



Assessment of Program and Learning Outcomes

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Purpose of Presentation

- **To provide basic understanding on learning outcomes and assessment of the outcomes.**
- **To advise on assessment plan.**
- **To provide necessary elements of assessment report.**



Outline

- 1. Assessment**
- 2. Academic Program Assessment**
 - **Definition, Purposes, Nature & Benefits**
 - **Characteristics of effective program assessment**
- 3. Developing an Assessment Plan**
 - **Model and Steps**
 - **Assessment Reporting**



1. Assessment



Assessment: Definition

- **Assessment is the systematic collection and analysis of information to improve student learning.**
- **It is not just a one-time event, but it is a dynamic on-going process.**



Assessment: Levels

1. **Classroom assessment**, assessment of individual students at the course level typically by the class instructor,
2. **Course assessment**, assessment of a specific course,
3. **Program assessment**, assessment of academic and support programs, and
4. **Institutional assessment**, assessment of campus-wide characteristics and issues.



2. Academic Program Assessment



Academic Program Assessment: *Definition*

- The **systematic and ongoing** method of **gathering, analyzing and using information** in order to improve student learning.
- To **determine** whether students have acquired the **skills, knowledge, and competencies** associated with their program outcome.
- **Obtaining** an understanding of
 - what the program's graduates **know**,
 - what **they can do**, and
 - what **they value** because of this knowledge.



Academic Program Assessment: Purposes

1. **To improve** –provide feedback on how the program can be improved.
2. **To inform** –inform faculty and other decision-makers of the impact of the program.
3. **To prove** – demonstrate to students, faculty, staff and outsiders what the program is accomplishing.
4. **To support** –provide support for campus decision-making activities such as program review and strategic planning, as well as external accountability activities such as accreditation.



Academic Program Assessment: Nature

- **Assessment requires**
 - **careful review** of assessment options (means) available and
 - statements of **intended program (student) outcomes**, and
 - **resources available** (usually small).
- The perfect means of assessment does not exist; therefore, **choices** need to be made.
- **multiple means of assessment** be identified to compensate for lack of perfection.



Academic Program Assessment: What is Being Assessed?

- **Aggregated** accomplishments by students of program outcomes.
- Not all students need to take or respond to all means of assessment
- A representative **sample** is sufficient
- Results should reflect accomplishments of department **faculty as a whole.**



Academic Program Assessment: What is Being Assessed?

What is Assessed													
<i>Student Learning</i>	<p>Knowledge of discipline (What do students know?)</p> <p>Skills (What can students do?)</p> <p>Values (What do students care about?)</p>												
<i>Student Attitudes And perceptions about:</i>	<table> <tr> <td>Advising</td> <td>Curriculum</td> <td>Campus climate</td> </tr> <tr> <td>Campus facilities</td> <td>Mentoring</td> <td>Co curricular activities</td> </tr> <tr> <td>Course scheduling</td> <td>Teaching</td> <td>Student services</td> </tr> <tr> <td colspan="3">Preparation for work or graduate school</td> </tr> </table>	Advising	Curriculum	Campus climate	Campus facilities	Mentoring	Co curricular activities	Course scheduling	Teaching	Student services	Preparation for work or graduate school		
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<i>Departmental Processes: Are Students served effectively & Efficiently when they Need services</i>	<table> <tr> <td>Advising</td> <td>Counseling</td> <td>Graduation checks</td> </tr> <tr> <td>Library assistance</td> <td>Tutoring</td> <td>Computer assistance</td> </tr> <tr> <td>Financial Aid</td> <td>Health care</td> <td>Transcripts</td> </tr> <tr> <td colspan="3">New student orientations</td> </tr> </table>	Advising	Counseling	Graduation checks	Library assistance	Tutoring	Computer assistance	Financial Aid	Health care	Transcripts	New student orientations		
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Adapted from California State University, Bakersfield, PACT Outcomes Assessment Handbook (1999).



Characteristics of Effective Program Assessment

- ***Systematic and comprehensive.***
- ***Built around the department mission statement.***
- ***Ongoing and cumulative.***
- ***Multi-faceted.***
- ***Pragmatic. a means of self-improvement, a management tool***
- ***Faculty-designed and implemented***
- ***Coordinated by one person and reviewed by a committee.***



Benefits of a Systematic Program Assessment Process

- Identify program strengths/weaknesses
- Inform financial and budgetary decisions
- Provide information to constituents on the quality of the education students receive
- Ensure continuous improvement of programs and curricula



Common Misconceptions about Program Assessment

- An evaluation of individual students
- A tool for faculty evaluation
- Strategic planning
- Optional
- The job of one faculty member
- A meaningless bureaucratic exercise
- A waste of time, time consuming and complex.
- The same plan can be used every year.



3. Developing an Assessment Plan



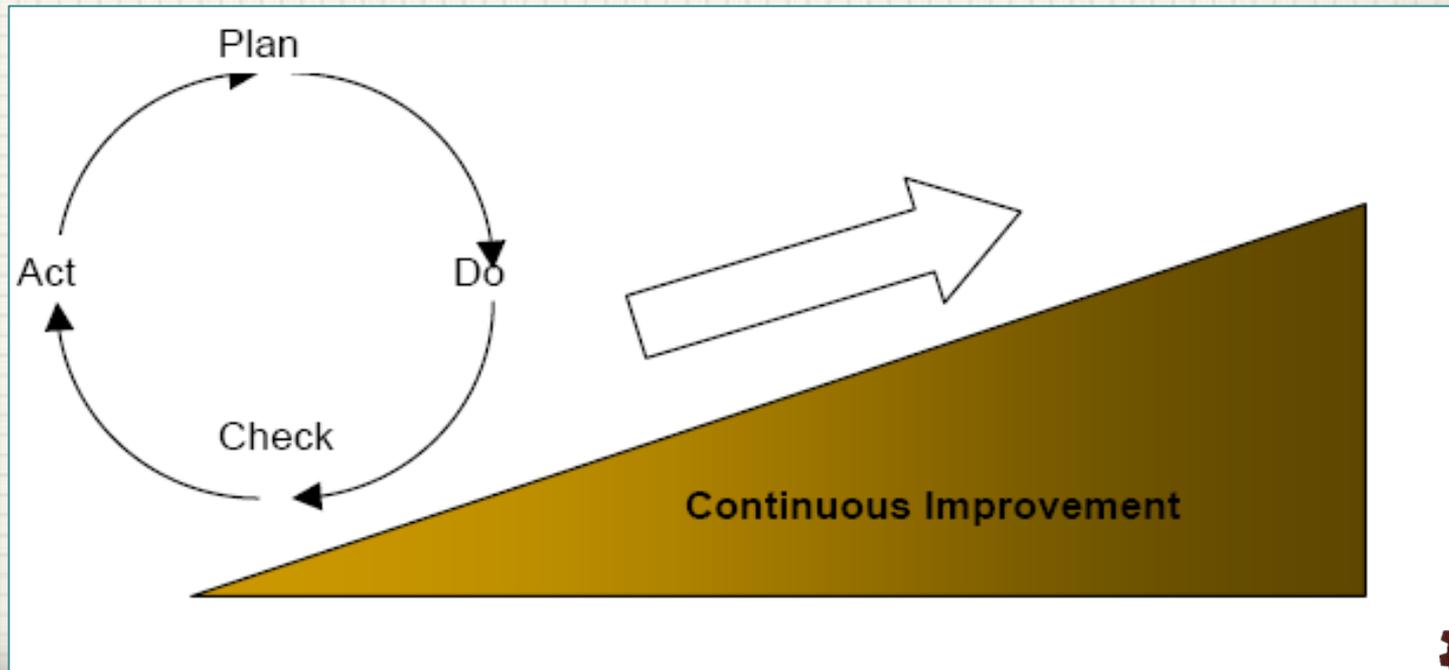
Academic Program Assessment Plan

- **A well-defined systematic approach** to conduct outcomes assessment in the context of the program mission.
- **The Plan guides the efforts** and it should specify
 - **Content**, assessments taking place based on department's needs
 - **Focus**, informal document to be internally distributed or formal for an external audience.
 - **When** will assessments take place, timeline or schedule for implementation and continuance
 - **Who will be involved** in the various steps of the evaluation process, distinct division of labor, evidence of faculty and student involvement.
 - **The anticipated consequences** of that process.

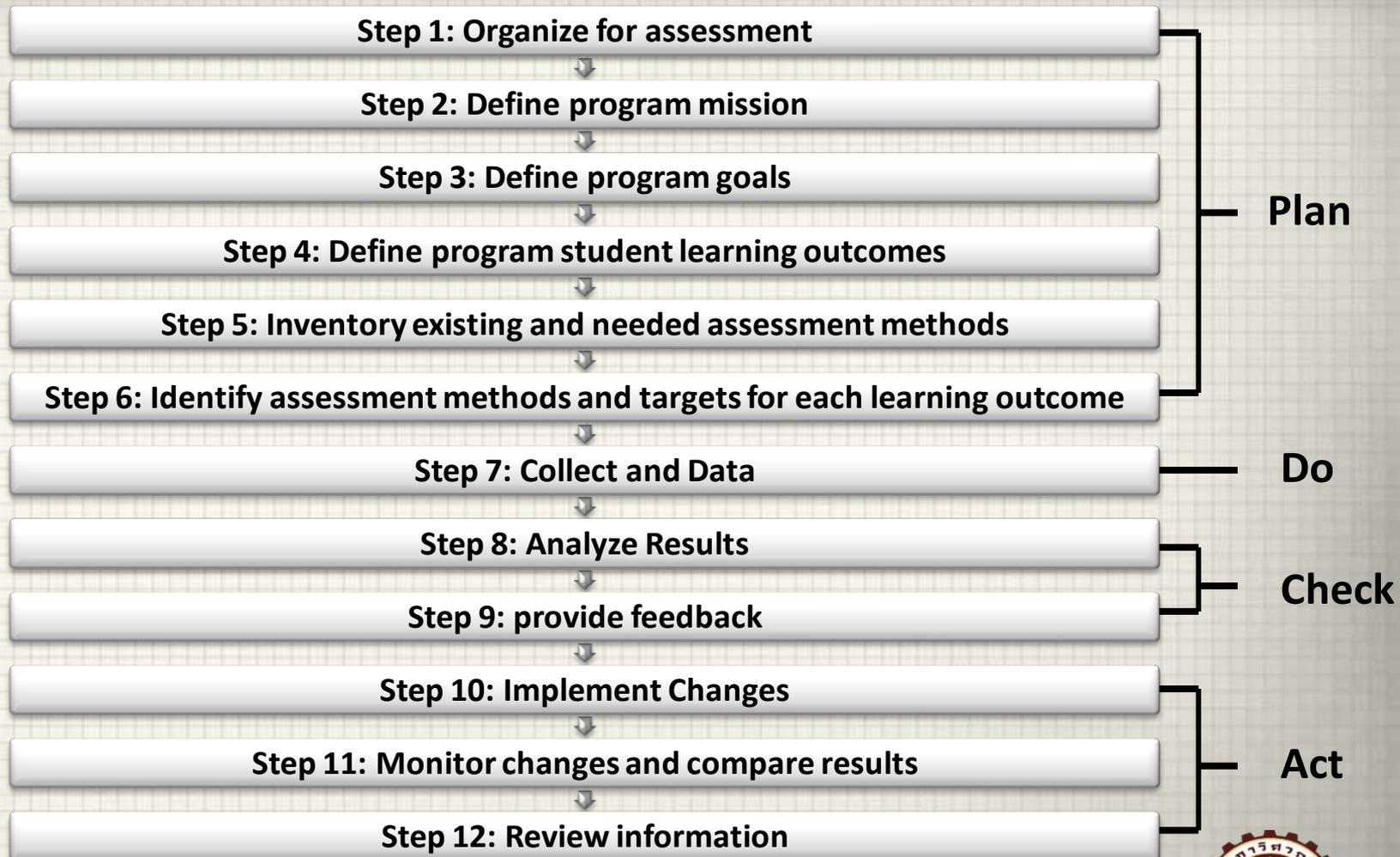


Continuous Improvement Model

- The Deming Cycle
- The plan-do-check-act cycle provides a basis for developing assessment plans that match needs of the program.



Flowchart describing assessment process



Plan: Step 1. Organize for Assessment

- **Identify persons responsible** for assessment process, key players, committees and structures.
- **All faculty need to assume responsibility.**
- **Primary responsibility** for seeing that assessment takes place resides with administration in conjunction with an institutionally based faculty assessment committee in an oversight role.
- **Coordination, avoidance of duplication of effort and design**
- **Acknowledge differences between units.**



Plan: Steps 2-4

- **Step 2: Define program mission**
- **Step 3: Define program goals**
- **Step 4: Define program student learning outcomes.**



Plan: Step 5. Inventory existing and needed assessment tools

➤ Questions to be asked:

- **By what measure(s)** will you know that students are meeting departmental learning objectives?
- **From whom**, and at **what points**, will you gather data?
- **How** will the information be collected?



Plan: Step 5. Inventory existing and needed assessment tools Cont'd.

- **Examine current practices and available information**
- **Possible sources of information include**
 - Transcript analysis
 - Course Sequence
 - Trends in student performance
 - Tracking exam or course grades over time
 - Trends in student enrollment
 - Input scores for students entering the program
 - Output score or indicators for graduates (student data such as GPA, students' perceptions of quality of program, employment patterns, or continuing education).



Plan: Step 5. Inventory existing and needed assessment tools Cont'd.

- **Having identified assessment processes that are currently in place, can pinpoint central questions that are not being answered by currently available data sources.**
- **Some guidelines for selecting assessment methods**
 - **Use multiple methods to assess each learning outcome.**
 - **Include both direct and indirect measures.**
 - **Include qualitative as well as quantitative measures.**
 - **Be selective about what you choose to observe or measure.**
 - **Include passive as well as active methods of assessment.**



Examples of Assessment Methods

Direct Assessment Methods

- **Course-related assessment**
 - Capstone Course Assignments/projects
 - Case Studies
 - Classroom Assessment
 - Content Analysis
 - Course-embedded Questions and Assignments
 - Portfolios
 - Essays
 - Theses, research and projects, publications
 - Awards/grants received
- **Standardized assessments**
- **Other**
 - Transcript analysis
 - Placement record of graduates

Indirect Assessment Methods

Institutional and Program Surveys

Alumni Surveys

Employer Surveys

Graduating Seniors and

Graduates Surveys

Student Satisfaction Surveys

Other

Focus groups

Interviews(faculty members, graduating students, alumni)



Step 6: Identify assessment methods and targets for each learning outcome

Guidelines for identifying assessment methods for each learning outcome

1. Align assessment method with **outcome** to be assessed.
2. Evaluate assessment method based on **department criteria**.
3. Select **at least two measures** for each learning outcome, one of which is direct.
4. For each outcome and means of assessment, **criteria for success should be established** which includes benchmarks that the program sets for the outcome.



1. Aligning assessment method with outcome to be assessed

Example of an assessment method that does not match the learning outcome:

- ***Outcome:*** Students completing the Hypothetical Engineering program will demonstrate competence in engineering principles comparable to graduates of other similar national programs.
- ***Assessment method:*** In a locally-developed test, 95% students will achieve a score of 90.



Assessment Matrix: Linking Objectives to Data Gathering Tools

Key I = Indirect Methods D = Direct Methods	Data Gathering Tools			
Objectives	Enrollment Trends (OIR)	Senior Survey	Capstone Assignment	Focus Groups with students
Applying scientific methods			D	I
Work as professional in field		I	D	
Satisfaction with advising		I		I
Proficiency in written communication skills			D	



2. Evaluate Assessment Method Based on Criteria of Importance to Department: Selection Criteria Matrix.

Key √ = Adequate tool + = Valuable tool - = Not an effective tool					
Criteria of value to department	Measures				
	Standardized Tests	Performance	Portfolio	Surveys	Classroom Assignments
Curriculum Match	-	+	+	√	+
Low data gathering costs	-	-	√	+	+
Reasonable planning time	+	-	-	+	+
Reasonable analysis time/cost	+	-	-	√	√
Value to student learning	√	+	+	-	√
Motivation	-	+	+	-	+



3. Select at least two measures for each learning outcome, one of which is direct: Assessment Mapping

Learning outcomes	Course 1234	Course 2345	Course 3456	Capstone Course
Apply specific theory	Pretest	Embedded Questions	Project	Posttest
Acquire necessary skills and knowledge	Knowledge Pretest	Skills Pretest	Practical Assessment	Team Project
Proficiency in written communication skills	Paper			Comprehensive Paper



4. For each outcome and means of assessment, criteria for success should be established

1. Criteria are most often stated in terms of percentages, percentiles, averages, or other quantitative measures.
2. For each learning outcome describe the target where you would like to be within a specified time period (e.g. 10% improvement in student performance within two years).
3. Also, determine what standards are required from students.



II. Do. Step 7. Collect Data

This phase involves teaching program and measuring outcomes.

- **When** will measurements be made?
- **How often** will measurements be made?
- **Who** will collect the data?
- **Who** will interpret the data?
- **Where/When** will data be interpreted?
- **Who** will report the results?
- **To whom** will results be reported?
- **By when** will results be reported?



Sample Departmental Assessment Timeline

	Fall Term (beg.)	Fall Term (end)	Spring Term (beg.)	Spring Term (end)
Year One				
Preparation	Departmental discussions regarding goals/objectives	Complete goals/objectives statements	Develop assessment strategies & 3-year plan	
Year Two				
Data Collection				
Analysis				
Reporting/Use				
Year Three				
Data Collection				
Analysis				
Reporting/Use				
Year Four				
Data Collection				
Analysis				
Reporting/Use				



III. Check

- The purpose of this phase is to
 - analyze the results, and
 - determine what actions need to be taken to improve the program.



Step 8: Analyze the results

- Faculty should be the ones responsible for the analysis and interpretation of data.
- Summarize the results in a meaningful way so that they can be reviewed and actions needed to improve the program can be determined.
- Keep in mind who will access and use the data



Step 9: Provide Feedback

- The results and information gained should be distributed to the faculty and other appropriate parties to obtain their ideas on how to improve the program.
- The faculty will relate the findings to the curricular/teaching initiatives and will evaluate the degree of fit between them and between program goals and intended learning outcomes.
- Use assessment results to initiate action aimed at improving program.



IV. Act

- **The objective of this step is**
 - **to implement improvements to the program**
 - and**
 - **to prepare for the following assessment cycle.**



Step 10: Implement changes.

- **At this point in the continuous improvement cycle, the planned changes should be implemented.**
- **These changes could be to the content of the curriculum, staffing, facilities and others.**



Summary of types of changes that may be implemented as a result of conducting assessment

Assessment Plan

- revision of intended learning outcome statement (s)
- revision of measurement approaches
- collection of and analysis of additional data and information
- changes of data collection methods

Curriculum

- changes in teaching practices
- revision or enforcement of prerequisites

- revision of course sequence
- revision of course content
- Addition/deletion of course(s)

Academic Processes

- modification of frequency or schedule of course offerings
- improvements of technology
- changes in personnel
- implement additional training
- revision of advising standards or processes



Step 11: Develop plan to monitor the changes and compare the results

- The implemented changes should be monitored to determine whether or not the changes had the desired effect.
- Use the same assessment plan as used in the previous cycle and compare the actual results to the intended results.



Step 12: Review information.

- Review all of the information obtained from the assessment process and determine how this will affect your next assessment plan.
- This provides the starting point for the next iteration of the plan-do-check-act cycle to continuous improvement of the academic program



Assessment Reporting

- The first step in developing an assessment report is to answer the following questions:
 - *Who is the audience for this report?*
 - *What do they want to know?*
- At its most basic, report should have information to answer five basic questions:
 - *What did you do?*
 - *Why did you do it?*
 - *What did you find?*
 - *How will you use it?*
 - *What is your evaluation of the assessment plan itself?*



Sample Report Description

On an annual basis, programs are required to identify and assess at least one intended outcome. Although assessment of only one outcome per year will be required, all outcomes must be assessed prior to the program's scheduled program review.

- The annual assessment report to contain the following components
 1. *Intended outcome statement* identified for assessment
 2. Summary of *assessment methods/measures* to include brief explanation of methodology, persons responsible for data collection and analysis, and a summary of assessment results.
 3. A description of the process used to *disseminate assessment results* to key stakeholders and summary of changes or improvements proposed based on assessment results.
 4. A brief description of the *plan and timeline for implementing* the proposed change (s) and any resources needed to implement the proposed change (s), using existing resources already in place, reallocating existing resources from other areas, or allocation of new funds.



Sample Comprehensive Assessment Plan

- **Program mission/purpose statement**
- **Articulation of how program mission aligns with the institutional mission and vision**
- **Overarching program goals/objectives**
- **Intended student learning outcomes**
- **For each learning outcome,**
 - **identification of courses/activities/experiences in the curriculum associated with outcome**
 - **articulation of intended methods of assessment.**



Sample Comprehensive Assessment Plan Cont'd.

Annual Assessment Report

- Intended outcome statement identified for assessment
- Summary of assessment methods/measures (methodology, persons responsible for data collection and analysis) and a summary of assessment results.
- A description of the process used to disseminate results to key stakeholders, and summary of changes or improvements proposed based on assessment results.
- A brief description of the
 - plan and timeline for implementing the proposed change(s),
 - resources needed to implement the proposed change(s).



Sample Comprehensive Assessment Plan Cont'd.

Program Assessment Timeline

- 1. Deans are required to collect all assessment plans, and provide initial feedback.**
- 2. Dean feedback is submitted to the Office of Assessment with all completed plans or reports.**
- 3. The Office of Assessment provides substantive feedback no later than 30 days after receipt of assessment plans/reports, requesting revisions as necessary.**
- 4. Office of Assessment also provides an annual report to the Office of the Provost summarizing institutional assessment activities and an evaluation of institutional assessment processes.**



Concluding Remarks

- **Assessment of program learning outcomes has proven to be useful for**
 - **Assuring quality of academic programs**
 - **Accountability,**
 - **Institutional effectiveness**
 - **Student learning outcome assessment**
 - **Making improvement based on findings**
 - **Taking findings into consideration when allocating resources.**



Q & A

