



Ref. No.

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**Projects on Promoting Outcome-Based Approaches in Student Learning
2007-08
Application for OBA Funding**

PART I: General Information

1. Title

Studying the impact of English language subjects on HTI Biomedical Engineering students' engagement in outcome-based approach education

2. Name(s) of Applicant(s)

Project Leaders

Name	Dept	Post	Groupwise	Ext.
Dr Freeman Chan	ELC	Lecturer	ecfchan	4934
Dr Julia Chen	ELC	Lecturer	ecjuliac	7524
Dr M. S. Wong	HTI	Associate Professor	m.s.wong	7680

Team Members

Name	Dept	Post	Groupwise	Ext.
Alfred Lee	ELC	Language Instructor	ecalfred	7516
Dr Aaron Leung	HTI	Assistant Professor	htaaron	7676
Dr Eric Tam	HTI	Assistant Professor	hteric	7670
Dr Parco Siu	HTI	Assistant Professor	htpsiu	8593

3. Total funding requested

4. Expected duration of project: 24 months

Proposed commencement date: 1 September 2008

Expected completion date: 31 August 2010

PART II: DETAILS OF PROPOSAL

1. Project objectives and significance

(What are your objectives in initiating this project? How does it align with institutional goals and targets in implementing outcome-based approaches in student learning?)

Background

Two new ELC subjects (ELC3611 & ELC3612) will be integrated into several subjects of the BSc (Hons) in Biomedical Engineering Programme of the HTI Department in the years 2008-09 and 2009-10. The teaching, learning and assessment of these two subjects will be closely aligned with some of the BME programme outcome targets, as follows:

1. Understand the roles of Biomedical Engineering (BME) in the health care system and society
2. Practise competently and in a professionally responsible manner
3. Synthesize both knowledge and assessments to identify short and long term solution objectives
4. Demonstrate the ability to develop and apply knowledge to solve clinical problems with an investigative approach
5. Evaluate the effectiveness of solutions against objective criteria
6. Communicate effectively and advise clients, professional colleagues and other members of the community
7. Critically evaluate research and professional literature, and understand the principles and practice of conducting research in different environments relevant to BME

The two ELC subjects and the corresponding HTI subjects will use the same assignments, which are set by the HTI staff, to assess student performances; the students will get a content score from the HTI and a language score from the ELC by doing one assignment.

Logistically, the two ELC subjects will be divided into four separate parts, matching the different delivery time of the corresponding HTI subjects of the programme.

Project objectives

- 1) To evaluate the effectiveness of ELC3611 and ELC3612 in supporting students to meet the English and communication related learning outcome targets of the BSc (Hons) Biomedical Engineering programme
- 2) To identify the human resources and logistical and administrative support required for the collaboration work for the ELC-HTI subject integration

Project significance

The findings of the impact study as stated in Objective 1 will be valuable references for future inter-department outcome-based education collaborations in the university. The findings of Objective 2 will be useful for addressing issues concerning the cost-effectiveness of the ELC-HTI collaboration.

2. Target users

(Who are the intended users of the 'deliverables' of the project – faculties / departments management or programme/subject teams or students?)

- ELC staff
- HTI staff
- HTI students (indirectly)

If the target users are students, complete the table below:

Programme/ subject code	Programme/subject title	Credit units	Mode of study	Student intake quota per year
BME/ ELC3611	Professional English for Biomedical Engineering 1	3	Seminar	30-36
BME/ ELC3612	Professional English for Biomedical Engineering 2	1	Seminar	30-36
BME/ HTI3141	Orthopaedics, Traumatology & Rehabilitation	3	Lecture & Seminar	30-36
BME/ HTI3418	Introduction to Clinical Research	3	Lecture & Seminar	30-36
BME/ HTI4153	Independent Project	6	Action learning	30-36
BME/ HTI4151	Biomedical Engineering Laboratories	3	Action learning	30-36
BME/ HTI3171 HTI3172 HTI4172	BME Attachment I, II & III	12	Action learning	30-36

BME= BSc (Hons) Biomedical Engineering

3. Outcomes and deliverables

(a) Major outcomes and deliverables

(What will be the major outcomes and deliverables of the project?)

	Major outcomes and deliverables with descriptions
(a)	Comparisons of the assignment performances of students engaged in the ELC-HTI integrated outcome-based learning (2007-2010 cohort) with the assignment performances of a control group of students with no such learning experience (2006-2009 cohort). Students' written assignment performances will be assessed by: - External assessors (e.g. professional stakeholders) - Internal assessors (subject teachers from HTI & non-subject teachers from ELC)
(b)	Findings on students' (2007-2010 cohort) learning motivation and their views of the ELC-HTI integrated outcome-based teaching and learning mode
(c)	Findings on ELC teachers and HTI teachers' views of their collaboration
(d)	Findings on human resources needed for the subject integration and the related logistics and other administrative issues that need to be addressed.

(b) Plan for developing and piloting / implementing the deliverables

(Detail the plan and procedures that you will adopt to develop and pilot/ implement the outcomes and deliverables. Also specify the dates of the pilot / implementation period)

ELC3611 related data collection and processing (Sep 2008 - Jan 2010)

- Inviting external and internal assessors (Sep 2008)
- Assessing students' written assignment performances (Oct 2008 - Jan 2010)
- Collecting student and staff views of the ELC-HTI collaboration (Nov 2008 - Jan 2010)
- Analysing data and writing progress report (Nov 2009 - Jan 2010)
- Disseminating progress report to users (Feb 2010)

ELC3612 related data collection and processing (Feb 2010 - Nov 2010)

- Collecting student and staff views of the ELC-HTI collaboration (Mar - May 2010)
- Analysing data (Jun - Jul 2010)
- Writing completion report (Sep - Nov 2010)

Planned pilot / implementation period of the deliverables:

Start Date (dd/mm/yyyy):01/09/2008.....

End Date (dd/mm/yyyy):31/11/2010.....

4. Dissemination and sharing plan

(How are you going to disseminate and share the outcomes and deliverables of your project?)

We intend to disseminate and share the outcomes and deliverables:

- at meetings/sharing sessions within HTI and ELC
- at an EDC sharing session for wider dissemination within the PolyU
- through one or more conference presentation and publication

5. Evaluation plan

(How do you plan to evaluate the effectiveness of the project, particularly its impact on the implementation of outcome-based approaches in student learning in the PolyU?)

The effectiveness of the project can be evaluated by:

- Noting any changes in practice as a result of the ELC-HTI collaboration
- Sending an article on this project to a journal for publication consideration and hence getting reviewers' comments
- Soliciting comments from users and readers of the completion report (e.g. users from ELC, HTI, and possibly readers from other departments)

6. Impact

(How will the project contribute to the success of the implementation of outcome-based approaches in student learning in the PolyU/ department/ programme/ subject?)

The project will contribute to outcome-based education in the PolyU in the following ways:

- Assessors' evaluation of students' use of English in HTI assessments (especially that of external assessors who are from the HTI profession) will be valuable for teachers and students to explore ways to achieve outcome-based education targets more effectively in future.
- Students' evaluation of whether they have learnt *better* as a result of the ELC-HTI integration in subject content and assessment will be useful for refining the pedagogic and logistic elements of the integration.
- Students' evaluation of whether they have learnt better as a result of the ELC-HTI integration in subject content and assessment will be useful for refining the alignment of assessment criteria of the ELC English subjects with the BME programme outcome targets and for modifying the integration approach.
- Although the student participants of this project will be limited by the small student intake quota, the findings of this pioneer impact study on ELC-host department collaboration will be valuable references for any future inter-department outcome-based education collaborations in the university, especially in the future 4-year undergraduate programmes.
- The findings related to the cost-effectiveness of the ELC-HTI collaboration will be a useful reference for future outcome-based collaborations between the ELC and other host departments.
- The project results will be timely available for the UGC outcome-based audit in 2010.

7. Target date(s) for submission of progress and completion reports

	Planned submission date (mm/yyyy)
1. Progress report <i>(for projects whose duration lasts more than 1 year; to be submitted mid-way through the proposed project period)</i>	<u>09/2009</u>
2. Completion report <i>(to be submitted within 3 months after the project completion date)</i>	<u>11/2010</u>

PART III: BUDGET OF PROPOSAL

Project Leader
Name: Freeman Chan
(representing three leaders)

Dept: ELC

Signature: 

Date: 31 Jan 2008

PART IV: DEPARTMENTAL ENDORSEMENT

Endorsement by Chair of FLTC/ DLTC:

Comments on the proposal:

This proposed project will provide evidence for investigating the benefits of cross-curriculum teaching and learning activities, as well as the value that such activities add to students' English proficiency. I therefore fully support the proposal.

Name: NANCY CHOI Signature: Nancy Choi Date: 31 January 2008
(in block letters)

Endorsement by Dean/ HoD:

Comments on the proposal:

I fully support this proposal which will be of clear benefit to the Centre with regard to the implementation of OBA on the two courses as well as providing a possible template for implementation on other IELC courses.

By endorsing this proposal, I agree that:

1. The proposal suitably addresses the School/Department's needs in promoting and implementing outcome-based approaches in student learning and will be considered as part of the School's/Department's Business Plan.
2. The School/Department will receive a funding as calculated for item (e) in the Budget section which I will use for providing the time release recommended by the project proposers, based on the Total Workload Model, to support them to work effectively on the project.

Name: BRUCE MORRISON Signature: Bruce Morrison Date: 31 January 2008
(in block letters)

Please return this form to Miss Miranda Fung, Secretary of Working Group on Outcome-based Education,
c/o Educational Development Centre
by 31 January 2008

Handwritten text, possibly a signature or date, located in the upper left corner.

Supplement to Proposal

This supplement addresses the three issues raised by the WGOBE in the groupwise of 9 April 2008 from the EDC. The issues and responses are as follows:

Issues

- A. Clarify the following issues concerning the evaluation: (i) specify the users and readers who will be consulted for comments in the evaluation (as stated in Part II, 5 on page 4); (ii) indicate whether HTI professionals will be involved in the evaluation process; and (iii) indicate whether there will be any follow-up action after the evaluation
- B. WGOBE is concerned about funding existing PolyU staff (i.e. 3 from ELC and 3 from BME) for the honorariums of assessors as stated in **a. Project Staff**, propose an alternative solution and revise the budget in this regard
- C. Justify the budget for the portable, unobtrusive recording device (*Important Notes: The funding requests for equipment will be considered only if: (a) it is essential to the successful implementation of the project, AND (b) it is not available in the department concerned*)

Response to Issue A

The evaluation plan section (Part II, 5, on page 4) is revised as follows:

Evaluation plan

(How do you plan to evaluate the effectiveness of the project, particularly its impact on the implementation of outcome-based approaches in student learning in the PolyU?)

The effectiveness of the project will be evaluated in the following ways:

- The written assignment performances of the present cohort and the previous cohort of HTI students will be assessed by three external HTI professionals and three PolyU academic staff members involved in teaching the HTI subjects (one of whom is currently also Manager of the Rehabilitation Clinic of the PolyU), and an academic staff member of the ELC. The performances of the two cohorts of students will be compared to evaluate the effectiveness of the project.
- Learner motivation as a result of the ELC-HTI subject integration will be observed by the team members.
- The project completion report will be presented in seminars (e.g. EDC seminars and departmental seminars) and will be made available to PolyU colleagues on request. Comments from readers or users of the report will be solicited. Readers or users include programme/subject coordinators from the ELC and the HTI, and possibly also colleagues from other departments, who are considering exploring cross-department subject integrations similar to the present ELC-HTI one. Comments from colleagues who actually use the report as a reference for their cross-department subject integration projects will be particularly valuable.
- A paper on this project will be sent to a journal for publication consideration to get reviewers' comments

After evaluation, a follow-up action plan will be made to iterate any good practices and to make any necessary improvements in a cyclical manner.

Response to Issues B and C

Instead of requesting funding for existing academic staff members to be internal assessors of students' assignment performances, the project will employ a temporary Visiting Lecturer of English language for 36 hours to be one internal assessor; the HTI will provide three internal assessors on a voluntary basis. The funding request for equipment has been withdrawn.

The revised budget is as follows:

PART III: BUDGET OF PROPOSAL