Developing a Programme

Learning

Outcomes

Assessment

Plan

A Simple & Practical Guide for PolyU Staff

THE HONG KONG
POLYTECHNIC UNIVERSITY
香港理工大學

Contents

▶ Purpose and Scope of This Guide

This Guide has been written for programme leaders and other staff members who are likely to have key involvement in developing a programme learning outcomes assessment plan (programme LOAP) at PolyU. It offers a simple explanation of and practical tips on what you can do to develop your programme LOAP. It is intended to be a guideline, with some suitable examples, rather than to be prescriptive.

▶ What Is a Programme Learning Outcomes Assessment Plan (LOAP)?

Put simply, a programme LOAP is a blueprint for finding answers to the following questions:

- What do we expect graduates from our programmes at PolyU to be able to do (i.e., the programmes' intended learning outcomes)?
- How will we know if they can actually do it?
- What changes will need to be made to the programme to enhance our effectiveness in helping our students to achieve the intended learning outcomes?

A successful implementation of an effective programme LOAP should be able to provide us with **credible evidence** to tell:

- What proportion of our graduates is able to achieve the **professional and generic competencies** at a standard appropriate for an entry-level professional in their chosen field?
- Which of the learning outcomes of our programme have been **achieved satisfactorily** and which outcomes **need improving**?
- What **improvement actions** should we take to enhance programme effectiveness? What data can we use to inform the decision, and how?

In a programme LOAP our focus is on evaluating the **overall effectiveness of the programme**, rather than assessing the performance of individual students.

▶ Why Do We Need a Programme LOAP?

The following extract from an email circulated to PolyU staff by the Vice President (Academic Development) and Chairman of LTC in May 2008 tells us why it is important for the University to develop a LOAP.

> The LOAP is important in that it ensures the systematic collection of assessment data for improving the effectiveness of our programmes, and demonstrates to our stakeholders, including employers and UGC, how well our students are performing with regard to the learning outcomes.

Outcomes assessment is an integral part of an outcomes-based approach to teaching, learning and assessment, and is a useful vehicle for continuously improving our programmes. The relationship between outcomes assessment and outcomes-based approach to teaching and learning is shown diagrammatically in Appendix 1.

Why Is It Necessary to Develop LOAPs at Programme Level?

Ultimately our goal is to use the LOAP to improve student learning. We can do this most effectively at **programme level** because this is where we can make the best use of the data gathered to make any necessary improvements to curricula, teaching and learning that are identified. Below is a list of the ways in which a LOAP can bring benefits to your programme:

- It enables you to review and improve the effectiveness of your programme, based on evidence of learning outcomes actually attained by the students.
- It gives you documented evidence of your students' learning and achievement, based on the actual outcomes they have achieved, for accreditation or accountability purposes.
- It showcases the quality of your programme and your graduates to appeal to prospective employers, students, collaborators and donors.
- It contributes to the University's overall LOAP.

Differences between Subject Grading and Programme Learning Outcomes Assessment

As teachers we regularly assess students' performance in individual subjects and assign grades. However, subject grades alone often cannot help to assess whether the programme as a whole is effective in achieving its stated learning outcomes. This is because:
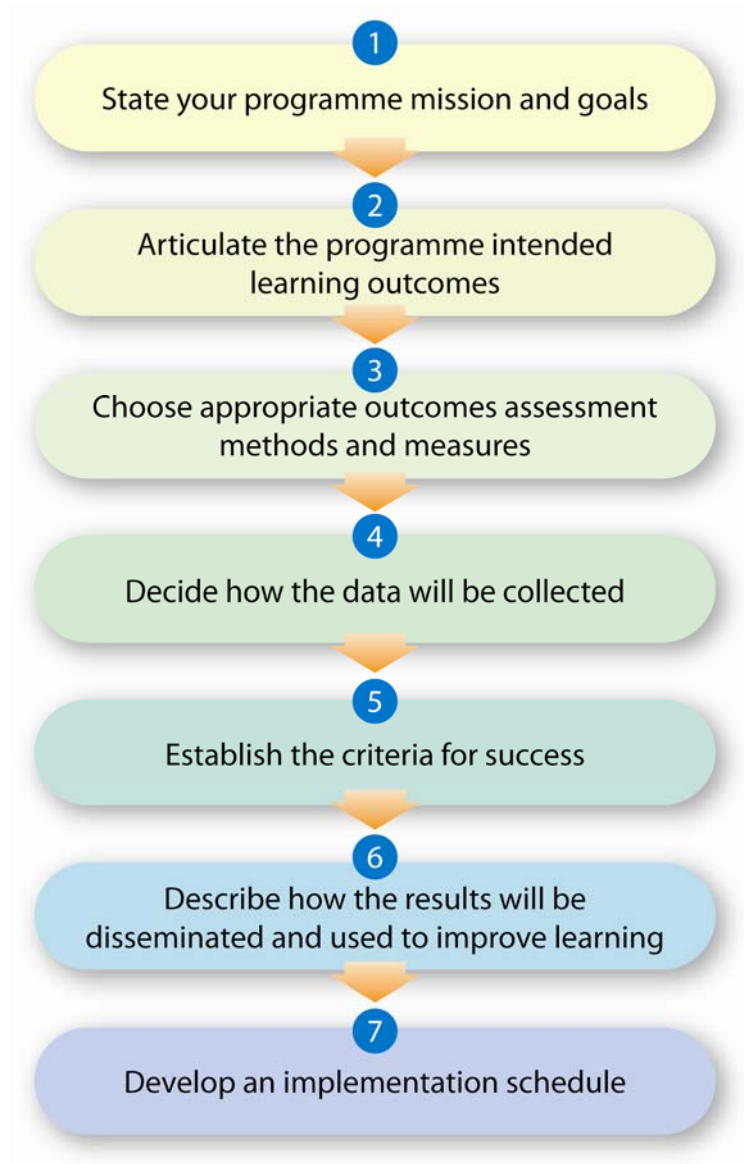
- Subject assessments focus on measuring the performance of individual students, not the overall effectiveness of the programme.
- In subject assessment, we measure how well students are doing in a particular subject, focusing on the subject knowledge and skills rather than on the broader programme objectives, which often require students to integrate and apply learning from multiple subjects within the programme.
- The one single grade which we normally assign to students in subject assessment often does not indicate separately how well students have attained the different generic graduate outcomes such as critical thinking, creative problem solving or teamwork skills, even if such skills are assessed.

Given the differences in purpose and focus, it is necessary to use different processes to collect different types of data for assessing programme learning outcomes, rather than relying on the routine subject assessments and grades alone. The different types of data to be collected and the processes to be used are explained in the sections below.

▶ The 7-Step Approach to Developing a Programme LOAP

Having, we hope, convinced you that a programme LOAP is an important tool for you to assess and improve the effectiveness of your programme, we will now take a look at some suggestions for developing your own programme LOAP. Based on the experiences of others who have gone through this exercise, we have prepared some guidelines that you might find useful to guide your planning. Immediately below is a brief overview of the steps that others have found useful to follow.

The 7-step approach to developing a programme LOAP

1 State your programme mission and goals

2 Articulate the programme intended learning outcomes

3 Choose appropriate outcomes assessment methods and measures

4 Decide how the data will be collected

5 Establish the criteria for success

6 Describe how the results will be disseminated and used to improve learning

7 Develop an implementation schedule

▶ A Step-by-Step Guide to Developing Your Programme LOAP

In this section we will take you through each of the above steps in more detail. Below is a snapshot of a suggested template, which is shown in full in Appendix 2. The superscript numbers adjacent to some of the entries in the template correspond to the steps outlined in the previous section. You might find this template serves a useful starting point for the development of your programme LOAP, since it includes the essential components that are commonly included in LOAPs. However, you might wish to adapt or modify it as appropriate to suit the contexts and needs of your particular department or programme.

A suggested template for a programme LOAP

Department/School/Faculty:

Name of Programme:

Programme Mission/Goals [1]:

Part I: Programme learning outcomes assessment methods and procedures

Programme Intended Learning Outcomes [2]	LOA methods and measures [3]	How the data will be collected [4]	Criteria for success [5]	How the data will be disseminated and used for improvement [6]
1				
2				
3				
4				

Part II: Implementation schedule and responsibility

LOA methods or activities	Implementation schedule [7]			Person(s) responsible
	2009-10	2010-11	2011-12	
1				
2				
3				
4				

In the sub-sections that follow, we will take you through each of the essential components of a programme LOAP and elaborate on what is expected or required and why, and provide you with some useful tips to make your task smoother. In some places we have also included some references and links that might be useful if you would like to go into more detail. The specific examples of a hypothetical programme LOAP shown in Appendix 3 might be useful to clarify your understanding further.

1 Programme Mission and Goals

What is expected or required?

- Include a brief statement of the overarching mission and goals of your programme, and ensure that they are aligned with PolyU's mission and goals.
- If you would like to see an example of this, please refer to Note 1 in Appendix 3.

Why?

- Successful programme outcomes assessment begins with clarifying what the programme aims to accomplish or deliver.

How?

Tips

- All undergraduate programmes have already done this in the 2005 Curriculum Revision Exercise, so it can be as simple as copying directly from your existing programme document.
- On the other hand, it may also be useful to use this opportunity to review and further refine your programme goals.
  - ☐ Look at whether you have actually covered all the important goals as expected by the key stakeholders.
  - ☐ Check whether the goals are broad enough for a holistic university education in addition to professional training.
  - ☐ Examine the extent to which they embed PolyU goals (because programmes are expected to do this).

Useful references

PolyU 2005 Curriculum Revision Handbook. Available at: https://www2.polyu.edu.hk/cr/ Appendix 3 Note 1

University of Central Florida (2005), Chapter 3
http://oeas.ucf.edu/doc/acad_assess _handbook.pdf
p.18: Examples of poor and good mission statements
p.21: The 'ideal student' approach
p.24: Four questions for reviewing your program goals
University of Massachusetts Amherst, (2001), Chapter 2: Examples of where to start with program goals and objectives
http://www.umass.edu/oapa/oapa/ publications/online_handbooks/prog ram_based.pdf

2 Programme Intended Learning Outcomes

What is expected or required?

- Articulate clearly the major intended learning outcomes (ILOs) of your programme in terms of the desirable qualities of graduates that you aspire to produce. This means what your graduates are expected to be able to do or demonstrate on completing the programme.
- If you would like to see an example of this, please refer to Note 2 in Appendix 3.

Why?

- Doing this ensures that the goals you value for your programme are addressed adequately, and guarantees that the important knowledge, skills and attitudes are appropriately introduced, reinforced, and assessed through the curricular and co-curricular activities of your programme.

- A clear description of what your students should be able to do or demonstrate on exit will also enable you to select appropriate measures and methods to assess the extent to which your students have achieved each of the outcomes, and to evaluate the effectiveness of your programme in achieving its stated outcomes.

How?

Tips

- In the 2005 Curriculum Revision Exercise all programmes have articulated ILOs, so it can be as simple as copying directly. However, to ensure that the outcomes assessment exercise will not create excessive workload on staff, you may wish to **concentrate on a smaller number of key programme outcomes** that are of greatest interest/concern to the programme team or other stakeholders, or those that are more likely to sustain under the new 4-year undergraduate degree structure.

- Again, it may be useful to use this opportunity to review and further refine these. In this case, the following three points might be useful for you to consider:
  - ☐ Check whether the stated ILOs cover both profession-specific and generic outcomes.
  - ☐ Don't try to include too many programme learning outcomes. About 12 is a good number to give you a comprehensive overview of your programme without making the exercise unwieldy.
  - ☐ Keep them realistic: if you are too ambitious in setting learning outcomes that might be difficult for undergraduate students to attain, you will then be accountable and need to explain why they might not have been achieved. On the other hand, if you set outcomes that are too easily attainable you will not be offering your students the opportunity to extend themselves

- Note that, although you are <u>not</u> required to do so in this LOAP exercise, for the purpose of accreditation or accountability audit, your programme might be expected to demonstrate:
  - ☐ How these ILOs actually align with your programme missions and goals, and
  - ☐ How these ILOs will be realized through your curricular and co-curricular activities.

  Curriculum maps that show the relationship between programme goals and programme ILOs, and between programme ILOs and where in the programme each ILO is to be introduced, reinforced and assessed is a useful tool to accomplish this.

Useful references

PolyU 2005 Curriculum Revision Handbook. Available at: https://www2.polyu.edu.hk/cr/

Appendix 3 Note 2

Examples of intended programme learning outcomes:
http://uat.okstate.edu/assessment/assessment_plans/outcome_statements.html
University of Central Florida (2005) Chapter 4
http://oeas.ucf.edu/doc/acad_assess_handbook.pdf
p.40: Examples of good and poor outcome statements
Appendix 4A: A useful checklist of points to be kept in mind when developing student learning outcomes for your programme
Nichols & Nichols (2000), pp.21-23: How high should intended educational (student) outcomes be set? (See Appendix 4)

Examples of mapping of ILOs with programme mission and goals:
California Polytechnic State University: Examples of goal and mission statements; learning objectives; and a matrix to summarise the relationship between these:
http://www.academicprograms.calpoly.edu/assessment/assessplanguide.htm
The example from California State University, Fresco on curriculum mapping may be useful in deciding where in the programme each objective is to be met
http://www.csufresno.edu/irap/assessment/assessment_guide/programmatic_purposes.shtml
http://www.csufresno.edu/irap/documents/augmented_curriculum_map_32006f.pdf

③ Learning Outcomes Assessment Methods and Measures

What is expected or required?

- For <u>each</u> of the intended learning outcomes of your programme listed in your LOAP, describe specific method(s) and measure(s) you will use to assess the overall programme effectiveness with respect to that particular outcome.
- If you would like to see an example of this, please refer to Note 3 in Appendix 3.

Why?

- Appropriate methods and measures are needed to ensure that the data collected are credible and trustworthy, and useful for identifying the strengths as well as areas in your programme that need improvement.

How?

Tips

- You may need to include both **direct** and **indirect** measures in your programme LOAP.
- **Direct measures** are based on direct assessment of students' work, performance or behaviours. The list below describes some common examples of direct measures. If you wish to find out more about any of these methods, more detailed descriptions and references for further reading can be found in Appendix 5.

  - ☐ *Course-embedded assessment*: This uses assessment tasks that are used in existing subjects. As well as assessing the task for the purpose of giving student grades, the same task is used to assess what percentage of the students have achieved the programme learning outcome in question. For example, to assess written communication skills a research report that the students are required to produce for, say, a disciplinary subject can be evaluated using an assessment rubric for the purpose of programme outcomes assessment.

  - ☐ *Capstone experience or project*: This kind of experience draws on all of the knowledge, concepts and skills covered in the whole programme – the students are required to combine various aspects of their experiences throughout the programme. If the outcome of interest is, for example, critical thinking, suitable rubrics can be developed to evaluate how well the students have achieved and demonstrated critical thinking in their capstone experience paper or project report.

- *Portfolio assessment*: A portfolio is usually a collection of selected student work that demonstrates the student's progress and achievement in certain areas.

Useful references

Appendix 3 Note 3

Appendix 5
Examples at
http://uat.okstate.edu/assessment/assessment_plans/index.html

8 steps for creating and designing course-embedded assessment
http://hudson2.skidmore.edu/administration/assessment/H_embedded_assessment.htm

Capstone course/embedded assessment:
http://www.skidmore.edu/administration/assessment/hbmethods.htm#capcourses

Portfolio assessment
http://www.skidmore.edu/administration/assessment/hbmethods.htm

□ *Performance assessment in WIE or placements*: This can be an effective way to assess students' practical knowledge, skills and attitudes in a workplace context. Clinical or workplace supervisors can use specially-designed assessment forms and rubrics to assess outcomes such as interpersonal, communication, critical thinking and/or problem-solving skills.

□ *Tests and examinations*: These can be either tests that you have developed to measure your students' knowledge and skills, or commercially produced ones (e.g., the California Critical Thinking Test, the Collegiate Learning Assessment, the Major Field Test in specific discipline). They are usually used to measure process and content-related knowledge. One way in which tests can be used to measure how well your students have learned something you have taught is to use a pre-test/post-test model.

Indirect measures normally involve stakeholders' perceptions of how well the students have attained the learning outcomes and thus, are relatively more subjective in nature. Below are some examples of indirect measures that are used often. Again, you can find some more detailed information about these in Appendix 5 if you would like to read more.

□ *Alumni surveys or interviews*: These are a good way to collect information about graduates' views of their preparation for professional work, satisfaction with the programme or the relevance of the curriculum.

□ *Employer surveys or interviews*: Asking employers about their levels of satisfaction with recent graduates is a good way to get another view of your students' attainments.

□ *Student surveys or interviews*: One of the best sources of data is the students themselves. They can give us perceptive insights about their attainment of outcomes. These can either be conducted to collect formative information during the students' course, or as an exit survey to collect their reflections.

□ *External reviews*: Peer review of academic programmes or students' work is a widely accepted and useful way to benchmark the quality of the programme and graduates against external standards.

Performance assessment:
http://www.skidmore.edu/administration/assessment/hbmethods.htm#student

Use of standardised test, and value-added assessment
http://www.skidmore.edu/administration/assessment/hbmethods.htm#standard
http://www.skidmore.edu/administration/assessment/hbmethods.htm#pre
Major field tests:
http://www.ets.org/portal/site/ets/menuitem.1488512ecfd5b8849a77b13bc3921509/?vgnextoid=f119af5e44df4010VgnVCM10000022f95190RCRD&vgnextchannel=86f346f1674f4010VgnVCM10000022f95190RCRD

Indirect outcomes assessment methods:
http://www.skidmore.edu/administration/assessment/hbmethods.htm#indirect

- Direct measures are more costly to collect. However, they are more authentic and credible, and therefore are needed for the more important/prioritized/most essential outcomes, particularly for accreditation and accountability purposes. Indirect measures, on the other hand, are easier to collect, but are less objective and credible as evidence of actual learning outcomes achieved by students.

- Try as much as possible to make use of course-embedded assessments (see description in Appendix 5) to collect direct evidence of student learning outcomes from existing assessment tasks that are being used to grade students. Since students are simply fulfilling normal course requirements, it does not become an add-on task; there are no issues of motivating students to do the task/s and the results can provide useful additional information for the subject teachers.

- **Focus on the most important outcomes**: Most programmes have many learning outcomes, but there is no need to consider all of them in this exercise unless you are specifically required to do so for professional accreditation. You may focus, instead, on the most important outcomes that are of the greatest interest/concern to the programme team or other stakeholders, particularly those that are more likely to sustain under the new 4-year undergraduate degree structure. One possibility is to develop a multi-year rotation plan so that you will address different outcomes each year and thus cover all of them over a few years.

- The best starting point is to find out what you already have in place rather than re-inventing a completely new set of assessment activities or tools (e.g. you may already have appropriate course assignments or exam components that you can use to assess certain programme outcomes, or feedback/surveys on students' learning process or outcomes).

- It is useful to check out and include existing surveys conducted by SAO and EDC that can provide useful (indirect) data for assessing your programme outcomes (e.g. SAARD [Self Assessment of All Round Development] questionnaire, graduate employment survey, alumni survey).

> Pros and cons of different types of outcomes measures:
>
> http://assessment.uconn.edu/docs/Pros_and_Cons_of_Assessment_Tools.pdf

4 How the Data Will be Collected

What is expected or required?

- For <u>each</u> ILO included in your LOAP, explain how the outcomes data or evidence will be collected (i.e., how, when and by whom).

- If you would like to see an example of this, please refer to Note 4 in Appendix 3.

Why?

- It is important to communicate clearly to all those involved what their respective responsibilities are, and the specific instrument, protocol and timeframe for conducting the outcomes assessment activities, to ensure that the activities will be carried out as planned.

How?

Tips

- For each assessment activity, describe:
  - ☐ Who will be responsible for collecting the data.
  - ☐ How the data will be collected.
  - ☐ When and how often.
  - ☐ The instrument/method to be used.

Useful references

Appendix 3 Note 4

5 Criteria for Success

What is expected or required?

- State how the data collected will be interpreted, including the criteria to be used for judging your programme's effectiveness in achieving each of the intended learning outcomes.
- If you would like to see an example of this, please refer to Note 5 in Appendix 3.

Why?

- It is necessary to state clearly the criteria and standard to be used for judging the extent to which the programme has succeeded in achieving its intended outcomes. Without specific criteria for success, this can become a meaningless data collection exercise.

How?

Tips

- For programme learning outcomes assessment purposes it is sufficient to have broad categories of measurement rather than very precise measurement of the performance of each individual student, for example:
  - ☐ Student's performance far exceeded the required/ expected standard.
  - ☐ Student's performance basically met the required/ expected standard.
  - ☐ Student's performance was at a level below the required/expected standard.
- The criteria should be determined and agreed upon by the programme team, taking into consideration the views of the external stakeholders.
- Think of ways to benchmark the outcomes assessment results with appropriate internal/external standard.

Useful references

Appendix 3 Note 5

- It is important to recognize that you do not necessarily need to expect 100% of your students to be able to achieve the intended learning outcomes – there is always going to be some variations in the quality of student intake, graduates' aspirations and measurement errors.

6 How the Data Will Be Disseminated and Used for Improvement

What is expected or required?
- Explain how the outcomes assessment processes and results will be incorporated into your Department's generic Quality Assurance processes, and how it will be used for systematic programme review and improvement purposes.
- If you would like to see an example of this, please refer to Note 6 in Appendix 3.

Why?
- The ultimate goal of learning outcomes assessment is to improve student learning through evidence-based programme review —failing this, assessment becomes another meaningless bureaucratic chore.
- You can use your outcomes assessment results/report for multiple purposes, such as for accreditation, as well as curriculum review and improvement.
- Secondary uses of the results may include recruitment, alumni newsletter, publications and sharing with other universities, career services and securing grants.

How?

Tips

- Assessment information is of little value unless it is shared with appropriate audiences and used in meaningful ways. The best use of learning outcomes assessment results is to share them with your colleagues and use the assessment data to aid **evidence-based decisions or improvements** at the programme and departmental level.
- One way to achieve this is to incorporate programme outcomes assessment into the regular programme review process, and report the outcomes assessment data and improvement actions resulting from it in the Department's Business Plan and QA Report.
- Describe clearly who will receive the outcomes assessment results by when and for what purpose, and how the results will be acted on to improve students' learning.

Useful references

Appendix 3 Note 6
See other examples at
http://uat.okstate.edu/assessment/assessment_plans/index.html

7 Develop an Implementation Schedule

What is expected or required?

- List the programme outcomes assessment methods or activities proposed in Part I of your programme LOAP, and indicate for <u>each</u>: the academic year(s) during which it will be conducted, and the name of the person(s) who will take primary responsibility for implementing the assessment activity.

Why?

- Assessment takes up valuable staff time and effort; we need to ensure that the assessment plan is feasible and affordable with given resources, and will not create excessive workload on staff.

How?

Tips

- It is more meaningful to conduct systematic assessment on the key learning outcomes in rotation than trying to cover all of them every year in a superficial manner.
- Schedule your outcomes assessment activities to align with internal QA (e.g., triennial business planning, Departmental Assessment, etc.) and/or external accountability processes (e.g., professional accreditation or other external reviews) to minimize duplication of effort.

Useful references

Appendix 3 Note 7

► Checklist

The list below helps you to check that the most salient features of a programme LOAP have been covered. It is also useful in giving Faculty/School Boards a framework on which to base their endorsement of the Departmental/programme LOAP.

Programme Mission and Goals

1. Are the programme mission and goals clearly stated?	☐
2. Are the mission and goals appropriate and worthwhile, and include all the important goals as expected by the key stakeholders?	☐

Programme Intended Learning Outcomes

3. Are the intended programme learning outcomes clearly articulated?	☐
4. Are they aligned with the stated mission and goals of the programme?	☐
5. Is the number of intended programme outcomes about right (not too many or too few)?	☐
6. Are the intended programme outcomes realistic?	☐

LOA Methods and Measures

7. Are the assessment methods adequate and appropriate for measuring the specific student learning outcomes?	☐
8. Are multiple (direct and indirect) measures used? Is there over-reliance on a particular type of measure?	☐
9. Does the plan make good use of existing subject assessments?	☐
10. Is it clear what will be done to collect the data, when, how and by whom?	☐

Criteria for Success

11. Have the criteria to be used and expected levels of achievement been identified?	☐
12. Are the results benchmarked against appropriate internal/external standards?	☐

Dissemination and Use of the Data for Improvement

13. Is the programme learning outcomes assessment appropriately integrated with the Department's generic quality assurance and programme review processes?	☐
14. Is it clear how the data will be used to inform the Department and programme for possible improvement?	☐

Other Issues to be Addressed

15. Does the plan appear to be feasible, practicable and affordable, given the resources available?	☐
16. Is staff time/workload appropriately addressed?	☐

▶ Support and Help from EDC

EDC can offer the following advice and support to departments/programme teams in the development of their programme LOAPs and other outcomes assessment activities:

- Provision or organization of department-/programme-based workshops/seminars/ discussion sessions
- Review of current programme LOAP activities and plans
- Exploration of LOA methods and measures
- Experimentation with LOA activities
- Provision of feedback on draft programme LOAPs

Contact

❖ **K P Kwan**   etkpkwan@inet.polyu.edu.hk

X6320   TU 612

❖ **Jianrong Sun**   etjrsun@inet.polyu.edu.hk

X4414   TU 611

❖ **Patrick Lai**   etktlai@inet.polyu.edu.hk

X6294   TU 607

▶ References

Allen, M. J. (2004). *Assessing Academic Programs in Higher Education*. Bolton, Massachusetts: Anker Publishing Company, Inc.

Arizona State University. *Guidelines for the Assessment of Learning Outcomes.* http://129.219.216.161/assess/assessguide.pdf [Accessed on 16 Sept 2008]

Bresciani, M.J. (2006). *Outcome-Based Academic and Co-Curricular Program Review*. Sterling, Virginia: Stylus Publishing, LLC.

California State University, Fresco. *Guide to Outcomes Assessment of Student Learning.* http://www.csufresno.edu/irap/assessment/assessment_guide/programmatic_purposes .shtml [Accessed on 16 Sept 2008]

California Polytechnic State University. *Learning Outcomes Assessment Planning Guide* http://www.academicprograms.calpoly.edu/assessment/assessplanguide.htm [Accessed on 16 Sept 2008]

Marymount University (2006). Learning Outcomes Assessment Handbook: A Guide to Learning Outcomes Assessment at Marymount University

Middle States Commission on Higher Education (2002). *Student Learning Assessment: Options and Resources*. Philadelphia, PA: Middle States Commission on Higher Education

Nichols, J. & Nichols, K. (2000). The Departmental Guide and Record Book for Student Outcomes Assessment and Institutional Effectiveness. New York: Agathon

Oklahoma State University http://uat.okstate.edu/assessment/assessment_plans/index.html [Accessed on 16 Sept 2008]

University of Central Florida (2005). Program Assessment Handbook: Guidelines for Planning and Implementing Quality Enhancing Efforts of Program and Student Learning Outcomes http://oeas.ucf.edu/doc/acad_assess_handbook.pdf [Accessed on 16 Sept 2008]

University of Massachusetts Amherst (2001). *Program-Based Review and Assessment.* http://www.umass.edu/oapa/oapa/publications/online_handbooks/program_based.pdf [Accessed on 16 Sept 2008]

Walvoord, B. E. (2004). *Assessment Clear and Simple*. San Francisco: John Wiley & Sons, Inc.

Western Washington University (2006). *Tools & Techniques for Program Improvement.* http://www.wwu.edu/depts/assess/prog_handbook.pdf [Accessed on 16 Sept 2008]