. For PhD programs that take an average of 4 to 5 years, a graduation rate of 50% to 60% is considered reasonable. This is an improvement from 30% plus reported in the last PESG review exercise, when the University was in its infancy stage.

4. Qualifying examination for PhD students

All PhD students, on completion of their coursework requirement, are required to pass a qualifying examination. Failing the qualifying examination twice means that the student will not be allowed to continue his study. This process helps to screen out those not suitable for pursuing PhD thesis study. In 1999/2000, a total of 6 (4.9%) out of 123 PhD students failed their Qualifying Examination. In 2000/01, 11 students (8%) out of 137 sat and failed their qualifying examination and in 2001/02, there have been 7 (5.2%) out of 134 such students thus far.

C. Support provided for research students

1. Academic support for student learning - Thesis supervision

When a student commences his thesis research, a thesis supervisor is assigned. A thesis supervision committee of three faculty members, of which the supervisor is a member, is formed to supervise and monitor the thesis work. In the event a supervisor leaves the University, a new supervisor will normally be appointed from among the remaining members of the committee in order to maintain some continuity. Normally, in appointing a PhD thesis supervision committee, at least one member must have had experience in the supervision of PhD students. For young faculty members with little or no experience in supervision work, they are normally assigned to supervise MPhil students initially to gain experience before they participate in the supervision of PhD students. In terms of the quality of thesis supervisors, at the time of joining the University, all faculty members must have a doctoral

degree from a major university. Prior to joining the University, the majority of faculty members have had teaching and research experiences in research universities of international reputation, or experience working in leading research institutes.

2. **General provision for student learning - Enhancement of English Language skills and availability of courses**

2.1 Enhancement of English Language skills - As classes and theses are in English, proficiency in English is important to all students. Although many students, at the time of admission, have shown proof of their English proficiency through their test scores in international English Language tests, such test scores are not always reliable. To address the issue, for example, the School of Engineering now requires its RPg students to complete a purpose-designed English Language course. Other RPgs may attend English Language courses designed specifically for postgraduates. The English Writing Center of the Language Center also provides assistance to postgraduates in the writing of thesis and research papers. Some departments also employ communication tutors to help students improve their English writing skills.

2.2 Availability of courses – In a small number of departments/divisions, because of limited faculty resources, the range of courses available in any semester may not be large. To a student, this means few courses that can match the research interest of the student may be available in any semester. To remedy this situation in the short term, students may choose to enroll for independent study courses which are customized courses that can match the academic interests of individual students.

3. **Other general provisions for student learning - Support services and resources for research students**

3.1 Apart from providing an excellent environment for conducting research, the University also provides distinctive support services to its RPg students. In terms of **computer support**, the University now adopts a decentralized approach. Intensive scientific computations are mainly performed in computer clusters within departments. Orientation sessions on the use of computing and audio-visual facilities are conducted for RPg students who have to perform TA work. The Information Technology Services Center also provides direct technical support for RPg students in the setting up of Web-servers and addressing IT security issues.

3.2 The **University library** has been very proactive in promoting its services to all students. It offers orientation classes and tours for all new students. A self-guided tour and a self-paced online information literacy tutorial are available to familiarize students with library services and facilities. Workshops on database guides, searching the Web, and specific research topics are organized at intervals for all students. Of the 551 study carrels, 15 have been designated for PG students from the School of Humanities and Social Science. The latter arrangement is in part one of Library's responses to an observation of the 1998 PESG Panel about an imbalance in resource allocation for those from Humanities and Social Science.

3.3 To prepare RPg students to perform teaching assistant (TA) duties, a wide range of workshops covering topics from 'Handling Difficult Situations' and 'Helping Students to Learn', to 'Leading Discussion Groups' and 'Using Technology in Teaching' are organized by the Center for the Enhancement of Learning and Teaching (CELT). CELT **provides training, resources and technical support to TAs** to enable them to be more effective and efficient in performing their TA work. In addition, CELT oversees the work of a team of TA co-coordinators who serve as liaison persons with TAs in their own department.

3.4 New RPg students who have to work in laboratories are given **training in laboratory safety** so that they are fully aware of safety precautions and issues in laboratory work.

3.5 The University provides **research travel grants** to its RPg students to conduct field work outside Hong Kong and to attend international conferences if they have papers accepted for presentation or posting.

3.6 The Student Counseling Service and Careers Center of the Student Affairs Office provides very useful support to **prepare PG students for their careers**. Apart from a regular electronic newsletter 'PG Career Link' (9 issues a year), it also organizes workshops and career talks exclusively for PGs. Attendance at these events has been very encouraging.

4. **Communication with research students**

The establishment of communication channels among PG students, faculty and University administration was an area identified in the self-evaluation in the 1998 PESG review to be in need of improvement. Much has been done to address this. Measures taken include the establishment of departmental Staff-Student Liaison Committees, the

creation of a PG Website containing information on PG studies, as well as an electronic newsletter on PG matters to keep all informed of PG matters, the establishment of a TA Co-coordinators' Committee to co-ordinate TA matters in departments, the biennial announcement in the PG newsletter on the grievance system for PG students, and lastly the active recruitment of PG students representatives as members of Senate and the Senate Committee on Postgraduate Studies.

D. Areas for continuous improvement

1. Monitoring of student progress and early warning for weak students

As the number of RPg students is becoming sizeable, it is important that an effective and efficient system is in place to ensure that students who have not been performing satisfactorily in their studies are identified early so that appropriate action is taken to warn and guide the student. The bulk of the work of monitoring student progress falls on individual thesis supervision committees. As a whole, more effort can be put into strengthening the monitoring role of thesis supervision committees. Guidelines can be issued on how the committees can help monitor the work of RPg students. While the annual progress reporting exercise is a useful mechanism that serves this purpose, there is also room for improvement particularly in terms of how the report is channeled and actioned on. Methods of accounting for the course of action taken in cases where unsatisfactory performance has been reported will be reviewed. Such measures will help to strengthen the monitoring of student progress.

2. Student participation in university life

University education is not just about study and research work. An observation of the PESG Panel in the 1998 review was that some students were too engaged in their work such that they had no spare time to participate in professional and social interaction. In addressing this issue, extracurricular activities for PG students have been organized for PG students. More can be done to encourage students to participate in this type of event. In addition, more needs to be done to encourage PG students to participate in committee work that deals with PG issues.

3. Enhancement of general skills of RPg students

To prepare students for their future careers, the rigorous training in research skills in their areas of specialization is not adequate. They need to be skilled in communication, professional and human interaction, and other lifelong skills to face the growing challenges of modern knowledge-based society. As suggested in the PESG Panel in their 1998 visit, such skills would be very useful to RPg students when they engage themselves in work in academe, business, industry or government. Some work has been done to help students plan their future career path but more work, possibly in the form of workshops, talks, discussion groups and training courses can be organized to train RPg students to be better prepared for the challenges that lie ahead of them.

4. Publicizing good practices

The sharing of good practices, which is very useful in stimulating the culture of self-improvement, does not only provide recognition to those involved, it also provides a role model for other departments. Efforts to publicize good practices have been sporadic. As the channels of disseminating information to PG students and faculty are readily available, what is needed is a concerted effort of RPg students, departments and administrative offices dealing with PG students to be made aware of good practices adopted by individual departments or supervisors and report them to all stakeholders on campus.

E. Conclusion

Compared with many established universities, this University, with a history of ten years, is relatively young. Today, although its student enrolment and faculty size have both stabilized, the academic culture and traditions of the University are still evolving and maturing. To echo its mission statement, one of the University's priorities has been to provide its researchers, both faculty and RPg students, with the best environment for conducting research. In striving for this goal, the University acknowledges the need for continuous improvements to be made to the quality processes and practices of research postgraduate education. Efforts in the next few years will focus on the areas identified above. These efforts will undoubtedly help to enhance the learning experience of RPg students as well as the quality of the research degree programs of this University.

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Attachment (Not enclosed) - List of Websites and Sample Documents Illustrating Quality Assurance Processes in Action

The Hong Kong University of Science and Technology

Teaching and Learning Quality Process Reviews

Self-evaluation Supplement on Continuing Education Units

July 2002

Preamble

In the first few years after the University began its first class in October, 1991, its main efforts had focused on matters such as curriculum development, student and staff recruitment and the preparation of laboratory facilities for both teaching and research. It was not until 1994/95 that the first batch of continuing education courses was offered by the Executive Education Team of the School of Business and Management. The School of Engineering soon began offering professional education programs to the public to meet the needs of engineering professionals. In mid-1999, HKUST College of Lifelong Learning, a wholly-owned subsidiary of the University, was established and within a year, it started offering its first in-house produced online language course to the public. Today the size and operation of the units are still relatively small, compared with those of the CEUs of the other UGC-funded institutions.

1. Governance and organization of Continuing Education at HKUST

Within the University, there are currently a total of three units which are providers of continuing education programs. They are:

- (i) Executive Education Team, School of Business and Management,
- (ii) The Continuing and Professional Education Programs Team, School of Engineering, and
- (iii) HKUST College of Lifelong Learning

The School of Business and Management, the first unit that ventured into the offering of continuing education programs to the public back in 1994/95, focuses their work on executive education. In more recent years, as a result of market demand, a number of self-financed coursework postgraduate programs have been introduced. The School of Engineering started by offering short professional courses and training workshops through its continuing and professional education team. It introduced a small number of self-financed postgraduate programs beginning 1997/98. The newest CEU is the HKUST College of Lifelong Learning (CL3), a wholly-owned subsidiary of the University. When it was first established in 1999, it identified a niche market and focused its efforts on the offering of online English Language courses through both the online and face-to-face modes. To date, CL3 has not yet engaged itself in the offering of credit-bearing programs.

These three, until today, are the key providers of continuing education programs at the University. They operate independently of each other, both in terms of management, financials and operations. Of the three, CL3 has been playing a central liaison role in the handling of general enquiries concerning continuing education programs of the University. In addition, it has also been the University's link with external bodies and Government agencies dealing with continuing education matters. The continuing education units in the two schools report directly to the dean of the School concerned, whereas CL3 reports to the Vice-President for Academic Affairs.

2. Types of continuing education courses offered

The programs and courses offered by the three continuing education units of the University may be categorized into four main types – (i) self-financed credit-bearing postgraduate programs of the University; (ii) non-credit courses; (iii) credit-bearing award programs offered by overseas institutions; and (iv) customized corporate training programs.

As the scope of CEU programs to be included in this TLQPR review covers only programs which are credit-bearing and offered by the University, very few programs offered by CEUs of the University fall into this category. In all, only programs in Category (i) above would be included in this TLQPR review.

2.1 Self-financed credit-bearing postgraduate programs – To date, credit-bearing programs have been offered by the two Schools only. These include programs such as the Executive Master of Business Administration (EMBA), the Master of Technology Management (MTM) in Information Technology, the Graduate Diploma in Computer Forensics (GradDip), just to name a few. The full list of programs is provided in Appendix 1.

2.2 Non-credit courses – All the three CEUs offer both short and longer courses. The latter may lead to the award of non-credit bearing certificates or diplomas. These courses would be outside the scope of this TLQPR review.

2.3 Credit-bearing programs offered by overseas institutions – CL3 recently introduced two online credit-bearing programs offered by institutions in the US. As CL3 merely acts as an administrative representative and has no part to play in the content or the award of the programs, these programs also fall outside the scope of this review.

2.4 Customized corporate training programs – All three CEUs offer customized training for the corporate sector. As these are in-house training courses, they are also not the concern of this review.

A full list of award-bearing programs, both credit-bearing and non-credit bearing, is provided in Appendix 1.

3. Quality assurance mechanisms for programs offered by CEUs

3.1 Quality assurance for credit-bearing programs

The credit-bearing programs mentioned in 2.1 above are programs at the postgraduate level. As these are programs offered by the individual Schools, the approval process for new programs and the processes concerning curricular changes are identical to those of the regular UGC-funded programs. As these are all self-financed programs, the administrative as well as financial aspects of each program are considered by a new committee, the UAC Sub-Committee on Continuing and Professional Education (SCCPE), which is established by the University Administrative Committee (UAC). Program proposals, having endorsed by the School authority, would need to be

considered by this committee for their financial viability before they are forwarded to the Senate Committee on Postgraduate Studies for considering the academic aspects of the proposed programs.

Each of the credit-bearing programs, from its conception stage in the department, has to be reviewed by five layers of committees, including the departmental postgraduate studies committee, the School Postgraduate Studies Committee, the UAC Sub-Committee on Continuing and Professional Education, the Senate Committee on Postgraduate Studies and finally the University Senate. The review process is no different from other degree programs of the University except there is an extra committee that oversees the financial aspects of the programs.

Administrative matters and support services for self-financed credit-bearing programs are co-coordinated by an independent team in each of the School offices. Students on these programs are treated no different from other students of the University. They have access to the University Library, the computer facilities and other student amenities of the University.

3.2 Quality assurance for non-credit programs

A new board of study entitled the Continuing Education Review Board (CERB) has been established by Senate to review programs and courses that lead to the award of diplomas, which are programs that are of a minimum of 100 hours of instruction. It is intended that CERB will be the board of study, equivalent to a school-level body, that oversees and considers credit-bearing programs that are initiated by CL3. CERB comprises faculty representatives from all the four Schools of the University.

4. Looking ahead

4.1 In recent years, in view of the changing economic situation, there has been a shift for a certain sector of the workforce to transform itself into a knowledge-based labour force. To partially address this change in the labour market in Hong Kong, the Government has been encouraging the populace to engage in lifelong learning pursuits to enhance their professional knowledge and general skills. Recently, the Government has launched the Continuing Education Fund (CEF) Scheme to subsidize people who pursue studies that are relevant to the economic development of Hong Kong. The three CEUs have already contributed towards the pool of CEF approved courses. There are plans for more courses covering a wider range of topics that fall within the focused areas identified by Government to be offered in the foreseeable future. This will provide interested students with a wider choice of topics and would meet the needs of a wider range of students.

4.2 All three of the CEUs will soon be offering some of their programs and courses on the Mainland. In some instances, this may involve the joint offering of programs with Mainland universities. As the human resources market on the Mainland is huge, it is quite conceivable that more programs will be offered to students on the Mainland. Rules and regulations on the offering of educational programs by outside educational bodies operating on the Mainland are still unavailable. It is anticipated that the monitoring of educational programs operating on the Mainland, if introduced by the

education authorities, may impact on the plans of CEUs of the University which are beginning to offer programs on the Mainland.

4.3 When there are three CEUs operating continuing education programs in the University, there may be some small overlap in their course offerings. This situation, in general, does not affect credit-bearing programs as there are University committees that serve to co-ordinate program proposal matters that would ensure that overlap of program offerings does not occur. For non-credit bearing programs, the overlap issue is more likely to occur. This may not be an issue if market demand for the type of courses is huge. If demand is small, it may lead to keen competition within the same institution. Whether this is healthy competition can be a point of contention. There may be a need for a co-coordinating body to oversee, at the University level, the offering of continuing education programs. This body may help to ensure that program offerings from all the internal CEUs are well co-coordinated.

4.4 There is a lack of guidance on a qualifications framework on programs which do not carry credits. This has led to a proliferation of award titles such as diplomas, certificates, professional certificates, advanced diplomas, etc. There may be a need for a common award framework to be established so that within the same institution, there is consistency in the award structure being adopted by the CEUs.

5. Conclusion

The CEUs of the University are still in their infancy stage of development. Given the general pressure exerted by society for people to continuously improve themselves intellectually, professionally and also at the personal quality levels, there are plenty of opportunities for the CEUs to expand the range of their course offerings to meet societal needs. For a University built and supported by public funding, it is only natural that it should play an active part in providing quality continuing education programs to the community that has been supporting its operation. This complements the part of the mission statement of the University which stipulates that the University should ‘... assist in the economic and social development of Hong Kong’.

The evolution of the CEUs of the University is a process that will likely take a few more years to stabilize. The next few years will be important times of development for the CEUs. As mentioned in 4.2 above, apart from the Hong Kong market, opportunities for CEUs to expand their offering of programs to the Mainland are abound. It would be desirable for the CEUs to review their mission, as well as manpower strength and resources, so that they can focus their efforts on the areas of strength they have identified for themselves and offer quality continuing education programs that meet the needs of society.

The Hong Kong University of Science and Technology

Teaching and Learning Quality Process Reviews

**Self-evaluation Supplement on
Exemplary Accomplishments and Areas for Improvement**

July 2002

Exemplary Accomplishments

Given the developments over the six years since the first round of TLQPR, it seems most appropriate to discuss two concrete and practical areas that the institution has developed to improve the quality of teaching and learning and the assurance of that quality. Both have potential impact across a number of domains of the framework, but their most significant characteristic is that they illustrate a commitment to continuous improvement. We regard these as exemplary because we believe they are further developed and more comprehensive than any similar programs in Hong Kong institutions. Their development was particularly underpinned by the principles of continuous improvement and collaborative responsibility. Initiatives for further improvement are included in the discussions of these areas below.

Training and Evaluation of Teaching Assistants

The first TLQPR Report recommended that

Variations in performance among postgraduate students acting as teaching assistants (TAs) should be reduced.... While the quality provided by some TAs is exemplary, others appear to be inadequately trained-some even appear to lack adequate language skills. We heard that TAs are "encouraged" to make use of the Educational Technology Centre. One school has made such training mandatory and its extension to other schools is being pursued, but we believe the degree of impetus should be strengthened and diligence in follow-up improved.

This was among the first recommendations addressed, since the training made available by the ETC was already in place and the TLQPR Report provided the impetus for Schools and Departments to buy into its importance. In 1996-97 the training of TAs was made mandatory, but relevance of the program to Departmental needs was an issue, and compliance was uneven. By the following year, a group of "TA Coordinators" had been appointed. These were mostly experienced TAs receiving studentships, who were relieved of teaching responsibilities in order to work with ETC and the Departments to ensure that new TAs attend the most appropriate workshops, help identify specific discipline or Department related training needs, and serve as a communication channel for TA concerns.

The program was taken over by CELT upon its formation. The TA Coordinators, by this time formed into a TA Coordinator Committee, provided feedback from the TAs on the program and helped the staff of CELT to modify the program to meet their needs. As of the current year, TA Coordinators (TACs) work at two levels:

At the department level, they assist the PG Coordinators or their designees to coordinate the work of the TAs and provide the needed peer support in their daily operations. Their duties vary from department to department. Some common duties include organizing a departmental Briefing or Orientation for new TAs, implementing and analyzing student evaluation of TA performance, and providing one-to-one assistance to TAs

At the institutional level, the TA Coordinators, as members of the TA Coordinators' Committee meet regularly throughout the academic year to plan and organize support services for all TAs at HKUST. Working Groups have been formed for several major areas:

- TA Training and Development, e.g. organizing orientation, workshops, informal sharing sessions
- TA Evaluation (feedback from students), both paper and online modes
- Information and resource services to TAs (such as the creation of the TA Homepage and online discussion group)
- Recognition to good TAs and dissemination of effective practices

As indicated by the formation of this last Working Group, attention is paid to providing recognition for participation in the training program and for good performance by TAs. There is an annual Certificate Presentation Ceremony at which TAs who have completed training modules are recognized for this, and certificates of appreciation are awarded to TA Coordinators. There is a selection of a Best TA based on student input, and the work of the TAs is highlighted in publications and on the web.

The elements currently incorporated in the program have developed over several years through discussions between and among the CELT staff, the TA Coordinator group, TAs themselves, and Departmental academic staff. The program will continue to improve through constant review. One of the outcomes of this

process is recognition that training of TAs is a first step in preparing the next generation of academics to be quality teachers. Under consideration are proposals to extend the training to a more formal introduction to education-related topics such as pedagogy and curriculum design. This may take the form of a voluntary certificate program for postgraduate students interested in pursuing academic careers.

In the meantime, we are building on the experience with the TA training program by introducing a new policy that provides advanced PhD students an opportunity to gain first-hand teaching experience. This recognizes that the increasing focus on teaching and learning in higher education makes such experience a valuable asset for a new graduate competing for an academic post. The program will be limited to students with good communication skills and a demonstrated interest in teaching, who have completed the TA training program, and have satisfactorily performed as a TA, as supported by student course evaluation. Students selected for the program will be allowed to teach a section of a regular course under the supervision and guidance of an experienced member of the faculty. The faculty supervisor will provide feedback on course materials and on assessment, observe the student's teaching in the classroom, offer suggestions that help to improve the teaching style and methods, and review assignments, tests and examination scripts graded by the student.

Teaching Evaluation

The first TLQPR Report listed "mandatory student course evaluation questionnaires" as an initiative "enhancing teaching and learning quality" and urged that it "be continued and strengthened as part of the broader quality programme." The mandatory use of end-of-semester has, indeed, been continued and to a significant degree strengthened by better use of the results and understanding of what they measure. However, selecting this as an area of exemplary achievement is likely to be controversial. There are widespread reservations about the use or misuse of student evaluations among the academic staff at HKUST—although these probably differ in no great degree from the reservations expressed by teaching staff throughout the academic world about such practices. These arguments have not been ignored, and are freely aired in the materials available to faculty on University web sites. For example, there is a strong critique of the end-of-semester questionnaire by Professor Eric Mazur, a highly respected proponent of teaching quality improvement, in a streaming video of an interview at HKUST linked to the CELT home page. His conclusion, that the true measure of effective teaching can only be seen in the performance of students some years after graduation, may be valid, but the need for timely feedback on staff performance simply cannot wait for such ideal information to be obtained.

Despite the reservations noted above, this topic will be presented as an exemplary achievement in terms of improvements in the systematic collection and dissemination of student evaluation data, identification of staff attitudes and concerns through a Survey on Undergraduate Teaching at HKUST, studies of the data in light of those concerns, and broadening the base of teaching evaluation as a way to address the concerns.

The course evaluation questionnaires are completed by students near the end of each semester, and cover virtually all courses. The current version, which has remained stable for a number of years in order to provide continuity and consistency in the interpretation of the results, has 23 multiple-choice type questions and six open-ended ones. Since the Fall of 1996, the average scores on overall impression of course (Question 3) and instructor (Question 14) have been published to the University community on the web. The full results of the evaluation are made available to the faculty member and the Department.

In Spring 1999, the paper-based survey, administered during class time, was replaced by a Web-based system called COSSET (Centralized On-line System for Summative Evaluation of Teaching). COSSET was the end product of a project funded by the Teaching Development Grant and was thoroughly pilot-tested before being adopted for general use. Students now complete the course evaluation questionnaire on the Web. Faculty perceptions of the change to an on-line system were, on average, somewhat negative. More than one-quarter felt that the results provided a less accurate assessment of their teaching; only a very small number felt it was more accurate. Analysis of questionnaire responses, however, provides no evidence that suggests any significant change in the pattern of results.

One persistent impression has been that COSSET, which relies on voluntary student participation outside the supervision of a classroom setting, produces far lower response rates. This is simply not the case; there has been no significant change. As a response to the concern about response rate, however, from Spring semester 2000 classes with enrolment or response rate judged to be too low for reliable comparison have not been included in the on-line compilation. Another issue revealed by the Survey is that nearly half of all faculty surveyed did not feel the student ratings were an accurate reflection of their teaching. Despite this, a substantial

majority found the evaluations at least “somewhat useful” for teaching improvement. For those who felt that the ratings *did* provide an accurate reflection of their teaching, more than half felt the evaluations “useful” or “very useful.”

Of greater concern is the fact that more than one-quarter of teaching staff report that they often feel pressure to “inflate grades” to please students (and hence get better evaluation scores). There is no evidence of any significant general inflation of grades, so presumably most faculty who feel this pressure do not yield to it. However, it reflects a general view that evaluation scores are higher when faculty are more generous in grading. This may or may not be the case: there is a significant (negative) correlation between class size and evaluation scores, and grade averages are also higher for small classes, so the cause-effect mechanism has not been established. To help reviewers make better judgments about teaching, we have provided a breakdown of average evaluation scores by class size grouping and program level since Fall 2000. In an attempt to understand the relationship between evaluation scores and grades, if any, a recent small-scale study was made of a group of courses of roughly the same size. It found essentially no correlation between evaluation scores and grades, with the important exception of failing grades. This preliminary finding will be further explored, and its implications for the reliability of the evaluations will be addressed.

Faculty concerns about the student evaluations reflect their fear that poor evaluations will have adverse consequences when they are being reviewed for substantiation or promotion. This is indirect evidence of the fact that teaching performance is taken seriously in such reviews, and that this has been communicated to the staff. While there is no reason to believe that student opinions of a teacher are irrelevant, there are valid arguments against over-reliance on them. The solution is not to discontinue the use of student evaluations, but to supplement them with additional sources of evidence. It is to this end that internal consultation on the issue of peer review has been carried out in the 2001-02 academic year. Peer input can provide a complementary perspective on teaching performance. The proposed Statement on Quality Teaching that is in the process of development will also guide faculty in preparing their applications so that they provide evidence addressing the various expectations we have of effective teachers.

Areas for Improvement

In the spirit of continuous improvement, there are ongoing efforts to make improvement in many areas, including those mentioned above as exemplary. Where appropriate, reference to these efforts has been incorporated in the main body of the Self-Evaluation Document, which is the primary reason we did not include them here. For the purpose of this Supplement, therefore, we will first focus on improvement of the *coherence* of the teaching and learning quality assurance system as a whole. A brief discussion of *assessment* for learning follows.

Coherence of quality assurance processes

The management philosophy and organizational structure make management of the resultant diversity a significant challenge to the coherence of quality assurance processes. While we have documented substantial progress in meeting this challenge in the Self-Evaluation Document, consolidating the gains and building on them to improve the system clearly must be a major priority for all levels of the University. The approach to this task will embody the principles of collaborative responsibility and sharing of good practice, and is aimed at addressing the degree of coherence.

The starting point for further progress will be the unit level EQW Profiles prepared in 2001-02 as the latest version of the annual reports on teaching and learning to the Senate Committee on Teaching and Learning Quality (CTLQ). We will propose changing the focus from an annual report to continuous updating of the Profiles as improvements are made, although a summary of the updates will be compiled for CTLQ to review, and it will report its findings annually to the full Senate.

Two steps will be taken to help units in this task. First, a “Model EQW Profile” will be assembled by combining sections from different units that represent the best of what has been submitted in the initial exercise. Second, for each unit the section that most needs improvement will be identified and the unit will be asked to consider improving either its processes or its description of its processes, making reference to the model profile. This is intended to hasten the dissemination of good practice. Identification of the sections needing improvement will be initially proposed by the CTLQ Secretariat in the office of Vice-President for Academic Affairs, with the Committee making the final decision.

This cycle can continue as long as seems appropriate, with a specific area targeted for improvement being identified for each unit at least annually, and units encouraged to update their profiles whenever they make improvements to any area. The model profile will also undergo regular improvement, either when it is judged that a different unit's updated submission provides a better model in a particular area or when the original unit improves its original submission.

Assessment for Learning

A second area identified for improvement has been selected as a priority because we are only in the initial stages of addressing its implications. This area, assessment for learning, involves the interaction of the quality principles of measuring learning outcomes, and a focus on the processes of student learning.

A number of learning opportunities have been developed in recent years that contribute to this focus in an *ad hoc* fashion. A recent example is the High Tech Entrepreneur Program, an experimental course in the School of Engineering in which enterprising students, in a realistic business theme project, learn and practice entrepreneurship under the guidance of industry consultants and university professors. The program requires creative and independent work by the participants, emphasizes working collaboratively, and hones their communication and presentations skills. This year, selected teams presented their projects at a public event organized in conjunction with a session of the HKUST Forum on the Future Development of Hong Kong. Student assessment for grades in this course is thus based on student characteristics not normally measured in usual content-based course assessments. Programs like this go a long way towards bringing learning outcomes into focus, but a systematic understanding of how assessment is linked to these outcomes is lacking.

A new initiative, described in the Self-Evaluation Document, will begin in Fall 2002 with the introduction of courses designed to develop critical thinking, creativity, and leadership skills into two specific degree programs on a pilot basis. In these courses, the link between assessment and learning outcomes is explicit, and students will make use of an on-line portfolio assessment tool specifically developed for this purpose. If this approach proves effective, from the point of view of both students and the faculty in the participating programs, a version of it may be adapted for most or all degree programs. If so, it will be necessary to train program faculty to teach the course under the general supervision of a coordinator. This, in turn, will provide an opportunity to disseminate the underlying concepts and principles to a wider group of faculty, with potential positive spin-off for better assessment for learning in other courses.

In addition to these program initiatives, the benchmarking exercises on student assessment standards conducted by the CTLQ Secretariat will be continued and expanded to explore the development of more relevant outcome measures.