Using course-embedded assessments for institutional assessment

February 2009

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The Project

- One of the three institutional projects set up to address the PolyU-wide focus on assessment of institutional and / or programme learning outcomes

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Aims of the project

- Identify potential areas within participating PolyU departments in which course-embedded assessment (CEA) can enhance the overall outcome-based assessment
- Support participating departments to develop assessment plans, methodologies and rubrics
- Evaluate the usefulness of CEA as an institutional learning outcomes measure
- Make recommendations about its future implementation

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Steps in developing the project…

Identify key institutional outcomes to be assessed via CEA

↳ Identify suitable assessment method

↳ Examine types of assignments given to decide which would best serve assessment purposes

↳ Select and / or re-design assessment tasks →

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…Steps in developing the project

Pool and report the assessment results across programmes and use them for proving and improving institutional/programme quality and effectiveness

Assess students' work to determine performance has met the threshold with respect to the institutional outcome (a pilot study with LSGI)

Develop and pilot test rubrics and suitable threshold to indicate attainment of criteria

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Identifying key institutional outcomes: Introductory seminar (May, 2008)

(5/11 are OBE champions)

11 steering members representing 1 school and 5 faculties

outcomes of the seminar

- **agree on a set of institutional core outcomes**
- identify any CEA in place
- invite frontline contributors from departments

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Articulating the programme intended learning outcomes

- 7 Individual meetings with nominated programme teams (May, 08)
- project seminar and 17 intensive working sessions in two rounds with working groups from 11 individual departments (Sept./Oct., 08)

outcomes of the meetings

- Nomination of programme learning outcomes to best represent the key institutional outcome for focus in this project

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Profile of Outcomes covered by participating Departments

	AP	BRE	BSE	CSE	EE	EIE	ENGL	HTI	ITC	LSGI	SHTM
Professional competence	√					√	√	√	√		√
Creativity and innovation	√				√		√			√	√
Critical thinking	√	√	√	√			√		√	√	√
Problem-solving		√	√	√		√			√	√	√

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Choosing appropriate outcomes assessment methods and measures

- When is CEA the most appropriate to use?
  - The task or task components are representative of the characteristics of the programme learning outcome
  - For example, final year project / capstone experience

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Identify assessment methods to align to institutional / programme outcomes

Institutional/programme outcomes	Assessment Methods
Professional competence	FYP (AP, EIE, HTI), Subject assignment (ENGL), Examination questions (ITC), Group project (SHTM), Workplace attachment (HTI)
Creativity and innovation	FYP (AP, EE), Subject assignment (ENGL), Tutorial observation (SHTM)
Critical thinking	FYP (BRE, CSE, EIE), Examination questions (ITC), Group project (BSE, LSGI, SHTM)
Problem-solving	
Critical thinking and problem-solving	FYP (AP), Subject assignment (ENGL)

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Assessment tasks/artifacts

Assessment tasks	Artifacts
Final year project	• Observations by supervisors in regular meetings • Proposal, mid-term and final project report • Oral presentation
Subject assignment	• Oral presentation • Personal website
Examination questions	• Essay questions
Group project	• Final project report • Oral presentation • Tutorial observation
Workplace attachment	• Real-time performance in workplace
Tutorial observations	• Participation in experiential games, role play and debate in tutorial classes

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Select and re-design assessment tasks

Issues	Good practices identified
Multiple markers are involved in assessing one piece of work	Multiple assessors will fill out one rubric together for each student
Multiple artifacts for a particular learning outcome	A one-to-one matching between a criterion and the artifact
Assessment of learning process of students in final year project	Continuous assessment of the learning process included in the calculation of final project grade

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Development and pilot testing of suitable rubrics - Issues

- What kind of rubric to develop?
  - Holistic or Analytic

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Sample holistic rubric – Problem-solving

Performance levels	Holistic descriptors
Far exceed the required / expected standard	• State the problem clearly and identify underlying issues • Develop a clear and concise plan to solve the problem with alternative • Collect and conduct in-depth analysis from multiple sources • Present a coherent and logical conclusion with enough supporting evidences
Meet the required / expected standard	• Adequately define the problem • Develop an adequate plan and follow it to conclusion • Collect adequate information and perform basic analysis • Present a clear conclusion with barely adequate supporting evidence
Below the required / expected standard	• Do not identify the problem clearly • Develop a marginal plan but do not follow it to conclusion • Collect inadequate information to perform meaningful analysis • Provide conclusions that are erroneous and not supported

- Less marking time
- Provide less information on students' performances

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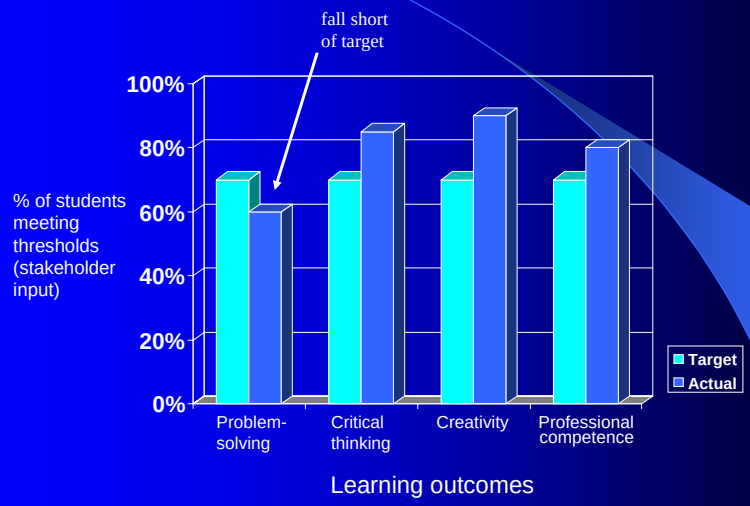
Sample deliverable at programme level



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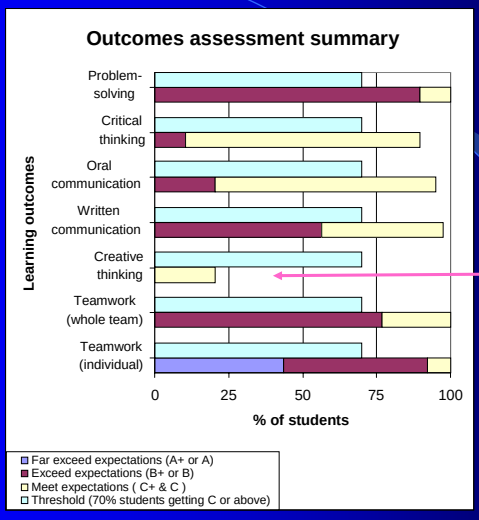
Pilot study results – LSGI final year project



fall short of target

With the permission and support from Prof. Esmond Mok, Professor of Department of Land Surveying and Geo-Informatics and the leader of the project on assessing student generic programme outcomes with final year projects

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What's more do we need for programme improvement?

Students' performance as per each of the criterion of a learning outcome

how to do it?

Grading students' work against analytic rubrics

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Sample analytic rubric – Problem-solving

Criteria	Meet expectations / pass
Defining the problem	Student adequately defines the problem but only looks at it from one or two points of view
Exploring the problem to identify its critical features and devise different ways of tackling it	Presents an adequate summary of the key issues but tends to be at a superficial level and does not identify any inter-relationships between the issues. Poses questions that are mostly relevant, with only minor errors. Alternative approaches are offered for the overall problem but do not consider each aspect
Collecting and analyzing information	Student collects adequate information but perform partial analysis only
Presentation of evidence to support conclusions	Conclusions are understandable but not always supported by the results obtained. There are minor problems with accuracy of some conclusions formed

- Slightly more marking time
- Provide more information on students' performances

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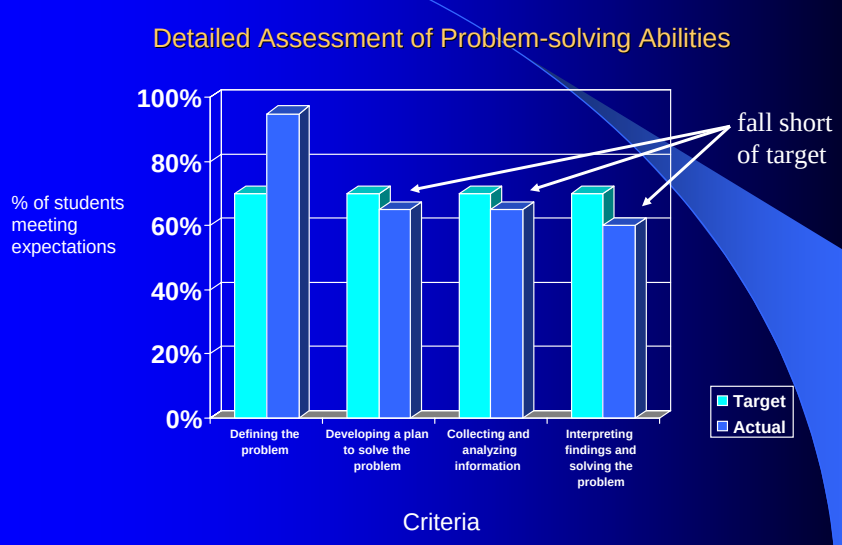
Sample deliverable at programme level



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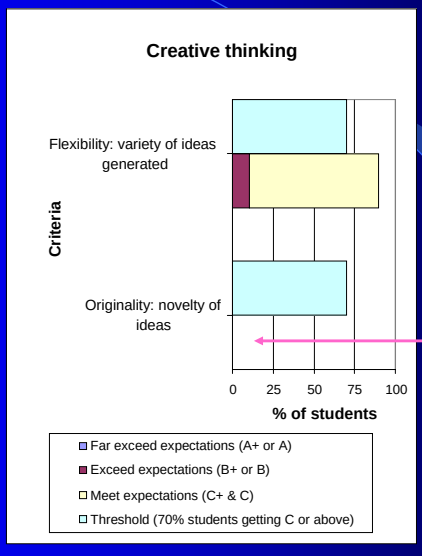

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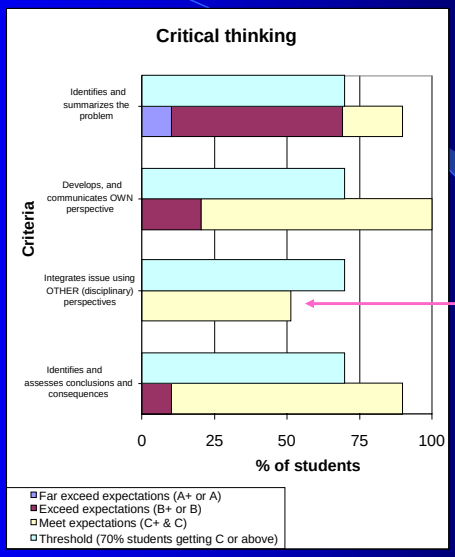
Pilot study results – LSGI final year project



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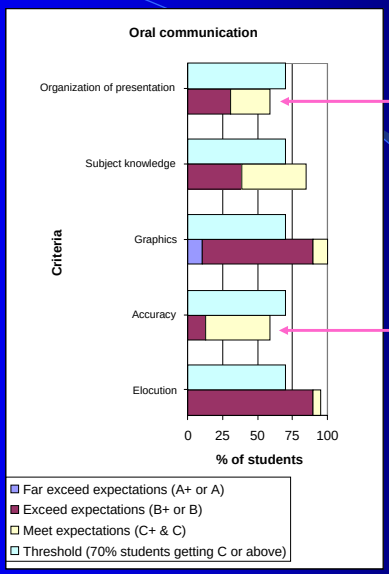
Pilot study results – LSGI final year project



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Online rubrics - Work in progress…

Features

- Easy creation of online assessment rubrics and set up of parameters for arriving final grades and reporting
- Assessors can access the system at any time to grade students' work
- Marking can be done by clicking on appropriate boxes of the pre-installed rubrics only
- All the calculation and report of students' overall grade for a particular learning outcome will be done automatically after grading

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…Online rubrics - Work in progress

Features

- Programme leaders and department heads can easily view students' performances with respect to a particular learning outcome
- Facilitate the provision of timely and quality feedback to students
- Allow tracing students' performances across years for programme review

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