

UNIVERSITY GRANTS COMMITTEE

TEACHING DEVELOPMENT GRANTS

Final Report:

Enhancing Teaching and Learning
through Assessment

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**University Grants Committee
Teaching Development Grants
Final Report**

Part I Final Report

1. **Project Title:** *Enhancing Teaching and Learning through Assessment*

2. **Name(s) of Academic Staff and Units involved:**

	Name	Post	Unit / Department/ Institution
Principal Supervisor	<i>Mr. Steve Frankland</i>	<i>Assoc. Prof.</i>	<i>Dept. of Industrial and Systems Engineering (PolyU)</i>
Co-supervisor(s):	<i>Professor Winnie Cheng Professor Martin Warren Dr. Pauline Cho Ms. Ann Lo Prof. Esmond Mok</i>	<i>Professor Professor Assoc. Prof. Assoc. Prof. Assoc. Head & Professor.</i>	<i>Dept. of English (PolyU) Dept. of English (PolyU) School of Optometry (PolyU) Dept. of Building & Real Estate (PolyU) Dept. of Land Surveying & Geo-informatics (PolyU)</i>
Inter-institutional Collaborator	<i>Dr. Pauline Sung Dr. Cathy Wong Dr. Patrick Lai Dr. Agnes Tiwari Dr. Sophia Chan Dr. Felix Yuen</i>	<i>Assoc. Prof. Assist. Prof. Sr. Ed. Dev. Officer Assoc. Prof. Department Head Teaching Consultant</i>	<i>Dept. of Applied Social Sciences (PolyU) Dept. of English (PolyU) Educational Development Centre (PolyU) Dept. of Nursing Studies (HKU) Dept. of Nursing Studies (HKU) Dept. of Nursing Studies (HKU)</i>

3. **Project Duration**

Commencement Date	Extended Completion Date	Duration (in years)
<i>September 2002</i>	<i>June 2007</i>	<i>4 years and 9 months</i>

4. Progress

4.1 Main Project

4.1.1 The Assessment Project

(a) Project Objectives

Objectives included in the original proposal

1. To explore current assessment practices within the Hong Kong Polytechnic University (PolyU) and The University of Hong Kong (HKU). These include the assessment approaches, methods, implementation procedures, appropriateness to learning objectives, and problems/difficulties encountered.
2. To identify good assessment practices.
3. To explore the effect of the current assessment practices on teaching and learning from both the students' and staff's perspectives.
4. To develop an Assessment Resource Centre (ARC) to support on-going quality assurance and improvement of assessment. This Centre will provide both print-based and on-line support to both teachers and students, and will contribute to the further development of the Teaching and Learning Resource Centre of the PolyU. Contribution from other Universities will be solicited.
5. To provide teaching development activities based on the resources developed.
6. To provide support for individual participating parties to conduct small scale teaching development sub-projects to try out alternative assessment practices.

Objectives included in the extension proposals

7. To explore and identify further good assessment practices from subprojects and university teachers.
8. To develop and support the ARC through student involvement.

4.1.2 Report of the Project Work

(a) Project Activities and Outcomes

The Assessment Project was used as a systematic approach in identifying the use of assessment in enhancing teaching and learning in Hong Kong, specifically at the PolyU and to a lesser extent at the HKU. The project team aimed to achieve its objectives through the collecting and developing of effective and innovative assessment practices which were then shared within the Higher Education sector mainly via (i) an international conference, (ii) the setting up and continuous updating of the Assessment Resource Centre (ARC) website, and (iii) publication of good practices. These activities have provided the **opportunity** for teachers to contribute their own ideas and good practices and are strategies to enable the development of **a community of practices among frontline teachers.**

In order to involve frontline teachers in this process, several specified groups of people were invited and involved in various activities of the project. They were:

- **Sub-project collaborators** – teachers who wanted to be directly involved in “enhancing teaching and learning through assessment” by collaborating through the sub-projects. (Various action research projects in their own teaching were conducted and follow-up adjustments were made to their plans in response to the contextual constraints they found in their teaching departments).
- **Proposal contributors** – teachers sending us proposals on various assessment topics to the conference review panel. There were over 400 submissions in total.
- **Conference paper, roundtable and poster presentors** – teachers and educational administrators who presented their ideas at the 170 parallel sessions at the 3-day international conference.
- **Conference and workshop participants** – Over 350 people attended the 3-day conference, and an additional 50 guests who joined the opening ceremony as well as participants who attended the workshops presented by main and sub-project leaders via the arrangement of the Educational Development Centre (EDC) of the PolyU.
- **Contributors to “Call for Contribution” section in the ARC** – personnel who contributed practices which had been implemented in their own institutions (they submitted practice articles to us by completing a purposely designed standard form, i.e. “The ARC Contribution Form”).
- **Website Visitors** – over 16,000 visitors of the ARC website and a few who have taken part in the ARC online forum discussion (The ARC website also included some generic resources regarding how to design assessment which aligns with intended learning outcomes. Visitors can also find the range of relevant references and links useful).
- **Targeted frontline teachers locally and internationally** - over 20,000 local and international frontline teaching staff have received our mass-mailing email about the conference, book publication, ARC and forum.

Although we experienced some difficulties at bringing to the attention of teachers’ of the effective use of assessment during the teaching learning process, the strategies employed in the project activities were progressively modified in order to encourage their active participation and involvement. The lesson we learnt from actions taken formed a basis to recommend actions for future improvement.

The project activities conducted to achieve the stated objectives specified in Section 4.1.1 are detailed below:

1. Organisation of Assessment Conference

The First International Assessment Conference was held on the PolyU campus from June 13th to 15th, 2005. We called for papers and received an overwhelming number of submissions for sharing their assessment experience at the conference. There were around 400 participants coming from over 18 countries, including presenters, delegates and chairpersons. There were over 170 presentations, 13 (7%) presenters came from the PolyU, and 31 (18%) from local institutes/institutions. Very positive feedback was received from 74 (21%) of participants. This

demonstrated that the Conference considerably helped advance the use of assessment in educational settings, both in Hong Kong and overseas. The CD ROM and a special website (<http://www.polyu.edu.hk/assessment/conference>) aggregating the outcomes of the conference and its presentations were made available to the local universities as one of the Project's deliverables.

A total of 91 full papers were received after the Conference for review and over 40 were accepted and are to be published by an international publisher (Springer). In addition, an excerpt of the conference keynote speeches was published online via the ARC as an open resource. People who were not able to join the conference can revisit the essential discussions via the Conference website <http://www.polyu.edu.hk/assessment/programme.html> (this is aligned to Objective 2, 3, 4, and 5).

Meanwhile, noticing that around 70% of the submitted conference full papers related to implementing various kinds of assessment practices, we invited some of the authors to submit details of their practices in the form of practice articles so as to share their experience (this is aligned to Objective 7).

Post-conference Issues

In response to the suggestion of the Project's External Assessor and the Vice President (Student Development) of the PolyU, the International Conference was discussed as an agenda item at the University's Learning and Teaching Committee (LTC) meeting of the PolyU in September 2005 to examine the viability of conducting a Second International Conference in 2007. Unfortunately, this proposal was turned down at the meeting due to funding constraints and problems with the need to obtain additional staffing.

The issue was later discussed with the External Advisor and Assessor, in order to continue the momentum and network achieved through the First Conference. Later, the project team contacted different potential parties in an attempt to organise the Second Conference. Initially this was attempted by contacting relevant bodies in Hong Kong, such as the Higher Education Research and Development Society of Australasia (HERDSA) – Hong Kong Branch. Finally, one of the First Conference's delegates from the USA was contacted, who has showed considerable interest and we have now been liaising with him with a view to organizing a Second Conference in the USA (this is aligned to Objective 2 and 3).

2. Assessment Resource Centre (ARC)

The ARC (www.polyu.edu.hk/assessment/arc) was established in order to collect resources related to assessment. Based on resources developed from teachers in higher education, support has been provided to frontline teachers regarding assessment practices. Some generic resources relating to the design assessment to align with the intended learning outcomes have been provided. This knowledge-based platform for academic exchange was intentionally designed to foster a collaborative spirit among teachers, to facilitate sharing of ideas, experience, and reflection. It has helped to promote the effective use of assessment practices in the higher education sector at the subject level, inter-institutional level, as well as inter-cultural level (this is aligned to Objective 5).

Moreover, the ARC has provided ongoing sharing, support and development in assessment practices to both teachers and students. The ARC updates teachers with current issues in assessment and the latest events on assessment. It also continuously solicits contributions from teachers and other education practitioners both in Hong Kong and worldwide, and disseminates them through a user-

friendly categorization and retrieval format in its search engine and forum to ensure the effective access to the collected examples of assessment practices (this is aligned to Objectives 4 and 6). There have been several further developments of the ARC with over 79,800 various pages loaded by over 16,000 people between the end of June 2005 to late June 2007.

Some major ARC initiatives are as follows:

(i) Call for Good Assessment Practice Contributions

Two rounds of “Call for Contributions” of good assessment practices had been conducted, 47 articles were received and 26 were posted onto the ARC website. These comprised of 21 articles submitted by PolyU teachers, four articles came from teachers of other local universities, and one article from an overseas university. These articles were posted in the ARC search engine and can also be found in the Online Forum for people to inquire about and comment on (this is aligned to Objectives 1, 2, 3, and 4).

(ii) Criteria Referenced Assessment (CRA) Archive

An attempt to collect examples of Criteria Referenced Assessment (CRA) practices in the University was made but not many examples have been received related to the individual programmes and subjects. The project team then searched for CRA examples from overseas for sharing in the CRA Archive. Meanwhile, the team has involved its student assistants’ perspectives in developing the CRA Archive (aligned to Objective 8).

(iii) Online Forum

An Online Forum was developed to continue the success of the International Conference in 2005 and served as an international platform for exchanging of ideas on assessment practices. Frontline teachers, educationalists, researchers and school administrators were able to share ideas on assessment by posting their feedback to the practice articles, conference abstracts and theme articles in the ARC. Invitations through e-mail were sent to teaching staff of all universities in Hong Kong, to the Conference delegates total over 20,000 potential participants available our mailing list. It was hoped that they would contribute their ideas to the ARC and also make use of the Projects’ resources. By so doing, frontline teachers could share and benefit from others. Although the outcome was not very satisfactory, it was an attempt to inform people that such dialogue was available, and could be an easy way to make the tacit knowledge to be shared explicitly (this is aligned to Objective 5).

(iv) Project Publication of Sub-projects’ Findings and Experiences

The findings from some of the sub-projects have been compiled into an edited book to be published by Springer. This served as another reference for use of assessment for enhancing teaching and learning (this is aligned to Objective 7).

(v) Student Website

A website targeted at students’ needs (<http://www.polyu.edu.hk/assessment/student>) has been developed. The presentation is intentionally designed by including viewpoints from students. At the very beginning, several student assistants were employed and they had contributed a lot about the website structure as well as the current assessment issues closely related to their learning. Eventually, the finalized website is built to stimulate the university students to re-examine their attitude towards assessment. This site is also interlinked with the ARC website.

(vi) Analysis of Student Learning Outcomes

The ARC has connected us to teachers of different disciplines, particularly those who had contributed their practices. Several of them had been supplemented by analysis of their

students' work through specifying their learning outcomes via Bloom's taxonomy and many of them via the SOLO taxonomy. In particular, the attempts made by some of the sub-projects have proved to be a successful use of the assessment practices via a definite analysis of the learning outcomes. (this is aligned to Objective 7).

3. Questionnaire Survey and Interviews with Teachers and Students

The project findings collected through a questionnaire with PolyU teachers and focus group interviews with teachers and students were presented in the European Association for Research on Learning and Instruction (EARLI) Conference in Norway in 2004 and the Project's Assessment Conference in 2005. The findings were written as a full paper which reviewed the strengths, weaknesses, and areas for improvement of existing assessment practices in the University. It studied the assessment approaches, methods, implementation procedures, appropriateness to learning objectives, and difficulties encountered. The paper was submitted to the Assessment Conference for review and was accepted for publishing in the Conference Publication via the international publisher previously mentioned (Springer), together with other accepted papers of the conference (this is aligned to Objectives 1, 2, 3, and 4).

As planned for the project's second extension, focus group interviews on students were to be conducted as a follow up to the Project's 2003 interview survey to ascertain the effect that the Criteria Referenced (CR) assessment exercise has had. The project team thus conducted a pilot interview but found its results were very similar to those collected at earlier interviews of the project. Therefore, it is recommended that a similar study can be considered when the CRA practice is more mature in the University.

4. Dissemination of Findings through the Conference and Workshops

In addition to disseminating assessment practices at the Norway Conference and the Assessment Conference at the PolyU, the main project findings were also shared at Educational Development Centre (EDC) Workshops. Furthermore, sub-project leaders have also conducted workshops in EDC or among their department/faculties to share their ideas and experiences in assessment with other PolyU teachers (this is aligned to Objective 5).

5. Collaboration

The above activities have involved both intra- and inter-institutional collaborations as discussed above in the item 4.1.2(a).

(b) Recommendations for Future Development

1. To sustain the momentum for teachers' dialogue on the effective use of assessment

It is very important to raise the importance of assessment in enhancing the teaching and learning, especially for teaching and educational research activities of teachers today. If teachers take action to make full use of relevant resources, they are also less likely to resort to misusing assessment in their daily teaching. As a consequence of this, it is recommended to continue sharing assessment ideas and practices, like those that were conducted through inter-institutional activities via the presentations and publication of the Assessment Conference, the Assessment Practice Contribution, the ARC website, and the Online Forum; and through main- and sub-projects' intra-campus activities via questionnaire and interview studies on the

university's assessment and sharing of findings in workshops within the campus. This kind of **critical dialogue between theory and practice** specific to assessment, forms such an essential part of students' learning, should not be a single event.

2. To seek for a user-friendly platform for PolyU Staff to discuss and share Assessment Issues

As discussed with the External Assessor, a section of the ARC was developed called "PolyU Only" (<http://www.polyu.edu.hk/assessment/polyu>). This page listed items specific to PolyU staff: (i) the findings from the Project's questionnaire survey and focus group interviews that were previously conducted; (ii) a link to the PolyU's Guidelines for the Implementation of Criterion-Referenced Assessment prepared by the Learning and Teaching Committee, and (iii) the PolyU Curriculum Resource Review Book. To highlight the concerted efforts made can provide teachers a framework on how to take focused and purposeful actions. It is hoped that using a common language as described in the ARC would allow all teaching staff to conceptualise the belief, the practices and even the developing of diverse ways of thinking in their implementation. However, the web-page for "PolyU Only" does not show a holistic framework for action. More development for providing a user-friendly platform for PolyU Staff to discuss and share Assessment Issues can be considered to be continued in future.

3. To consider students' perspective to improve assessment

Assessment obviously concerns both teachers and students. Accordingly, the project team conducted focus group interviews with students as well as teachers and deliberately involved them in many of its initiatives such as the development of the student website. Our experience showed that students' perception towards assessment has an impact on both their learning and subsequent assessment performance. Therefore, it is recommended that students should be advised of the criteria by which they are to be assessed since they will then know what is expected from them when they are assessed. However, this approach (which is already being adopted in the PolyU) needs some caution since we are ultimately preparing students for the real world of work and in this environment, their employer will not be so succinctly advising them of what they expect when they give them work to do.

(c) Staffing Issues

In addition to full-time and part-time project staff, the project team has employed students as Student Assistants to do meaningful work in conjunction with their studies. This in a small but important way, supports the University's Work Integrated Education (WIE) initiative. It has proven to be highly successful and is to be recommended for any future projects of this nature.

4.1.3 **Reflection on the Impact of the Project**

The Assessment Project has had both a tangible and intangible impact on assessment which can be considered at three different levels.

The University level

A university-wide systematic review of current assessment practices had contributed to the provision of overall picture to inform future curriculum development and improvement. In line with the curriculum revision exercise of the PolyU, the project team also took up a role to reinforce the notion of aligning assessment to intended learning outcomes.

The Individual Subject Level

Sub-project leaders have reflected on their current assessment practices, and have implemented (innovative) alternatives, which have had a direct impact on student learning. Also, over forty contributors from local universities had been involved for reporting their assessment practices in the two calls for contributions under the following 15 areas:

- Summative assessment
- Formative assessment
- Assessment methods
- Use of IT for assessment
- Peer- and self- assessment
- Outcome-based assessment
- Multiple forms of assessment
- Assessment for project work
- Assessment in workplace
- Assessment to enhance life-long learning
- Curriculum planning
- Quality assurance
- Criterion-referenced assessment
- Norm-referenced assessment
- Grading and marking

It is hoped that experience and insight gained from the project can serve to inform and improve assessment practice for individual teachers.

The Inter-institutional Level

Innovative assessment practices, new ideas and the sharing of ideas were achieved through the Assessment Conference and Assessment Practice Contributions. These eventually enriched the ARC website with ideas from local and international perspectives. These resources supported the project to give positive impact to all teachers and students both within and beyond the PolyU and HKU.

Summary

This project has achieved to a large extent, what was originally intended, but also further extended to new initiatives proposed in the extension period. We believe frontline teachers have been provided with practical insights in their implementation of assessment for enhancing teaching and learning. The activities carried out under the auspices of this project have provided information regarding the use of assessment via the website of ARC which will enable frontline teachers to have a basic understanding of assessment **know-how**.

We have developed strategies for obtaining greater involvement from frontline teachers of different local and overseas universities in using effective assessment practices. It is grateful that the aggregation of their contributions has led to the generation of **ideas from the diversified themes as listed above**. Moreover, that these ideas will become a good reference for teachers when they design and implement assessment practices to their teaching and learning activities.

In particular, we take this opportunity to thank and congratulate all assessment practice contributors and participants who were involved in this project for their efforts to articulate what they learnt from their teaching experience in respect of assessment. This project would not have achieved its objectives without their commitment. Also, we acknowledge the UGC of Hong Kong for funding this Project and providing us with the opportunity to examine this critical part of teaching and learning, i.e. **What students learn, and how they learn it is governed by how they perceive are going to be “assessed”**. Lastly, we hope that this project

and its deliverables will assist in some way to clarifying the role of assessment in teaching and learning, not only in the Hong Kong Polytechnic University, but also all other universities in Hong Kong.

4.1.4 Changes to the Original Proposal, if any (Please state reasons)

Requests for extension of the Project were sent to the UGC and approval was given for an extension to June 2007.

4.1.5 Collaboration Details

The activities mentioned above have involved both intra- and inter-institutional collaborations as discussed above in the item 4.1.2(a).