MANUAL OF DEVELOPING AND ASSESSING STUDENT LEARNING OUTCOMES

First Draft

19

Kingdom Of Saudi Arabia
Ministry Of Education
Jazan University
Deanship of Academic Development

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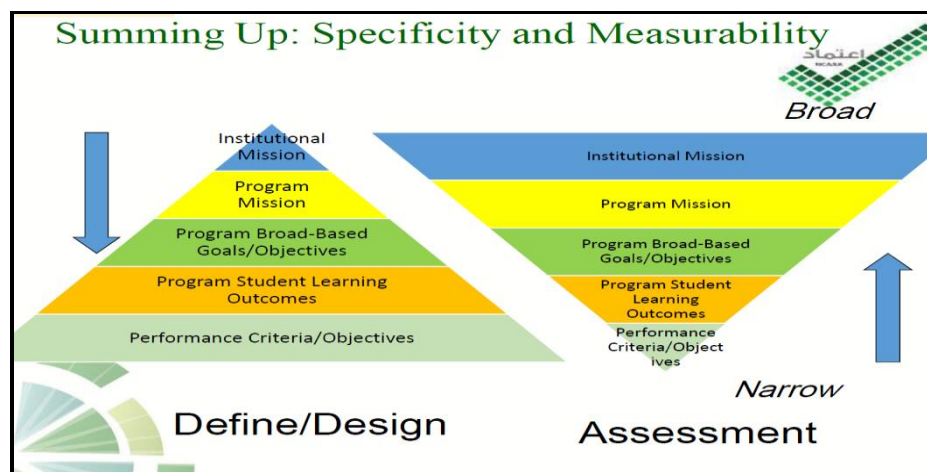وزارة التعليم
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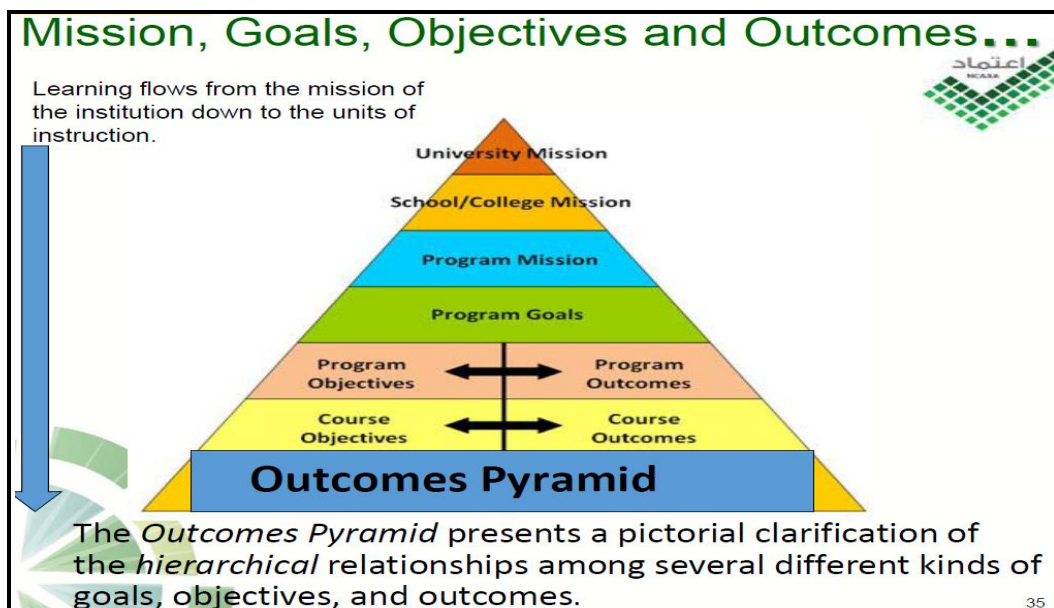# DEVELOPING AND ASSESSING STUDENT LEARNING OUTCOMES

1. SELF REFLECTION

The Program(s) should:

1. Align course outcomes with program learning outcomes that are both specific and measureable.

2. Write the learning outcome matrix upon reviewing the PLOs, while paying attention to the level (introductory, professional, or advanced) at which outcomes are being achieved.

3. Develop an action plan for reporting and effectively monitoring student progress and performance (didactic and clinical) against targets.

4. Review and revise the Program learning outcomes and align them with the Course learning outcomes and ultimately with the Mission Statement. Formal benchmarking of learning outcomes with appropriate KSA and International Programs is recommended.

5. Consider planning the program to have alignment with external reference standards, setting clear teaching and assessment strategies to ensure achievement of the learning outcomes.

6. Develop the learning outcomes according to NCAAA guidelines; written assessments must then be re-structured to ensure they are valid, reliable, and aligned with these learning outcomes
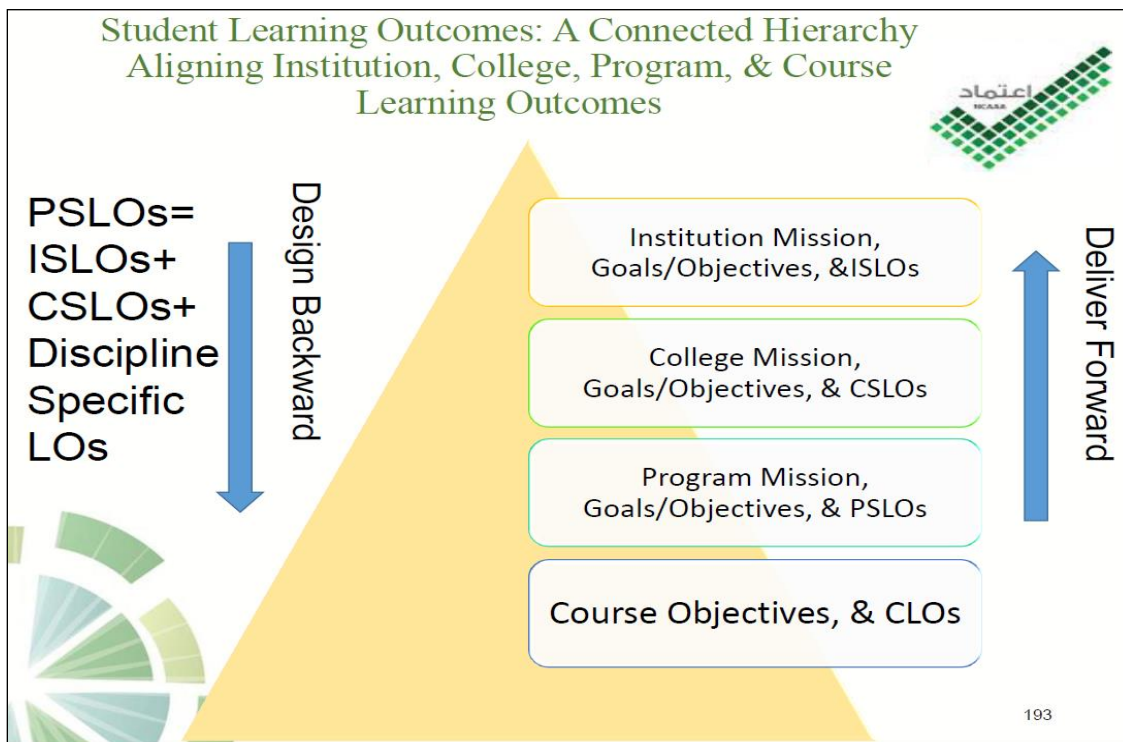
BIG PICTURE OF COURSE DESIGN AND ASSESSMENT

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2. DEVELOPING STUDENT LEARNING OUTCOMES

Step 1: Align JU, College and Department Mission and Objectives

	Mission	**Objectives**
Jazan University		
College of Business Administration		
Department of Management Information System		1. Operational 2. Learning (Refer Your Program Spec)

Step 2: Transform Program Objectives to Program Learning Outcomes

Program Objectives	**Program Outcomes**	**Program KPIs**
Operational Objectives	**Operational Outcomes**	
Learning Objectives	**Student Learning Outcomes**	

Objectives = what the program want to offer
Outcomes = what the students should acquire

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Student Learning Outcomes: A Connected Hierarchy Aligning Institution, College, Program, & Course Learning Outcomes

Step 3: Align JU, College and Program Student Learning Outcomes (from above table of learning objective row)

Jazan University (ISLO)	College of Business Administration (CSLO)	Dept. of MIS (PSLO)

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Step 4: Establish Program Learning Outcomes according Three Learning Domains with assigned courses. (Include all courses (Univ. College and Department required or elective courses)

NOTE: The number of PLO is recommended within 8 to 10.

Characteristics of PLOs:

1. The Learning outcome begins with a measurable verb.
2. Short sentences should be used for clarity.
3. Should be easy to understand by students, teachers, and stakeholders.
4. Avoid large numbers of learning outcomes at program level (8-10).
5. Avoid action verbs which do not require high thinking skills such as (list, mention,) when writing the outcome.
6. Avoid verbs which are not measurable.
7. Avoid using more than one verb.
8. Program learning outcomes should be aligned with the qualification level.
9. To be guided by occupational and academic standards in writing learning outcomes.
10. Guided by Bloom's taxonomy especially high thinking levels (application, analyzing, synthesis)
11. Learning outcomes should be inclusive for all three domains (knowledge, skills, competencies)
12. They should suit the general level of the degree.
13. Course learning outcomes should be aligned with program learning outcomes.
14. Participation of stakeholders and employers in the formulation of learning outcomes.
15. The learning outcomes should be linked to the goals of the college / department and consistent with the direction and vision of the organization.
16. The learning outcomes of the program reflect occupational or professional standards
17. They should meet the needs of the job market.
18. They should include the characteristics of the SMART objectives (specific, measurable, achievable, to correspond with the available capabilities, to be linked to a specific time).
19. Should be clear and specific.
20. Conduct a benchmark comparison with similar qualifications when formulating learning outcomes at the qualification level.

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Step 5: Establish Course Learning Outcomes and align with PLO and Level of Instructions (I, P, M)

NOTE: Suggested number of CLO depend on Credit Hour i.e 1CH = 2 CLO

Example

Course Code/Tittle	PLO	LEVEL. (I,P,M)	Learning Outcomes
231 MIS Introduction To Management Information System	PLO1	I	CLO1 Describe the role of information technology and information systems in business
			CLO2 Record the current issues of information technology and relate those issues to the firm
	PLO5	I	CLO3 Reproduce a working knowledge of concepts and terminology related to information technology
			CLO4 Appraise the knowledge previously acquired of Microsoft Office
	PLO13	P	CLO5 Analyze how information technology impacts a firm
			CLO6 Interpret how to use information technology to solve business problems
			CLO7 Illustrate the impact of information systems in society
232MIS…			

Step 6: Establish Program Learning Outcome Matrix

Allocation of Level of Instruction (I, P, M)- based on table above of each courses

4. **Program learning Outcomes Mapping Matrix**

Align the program learning outcomes with program courses, according to the following desired levels of performance
(**I = Introduced   P = Practiced M = Mastered**)

Course code & No.	Program Learning Outcomes										
	Knowledge				Skills				Competence		
	K.1	K.2	K.3	---	S.1	S.2	S.3	---	C.1	C.2	----
Course 1	I										
Course 2	P										
Course 3											
Course 4	M										

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Step 7: Establish Course Mapping
i.e Aligning Course Learning Outcome, Teaching Methodology and Method of Learning Assessment

COURSE TITTLE /CODE	
LEVEL OF COURSE	
USE FOR SLO ASSESSMENT	
COURSE COORDINATOR	
SESSIONS OFFERED	

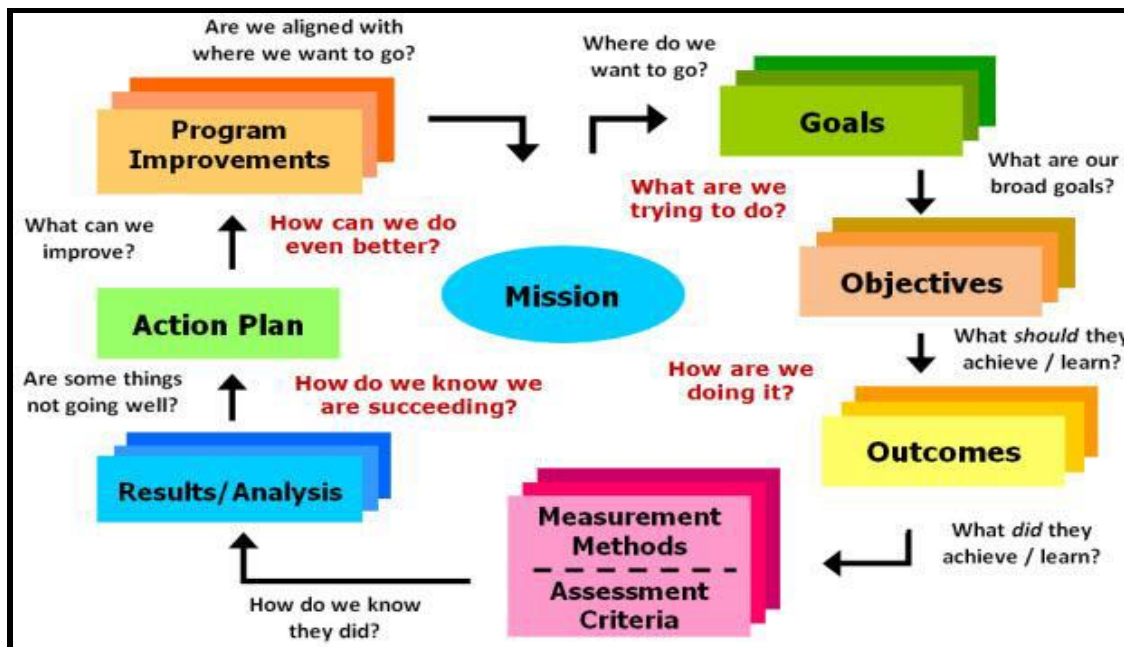**Teaching and learning strategies to achieve program learning outcomes**

Describe policies, teaching and learning strategies, learning experience, and learning activities, including curricular and extra-curricular activities, to achieve the program learning outcomes

Assessment Methods for program learning outcomes.

Describe assessment methods (Direct and Indirect) that can be used to measure achievement of program learning outcomes in every domain of learning.

3. PLANNING FOR STUDENT LEARNING OUTCOME ASSESSMENT

Student Learning Assessment Cycle

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Assessment Plan

A quality assessment plan is principled - connected to institutional values and initiatives, practical, comprehensive, and continuous. Programs drive assessment planning through collaboration, reflective and deliberate preparation, gradual implementation, and feedback into its continuous improvement efforts.

Levels of Assessment

1- Classroom assessment - assessment of individual students at the classroom level typically by the class instructor. Tests & assignments, summarized into a grade
2- Course assessment - assessment of a specific course. Tests & assignments, with item scores aggregated across students
3- Program assessment - assessment of academic and support programs. Tests & assignments in capstone & other key courses; Field experience supervisor evaluations; Portfolios; Published tests; Surveys, interviews, etc. aggregated across students
4- Institutional assessment - assessment of campus-wide characteristics and issues

Organize for Assessment

1. Form a Program Curriculum Assessment Committee (PCAC) from the faculty body responsible for collecting, reviewing, interpreting, and disseminating program assessment data.
2. Design of common formats and assessment templates should flow from PCAC.
3. All faculty members should participate in the assessment process and should assist PCAC in collecting, compiling, and organizing information and data for each mandated assessment tool.
4. An institutionally based faculty assessment committee should have an oversight role on all assessment activities that take place at the program level.

Identify Assessment Measures
Measures and Targets for each Learning Outcomes

Once a particular SLO is identified, the program will determine which assessment measure to use, considering which techniques, tools and instruments for collecting information will best determine the extent to which students demonstrate desired learning outcomes

Some guidelines for selecting assessment measures
• Use multiple measures to assess each learning outcome.
• Include at least one direct and one or more indirect measures.
• Include qualitative as well as quantitative measures.
• Be selective about what you choose to observe or measure.

Assessment Measures

"Direct measures"- Clear and Compelling Evidence of What Students Are Learning They make use of actual student work or behavior. Direct measures are most effective if they utilize work embedded in a course, assignments or exams that is part of the course and counts towards the grade.

"Indirect measures"- Evidence that Students Are "Probably" Learning

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They are also useful in assessment, especially when used to complement or extend direct assessments of learning. They can help explain results obtained from a direct assessment, as well as give insights on how students perceive aspects of the programs. They are not acceptable substitutes for direct assessment of learning.

Examples of Direct and Indirect Measures for SLOs

Direct Measures (Required)	Indirect Measures (Supplemental)
• Course-related assessment • Capstone Course Assignments/projects • Case Studies • Classroom Assessment • Content Analysis • Course-embedded Questions and Assignments, scored using rubrics • Portfolios (to measure growth over time) • Essays • Theses, research and projects, publications • Standardized tests • Evaluation of performance (live or on videotape or audiotape)	• Institutional and Program Surveys • Alumni Surveys • Employer Surveys • Graduating Seniors and Graduates Surveys • Student Satisfaction Surveys • Others • Focus groups • Interviews(faculty members, graduating students, alumni) • Transcript analysis • Placement record of graduates • Syllabi and curriculum analysis • Admission rate into graduate programs and graduation rate • Awards/grants/scholarships received

Selection of the "Best" Assessment Measures
- Relationship to assessment — provides you with the information you need
- Reliability — yields consistent responses over time (re-test); produce similar results with a similar cohort of students.
- Validity — appropriate for what you want to measure; measure what it is supposed to measure.
- Timeliness and Cost — preparation, response, and analysis time; opportunity and tangible costs
- Motivation — provides value to student; respondents are motivated to participate
- others
- Results should be easily interpreted and unambiguous
- Data should not be difficult to collect or access
- Information should be directly controllable by the program

STEP 1
Setting Performance Targets (Criteria for Success)
Each student learning outcome should have an established baseline measure which indicates an acceptable level of student achievement.
- Criteria for success: At what level the program indicates a student has "successfully" met each outcome's measurement tool. They determine what the acceptable level of achievement is for each outcome.
- Criteria for success are the measurable performance targets associated with the assessment instruments and evaluation rubrics used by the program in determining whether the intended student learning outcomes have been achieved.

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- They determine what standards are required from students, often stated in terms of percentages, percentiles, averages, or other measures
- Setting a target is not about guessing what your students can achieve.
  It involves:
    1. Knowing where your students are now
    2. What you are trying to achieve
    3. Determining challenging but realistic amounts of improvement needed to get there

Example

LO: Students will be able to communicate information effectively in writing and orally

Performance criteria	Strategies/Courses	Assessment measure(s) Level of	competence/Success criteria
Create documents with appropriate writing format	ENDO 324	Class Assignment (writing 1):	rubric 90% of students will meet "acceptable" level of competence using a rubric

Step 2: Construct Alignment

Questions need to be Asked While Designing

• Are we asking enough questions to insure the Learning outcome, teaching/learning instruction & assessment alignment?

 • Are we testing what we teach we would test?

• is our test mirroring the emphasis of our instructions?

• are we able to predict future performance of our students accurately?

Example Assessment methods

Domain	Example assessment methods
Knowledge	Objective tests (True/False, Multiple choice, Multiple answers, Fill in the blanks, etc)
Skills	- Essays. - Problems to solve (e.g. in mathematics, physics, linguistics among others). - Analyses of cases/data/texts. - Literature reviews e.g. based on memory, or open book or takeaway procedure. - Demonstration of a practical skill/ set of skills - Oral presentations. - Laboratory reports. - Concept maps - Narrative/ journalining

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Competences	• assessment based on samples of performance • assessment based on natural observation in the workplace • Professional portfolios. • Fieldwork reports • Interviews (including videotaped) •

Step 3: Establish Assessment Cycle & Collect Data

Usually the program will follow a year plan in assessing the student learning outcomes based on a determination of which PSLOs are best assessed early in the cycle and which later.
In this phase:
- Consider how the program will collect assessment data on an established cycle.
- When is the best time to measure and collect student learning outcomes data?
- Be selective, strategic and realistic.
- Develop an assessment cycle that will enhance and support external (accreditation) and internal (academic program review) commitments.

In addition, this phase involves teaching program and measuring outcomes.
Elements to Consider in Collecting Data
- How will each outcome be assessed?
- What direct assessment and indirect assessment evidence will be collected?
- When and how often will you assess each outcome?
- How will the evidence be collected?
- How will the evidence be assessed?
- Who will collect the data?

Plan for Assessing Each Program Learning Outcome (PLO)

	PLO #1	PLO #2	PLO #3	PLO #4	PLO #5
Assessment Planning (How and When)					
Method for assessing learning (at least one direct method required)					
Timetable for assessment activity (All SLOs should be reviewed in a 3-year cycle)					

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3.1 Assessment Matrix: Linking Outcomes to Data Gathering Tools

Key I = Indirect Measures D = Direct Measures	Data Gathering Tools		
Learning Outcomes	**Senior Survey**	**Capstone Courses (A)**	**Focus Groups with students**
Applying scientific methods		D	I
Work professionally in a team	I	D	
Design experiments and analyze data	I	D	
Communicate effectively in writing and presentation		D	I

3.2 Sample Program Assessment Plan Template

PLOs	When to Assess	What Direct and Indirect Measures (Evidence) to Collect	Who Will Collect Evidence	How Evidence Will be Assessed	How Decisions about Future Actions Will be Made
1	Every 3rd year starting in 2015/16	Final exam in Course 301MIS	301 MIS teaching staff	Students' scores	301 MIS teaching staff will make recommendations and all Dep. Faculty will make the decision

4. PROCESS OF REPORTING STUDENT LEARNING OUTCOME ASSESSMENT

Step1:
Compile all Direct and Indirect assessment results at Course Level and cascade to reflect Program level
(Advisable to use E management in compiling the results)

Step 2:
Analyze and Reflect on the Results
- Faculty members should be the ones responsible for the analysis and interpretation of data and information.
- The results should be summarized in a meaningful way so that they can be reviewed and actions needed to improve the program can be decided upon.
- Keep in mind the audience when analyzing results like who will access and use the data, and accordingly need to vary analysis and reporting procedures according to the identified audience

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The results now need to be interpreted.

- What do the results tell you?
- Are you satisfied with the evidence of student learning?
- What are the implications of the results for program improvement?
- The program should begin by consulting the criteria/target set for expected student learning - met or not.
- The program should also consider whether the assignment(s) used were aligned fully with every learning outcome: were the students invited to demonstrate their knowledge or abilities of a specific learning outcome?

If some results show need for improvement, then review the curriculum alignment map to see if there is a gap in introducing or reinforcing this learning outcome.

- It is also important to reflect on the assessment itself:
- Did it produce reliable and valid results?
- Do any changes need to be made?

Step 3:

Share and Use Assessment Results

- Assessment results are of most use when:
- they are shared among faculty members;
- They are used as a tool for facilitating discussion about improving a curriculum or program.
- This step involves making recommendations using your analysis of the data to make program changes that will improve student learning.
- Where the criterion is met or surpassed, the program may rightly conclude that no change is needed and report, "No action required."
- In the case where the results indicate the criterion level was not met, the program needs to evaluate its results further to determine what needs to be done to improve the likelihood of achieving the outcome.

Areas to look at when assessment results are disappointing…

PLOs:

- Are PLOs inappropriate?
- Do they need to be clarified?
- Do you have too many?

Curriculum: Does curriculum adequately address each SLO?

Pedagogy: Are you teaching in the way students learn best?

Assessment:

- Are they poorly written and misinterpreted?
- Do they match your SLOs?
- Are they too difficult for most responsible students?

Student: Is poor performance really the student's fault?

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Step 4:

Develop an action plan to implement the identified changes and improvements

- Develop an action plan consistent with program recommendations to improve student learning outcomes based on the data analysis which identified the strengths and weaknesses of the program.
- The program should not only create a plan to improve on its weaknesses, but to build on strengths to make them better. (Remember to build into the plan the periodic re-assessing of your strengths to make sure you're not slipping).
- The action plan includes a plan and timeline for implementing the proposed change(s) and any resources needed to implement the proposed change(s), where applicable

Summary of types of changes that may be implemented as a result of conducting assessment (Ref: Adapted from University of Central Florida Assessment Handbook, 2005)

Assessment Plan

- revision of student 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 methodology
- revision or enforcement of prerequisites
- justifying past program changes
- revision in course sequences
- revisions in content of program courses
- addition/deletion of course(s)

Academic Processes

- modification of frequency or schedule of course offerings
- improvements of technology
- changes in personnel
- implement additional training
- other implemented or planned change
- revision of advising standards or processes
- guiding in development of new degree program option

Step 5: Review what needs to be done as the assessment cycle heads back to the Planning Phase; Follow–up on Action Plan and Close the Loop

- Annually, the plan of action is implemented for a previous cycle at the same time a new assessment cycle begins.
- Evaluate and monitor the results of executed action plan to determine the extent to which it resulted in the desired outcomes (i.e., repeat the assessment process and determine "realized" outcomes).

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- The educational program is to follow-up on the action plan. That is, for each identified action, faculty are to provide evidence of implementation and impact, where applicable.
- *Closing the loop* occurs during the next academic year cycle and involves implementing changes identified in the improvement action plan, re-collecting data, and then reanalyzing the data against the improvement plan.
- A determination is made whether improvements were successful. This part of the process completes the *cycle* by looking back over the change proposal of the previous cycle and listing improvements that were actually implemented as well as whether they resulted in improvements to student learning.
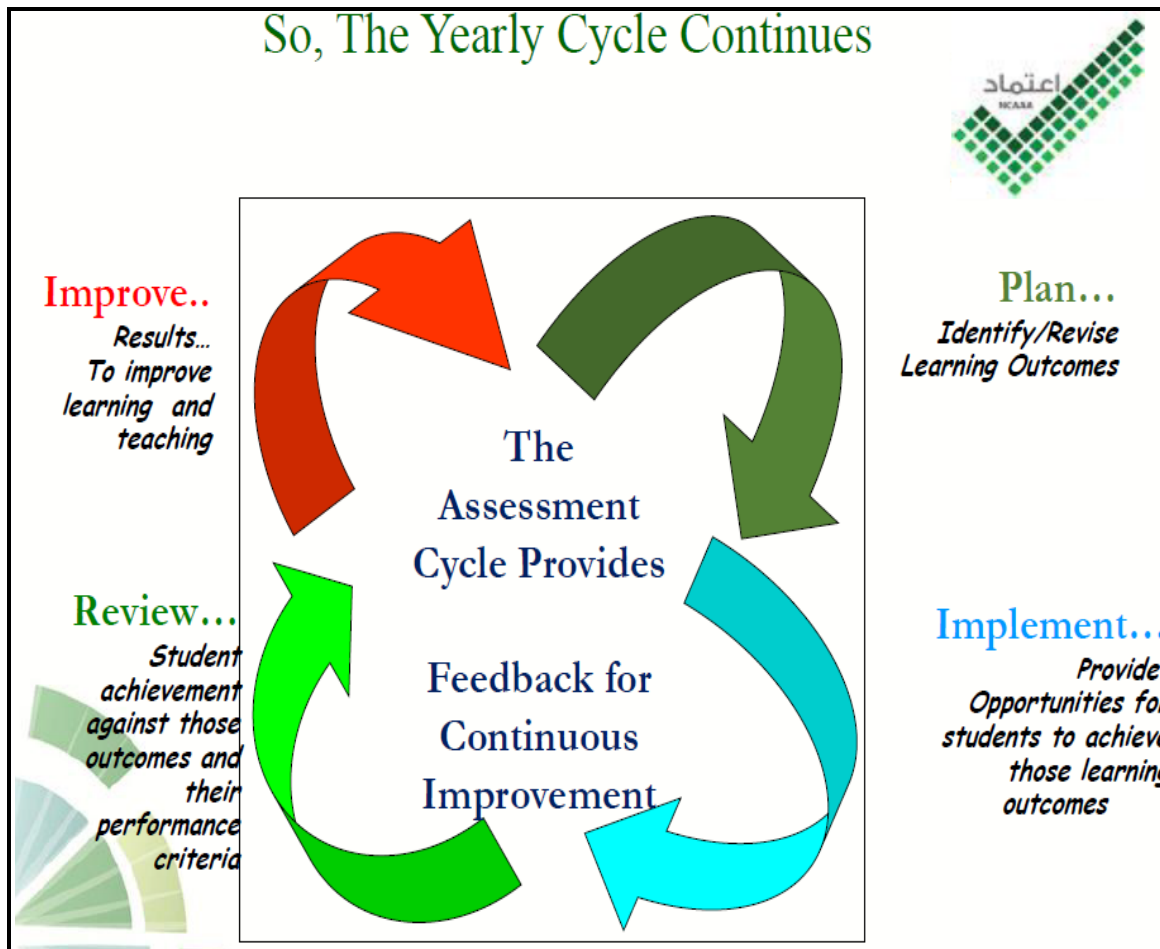
Recommendation	Rationale	Action to be Taken	Responsibility	Date By	Resources
	The evidence/ documentation from the report that supports the recommendation or suggestion	This should be specific in nature. Just what, exactly is to be done?	Name a single person/PAC as the responsible party.	Be realistic here. The wheels of academe grind slowly.	Additional Resources Needed

Example of Action Plan

Contents of Annual Assessment Report

The 2017–2018 annual assessment reports submitted by a program will include the following:

1. Details of the assessment activities conducted during the Fall 2017 (SEM1) and Spring 2018 (SEM2) semesters.
2. Assessment results obtained during the Fall 2017 and Spring 2018 semesters.
3. Detailed analysis of the obtained assessment results.
4. A list of recommendations for improvement.
5. A list of specific improvement actions adopted by the program with clear links to the 2017–2018 assessment results.
6. Detailed action plans for each of the adopted improvement actions for Academic Year 2018–2019.
7. A report on the previous year's implemented improvement actions, as reported in the Academic Year 2016–2017 assessment report, which were adopted as a result of the assessment results conducted in 2016–2017 and implemented during the 2017– 2018 academic year.

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