

Assessment of Learning Outcomes Handbook

2020-2021



Deanship of Quality Assurance & Development (DQAD)



Contents

List of Tables	5
List of Figures	6
Foreword	7
Section I	8
Introduction	8
1. PSU's Mission Statement	9
2. PSU's Educational Goals	10
3. Purpose of the Assessment Handbook	10
4. Scope of the Learning Outcome Assessment Process	10
5. Benefits of Learning Outcomes Assessment	10
6. The Terminology used in the Learning Outcome Assessment	11
7. Stakeholders in Learning Outcome Assessment	12
8. An overview of the Learning Outcome Assessment at Prince Sultan University	13
a. Outcome-Based Assessment Approach:	13
b. PIMRU Model	13
c. Program Assessment Policy	15
d. Levels of Assessment	15
i. Assessment at the institutional level	15
ii. Assessment at the program level	15
iii. Assessment at the course level	15
e. Types of Assessment	15
Direct measures	15
Indirect Measures	16
f. Targets	16
9. Compliance of Assessment Process with NCAAA Program/Institutional Standards	17
10. Key Performance Indicator for Learning Outcome Assessment	18
Section II- Course Learning Outcome Assessment	20
1. Course Assessment Process using PIMRU Model	20
2. Types of Instruments Used in CLO Assessment.	24
3. Develop Rubrics for CLO Assessment	24
4. Semesterly Assessment Cycle Reflection	25
5. Templates for CLO Assessment Report	26

a.	Sample Rubric to assess Course Learning Outcomes Template	26
b.	Template for Course Learning Outcome Survey	27
c.	Semesterly Course Assessment Report	28
d.	Course Assessment Cycle Reflection	28
Section III - Program Learning Outcomes Assessment		32
1.	Program Assessment Process Using PIMRU Model.	32
2.	Program Assessment Cycle	36
3.	PLO Assessment Plan	37
a.	Direct	37
b.	Indirect	38
4.	Use of Curriculum Mapping in PLO Assessment	38
5.	Assessment Cycle Reflection (2-4 years Closing the Loop Report)	39
6.	Templates for PLO Assessment Report	40
a.	2- 4 years Assessment Plan of PLOs Template	40
b.	Rubric to assess the PLO Assessment Plan	41
c.	Curriculum Mapping Template	42
d.	Mapping Teaching Strategies and Assessment Methods Template (Form 6/PSU Assessment)	43
e.	Level Assessment Map Template	43
f.	CLO-PLO Mapping Template	44
g.	Annual Program Assessment Report Template	45
a)	Program Learning Outcomes Assessment Results.	45
b)	Analysis of Program Learning Outcomes Assessment	45
h.	Evaluation of Program learning Outcome Assessment Results:	46
Section IV- Assessment of Institutional Learning Outcomes (ILOs) process at PSU		48
1.	PSU's Core Competencies & ILOs	48
2.	ILO Assessment Process using PIMRU Model	49
3.	ILO Assessment Plan	53
4.	Types of Instruments Used for ILO Assessment	53
5.	Role of General Education Courses in ILO Assessment	53
6.	Role of PLO Assessment Results in ILO Assessment	54
7.	Assessment Cycle Reflection (2-4 years Closing the Loop Report)	54
Templates for ILO Assessment Report		55
a.	2- 4 years Assessment Plan of ILOs Template	55

b. ILO to PLO Mapping	55
c. ILO to DES-Course Mapping	56
d. Annual ILO Assessment Report	57
e. ILO Assessment Cycle Reflection	58
Section V-Guidelines	59
1. Institutional Support Provided to PSU Faculty	60
2. Student Awareness of Assessment Activity and Privacy Issues	60
3. How to write Learning Outcomes?	60
4. Bloom’s Taxonomy	61
5. Rubrics	62
Sample Rubric to Assess Course Learning Outcomes	65
Program Learning Outcomes () has been chosen for assessment purposes in (XXX) :	65
6. Mapping Teaching Strategies and Assessment	67
7. Mapping Course Learning Outcomes to Program Learning Outcomes	68
CLO-PLO Mapping Template	69
8. How to prepare the CLO Assessment Report?	70
9. How to prepare the PLO Assessment Report?	70
10. How to prepare the ILO Assessment Report?	71
NCAA Institutional and Program Standards	71
Institutional Standards:	71
3.1 Design and Development of Academic Programs	71
3.2 Graduate Attributes and Learning Outcomes	72
3.3 Academic Programs Quality Assurance and Enhancement	72
Programs Standards:	73
3-1 Graduate Attributes and Learning Outcomes	73
3-2 Curriculum	73
3-3 Quality of Teaching and Students' Assessment	74
Conclusion	75
Frequently Asked Questions	76
References used & recommended useful websites for assessment of learning outcomes section.	78

List of Tables

Table 1: The CLO Assessment Process and Reporting Requirements	22
Table 2: Course Learning Outcome Rubric Template	26
Table 3: Course Learning Outcome Exit Survey Template	27
Table 4: Course Learning Outcome Assessment Report Template	28
Table 5: Action Plan for Next Semester/Year	28
Table 6: The PLO Assessment Process and Reporting Requirements	35
Table 7: Assessment cycle for 4 years (Example assessment plan)	37
Table 8: Assessment Plan Template	40
Table 9: Rubric to Assess the Assessment Plan/Institutional	41
Table 10: Curriculum Mapping Template	42
Table 11: Mapping of PLOs with Teaching Strategies and Assessment Methods	43
Table 12: Mapping of Assessment Methods with Courses offered in a Program	43
Table 13: Mapping of Course Learning Outcomes to Program Learning Outcomes	44
Table 14: Annual Program Learning Outcomes Assessment (from NCAA Annual Program Report, 2020, Template)	45
Table 15: Closing the Loop	46
Table 16: Institutional Learning Outcome and NQF Learning Areas	48
Table 17: ILO Assessment Process and Reporting Requirements	52
Table 18: Template for Planning Assessment at the program level	55
Table 19: Mapping of Institutional Learning Outcomes(ILOs) with Student Outcomes(SOs)	55
Table 20: Mapping of Institutional Learning Outcomes (ILOs) with DES Course Mapping	56
Table 21: Institutional Assessment Report (Form 4/PSU Assessment)	57
Table 22: Closing the Loop at the Institutional Level	58
Table 23: Example of Bloom’s Taxonomy	62
Table 24: Example of Rubrics Using Direct Methods	63
Table 25: Linking Assessments, Learning Outcomes, and Teaching Strategies: Humanities Example	68
Table 26: Mapping of Course Learning Outcomes to Program Learning Outcomes (Form 7/PSU Assessment)	69

List of Figures

Figure 1: The PIMRU Model	14
Figure 2: QMS System	17
Figure 3: CLO Assessment Process	22
Figure 4: PLO Assessment Process	34
Figure 5: Closing the Loop	40
Figure 6: ILO Assessment Process	51
Figure 7: Bloom’s taxonomy Revised (Schrock, 2012)	61

Foreword

Prince Sultan University is committed to providing the highest quality education to its students. Hence, assessing student learning outcomes naturally becomes a core and an ongoing activity that encourages the faculty and administrators to think about the outcomes we desire in our students and the educational experiences we create to support the achievement of the identified student learning outcomes.

This document is intended to provide a general overview of the purposes and processes for assessing student learning achievement and using assessment results to make programmatic alterations to enhance student learning.

This handbook has been established to help the institution, programs, and courses establish and assess their approved learning outcomes, analyze the findings, and prepare a course of action. Information contained within this document was obtained from a variety of sources.

Thank you for your cooperation in this matter. We look forward to working with you to achieve success.

Regards,

Teaching and Learning Center(TLC)

&

Quality Assurance Center (QAC)

Section I

Introduction

Introduction

Assessment of student learning supports the University's emphasis on continuous improvement and its strategic goal to enhance student success and improve teaching and learning at Prince Sultan University (PSU). Assessment occurs at the Institutional, program, and course level to ensure the achievement of Institutional/program mission statements, hereby assessing the achievement of program objectives and program learning outcomes to improve the quality of teaching and learning in our academic programs.

"The NCAAA has identified broad categories or types of learning outcomes in [three groups or learning domains namely knowledge & understanding, skills, and values,] and has described in general terms the level of knowledge and skill expected for different qualifications. There are differences in how these learning outcomes are developed by students, and an important aspect of program and course planning is to plan for teaching processes and forms of assessment that will be appropriate for these different types of intended learning outcomes." (Glossary, NCAAA Handbook)

Higher education institutions must keep documentation to support their best practices for evaluation from a national or international entity with the drive for evidence-based quality assurance practices. This practice will determine if they are meeting a certain set of standards or criteria as required by the Ministry of Education or accreditation agencies, depending on the location. In line with these requirements, PSU has its program assessment policy (refer to the appendices) in place, which is the driver of the entire assessment process at PSU. The policy encourages and facilitates effective student learning and ensures stakeholders and constituencies that PSU degrees are based on valid and reliable assessment practices. Accordingly, all assessment practices and tasks should mainly assess and evaluate knowledge, skills, and values indicated by course, program, and institutional learning outcomes.

This document provides a framework for the assessment of learning outcomes at Prince Sultan University and provides guidelines for assessment planning, development, and implementation. Recommended resources are provided in the appendices.

1. PSU's Mission Statement

Prince Sultan University aims to provide the Middle East with a quality education to the highest international standards. In its efforts towards successful and responsible life-long learning, PSU integrates modern technology, pedagogy, and human values for the advancement of scientific research, productivity, and leadership towards a more meaningful social life.

PSU is committed to the effective management of institutional resources to optimize its multiple roles as a catalyst for new learning opportunities, national and international partnerships, continuous studies, professional growth, community service, and diversity in educational horizons for the good of humanity.

2. PSU's Educational Goals

In accord with its vision and mission, PSU has three discrete lists of goals for education, research, and service to the at-large community sectors. In regard to the three areas, the University aims to:

Education Goals

- provide students with a command of theoretical and practical knowledge in their chosen fields of professional specialization and advanced studies
- foster an environment conducive to critical thinking, sound ethics, and commitment to lifelong learning
- prepare students for positions of leadership in the workplace and the community
- cultivate student awareness of the increasingly complex and globally competitive environment of the 21st Century

Research Goals

- set in place a stimulating intellectual climate that prompts scholarly research
- vitalize impact research work across the curriculum
- merit recognition as a Research University

Service Goals

- offer in response to the diverse needs of Riyadh's communities academic, practical and recreational programs and activities
- feature quality consultancy services built atop experience and expertise
- establish an Entrepreneurship Center

3. Purpose of the Assessment Handbook

The purpose of this handbook is to assist PSU faculty members and program leaders in assessing student achievement of learning outcomes. It is a step-by-step guide that illuminates the rudimentary concepts and processes, provides examples and strategies for meeting the specific requirements and approaches for making assessment a useful means in the continuous improvement of the curriculum (including content, teaching strategies, and assessment strategies). It also provides guidance on the reporting process and expectations for all concerned parties.

4. Scope of the Learning Outcome Assessment Process

The Learning Outcome Assessment Process is applicable to undergraduate and Graduate Degree Programs.

5. Benefits of Learning Outcomes Assessment

The assessment of learning outcomes is beneficial for PSU when conducted properly. The benefits are for both the students and faculty members. For the students, it ensures they

master the content and skills of their academic program and provides academic and professional programs that are essential to both their and society's needs. For the faculty members, it benefits them by providing the tools necessary to continuously improve the curriculum including content, teaching strategies, and assessment strategies. Lastly, PSU benefits by providing documented evidence of student learning and achievement, thereby validating that PSU is meeting its mission and goals.

6. The Terminology used in the Learning Outcome Assessment

Mission: describes the primary purposes of the program, stated in student-centered language. The program's mission should be linked to the unit's and the PSU's mission statement.

Program Goals: broad statements about desired ends for the students. The program goals should be linked to the program's mission and describe the knowledge, skills, and attitudes that students should exhibit following graduation, as well as the aspirations faculty have for their graduates concerning careers and further study.

Institutional Learning Outcomes are those skills, values, ideas, and qualities that PSU believes are important for all undergraduates and postgraduates.

Graduate Attributes are the qualities, skills, and understandings PSU agrees its students should develop during their journey within the institution. They are qualities that also prepare graduates as agents for social good in an unknown future.

Program Learning Outcomes are those things each specific program finds important for their graduates to have mastered while in the program.

Course Learning Outcomes are what students are expected to achieve in a course.

Assessment is an all-encompassing term that entails routine classroom assessment as well as external testing. Assessment is also the opportunity to improve the teaching and learning processes (Cheng & Fox, 2017). Assessment is also a term that involves the method by which data is collected to measure what students know (knowledge) and are able to do (skills) in connection to the learning outcomes at specific points during their learning activities, course, or program of study (Retrieved from <https://www.onlineassessmenttool.com/knowledge-center/assessment-knowledge-center/assessment-vs-testing/item10641>).

Assessment Plan should be based on Outcome Based Education (OBE) principles and Learning Outcomes. Assessment Plans should include course level and program level assessments in accordance with PSU's rules and regulations.

Evaluation is the process of making judgments based on criteria and evidence.

7. Stakeholders in Learning Outcome Assessment

The stakeholders of the learning outcome assessment process have their unique perspectives and interest in the success and continued improvement of the education offered at PSU.

The main stakeholders are as follows.

1. Students
2. Alumni
3. Faculty
4. Employers/industry partners (and postgraduate universities)
5. Professional and accreditation bodies
6. Higher education institutions (Graduate Studies Program)

1. Students: PSU students who are completing their last semester before graduation. Since the students are the direct beneficiaries of a quality education system, their immediate feedback through student council, exit surveys, and interviews have high importance in PSU's education system.

2. Alumni: Alumni are former students who graduated with an undergraduate or graduate degree. They are expected to become competent, professionally and socially responsible individuals after earning a bachelor/master's degree in any academic program offered at PSU. Their successful career, reputation or professional growth demonstrates the achievement of learning outcomes. Alumni input is obtained through an alumni survey as well as the annual Advisory Board meeting (members are from industry as well as our alumni).

3. Faculty: Faculty are the academic staff of a university: Professors of various ranks, lecturers, and/or researchers. Their primary educational responsibility is to create an environment for leading the students to an effective lifelong learning process. Faculty input is obtained through regular Department/College Council meetings, Curriculum Committee meetings, and course reports.

4. Employers/industry partners (and postgraduate universities): Employers are those who are expected to hire new employees (graduated from PSU) who are competent, productive, self-motivated learners, team players, and have excellent communication skills.

5. Professional and Accreditation Bodies: The Professional and Accreditation Bodies also play an important role in specifying the learning outcomes and/or their assessment strategies.

6. Higher Education Institutions (Graduate Studies Program): The entry requirements for higher education institutions also provide a coherent source for keeping the learning outcomes up to date.

8. An overview of the Learning Outcome Assessment at Prince Sultan University

a. Outcome-Based Assessment Approach:

In William Spady's (the self-proclaimed father of Outcome Based Learning) (1994) words, "An [Outcome Based Education] OBE curriculum means starting with a clear picture of what is important for students to be able to do, then organizing the curriculum, instruction and assessment to make sure this learning ultimately happens". OBE follows a student-centered approach by which the performance of students are evaluated based on their qualities, skills and knowledge as their outcomes.

The main principles of OBE are as follows:

1. The focus is on what is learned instead of what is taught;
2. Teachers must focus on establishing appropriate intended course learning outcomes based on the course objectives, which can be later assessed to know and analyze the performance of every individual student;
3. Constructive alignment: Every intended learning outcome ought to be aligned with content (What we teach), teaching strategies (how we teach) and assessment methods (how we assess), such that they are fully consistent with each other;
4. The quality of teaching is to be judged by the quality of learning that takes place.

b. PIMRU Model

PSU assesses academic quality via the annual program reporting, the curricula review, and the assessment of learning outcomes every 2-4 years.

Learning Outcomes are assessed at the Institutional, program, and course levels. It plays a role in the program review and quality assurance of PSU's academic practices.

The Teaching and Learning Quality Assurance and Improvement process is based on a continuing annual cycle based on the principles of PIMRU (Plan→ Implement →Monitor →Review → Update, Figure 1 below).

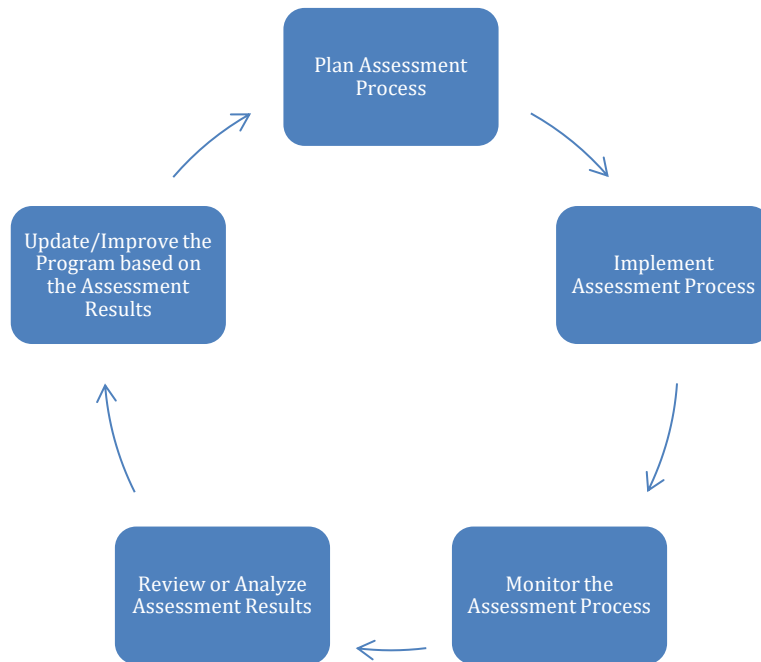


Figure 1: The PIMRU Model

Planning:

In this phase, the plan is created for academic process components to improve students’ learning. Across the institution, we are required to prepare an Academic Assessment Plan (AP), which shows a roadmap of assessing the learning outcomes from one level to the other based on its applicability for each level mentioned below.

- a. Course Level Assessment
- b. Program Level Assessment
- c. Institutional Level Assessment

Assessment Plans are based on **OBE** principles and Learning Outcomes. Assessment plans should include course level and program level assessments in accordance with PSU’s policies.

Implement: Implement the assessment plan every regular semester. Conduct direct and indirect assessments.

Monitor: Monitor the Assessment Process and Compute assessment results using Direct and indirect methods. Refer to Page No. 16 for a detailed explanation about the types of assessments.

Review: Analyze and discuss the Assessment Results.

Update/Improve: Analyze differences in expected improvements, actual improvements, and previous assessment results (if any). Based on this, determine where your next improvements will be made. Take action so we don't make those same mistakes next time. Some examples of improvement are a) Discuss curricular, learning activities, assessment strategies changes needed to meet outcomes. b) Redefine ILO or PLOs or CLOs.

c. Program Assessment Policy

This policy applies to all programs and departments on campus that have courses that contribute to a degree-granting program at the undergraduate and graduate levels. It is the systematic and ongoing method of collecting, analyzing, and using information from measured outcomes (both direct and indirect) to improve the quality practices of student learning. It is different from an individual course, student, or faculty evaluation assessment. It utilizes the data gathered to make informed decisions about the quality improvement of the program. <https://www.psu.edu.sa/en/policy-and-procedures>

d. Levels of Assessment

- i. Assessment at the institutional level
- ii. Assessment at the program level
- iii. Assessment at the course level

e. Types of Assessment

- i. Direct
- ii. Indirect

There are two types of outcome measures: direct measures and indirect measures.

Direct measures

Direct Measures assess the extent to which students' work meets the learning outcome performance standards. In other words, **Direct Assessment Methods** are methods for assessing actual samples of student work to provide evidence of student performance relative to the learning outcomes.

Selecting Direct measures

- **A student's course portfolio evaluation** using rubrics
- **Projects & Presentations** using rubrics
- **Exam Papers** using rubrics: Faculty members will be asked to use rubrics to assess final exam questions in selected courses.

- **Course Portfolios:** A course portfolio will be maintained for each of the taught courses. The course teacher will use the collected material to assess the achievement of course learning outcomes.

Indirect Measures

Indirect measures compliment direct measures by providing supportive evidence, information, and student perspective. In other words, **Indirect Assessment Methods** are methods for assessing secondary information on student learning that do not rely on actual samples of student work.

Selecting indirect measures

Like selecting direct measures, there are many issues to consider when selecting indirect measures of learning. The institution should be creative in determining the most useful ways to measure student performance and ensure that the methods allow for meaning from interpretation and results. These methods may be quantitative or qualitative in nature but should still address the key issues of strong measures. Examples of indirect measures can be seen below.

1. Survey questions from the institutional surveys are to be mapped to the Institutional Learning Outcomes (ILO's). These surveys include:
 - **Program Evaluation Survey:** conducted on final year students before they graduate.
 - **Alumni Surveys:** alumni are asked to rate the program outcomes and give their feedback regarding their experience through a survey that will be distributed annually.
 - **Employer Surveys:** Employers will be asked to rate the achievement of program outcomes through a survey that will be distributed periodically.
 - **Course Evaluation Surveys:** conducted at the end of every semester and provide feedback from all students for all courses offered in the University.
 - **Learning Outcomes Exit Survey:** Faculty members conduct a survey about the satisfaction of the students regarding the achievement of learning outcomes
2. Formative assessments please refer to the definition in the assessment policies.

f. Targets

Targets are the expected level of aggregated student achievement, for each measurement method (direct and indirect). Targets are usually expressed in terms of the number or percentages. For example, a target might be expressed as at least 85% of the students will achieve a 3 or higher on each criterion of the rubric used to evaluate the research presentation.

9. Compliance of Assessment Process with NCAAA Program/Institutional Standards

PSU's Program or Institutional Assessment Process follows the NCAAA Standards. The best practices relevant are 3.1, 3.2, & 3.3 at both the institutional and program levels. Please find a diagram of the relevant best practices below as shown in Figure 2.

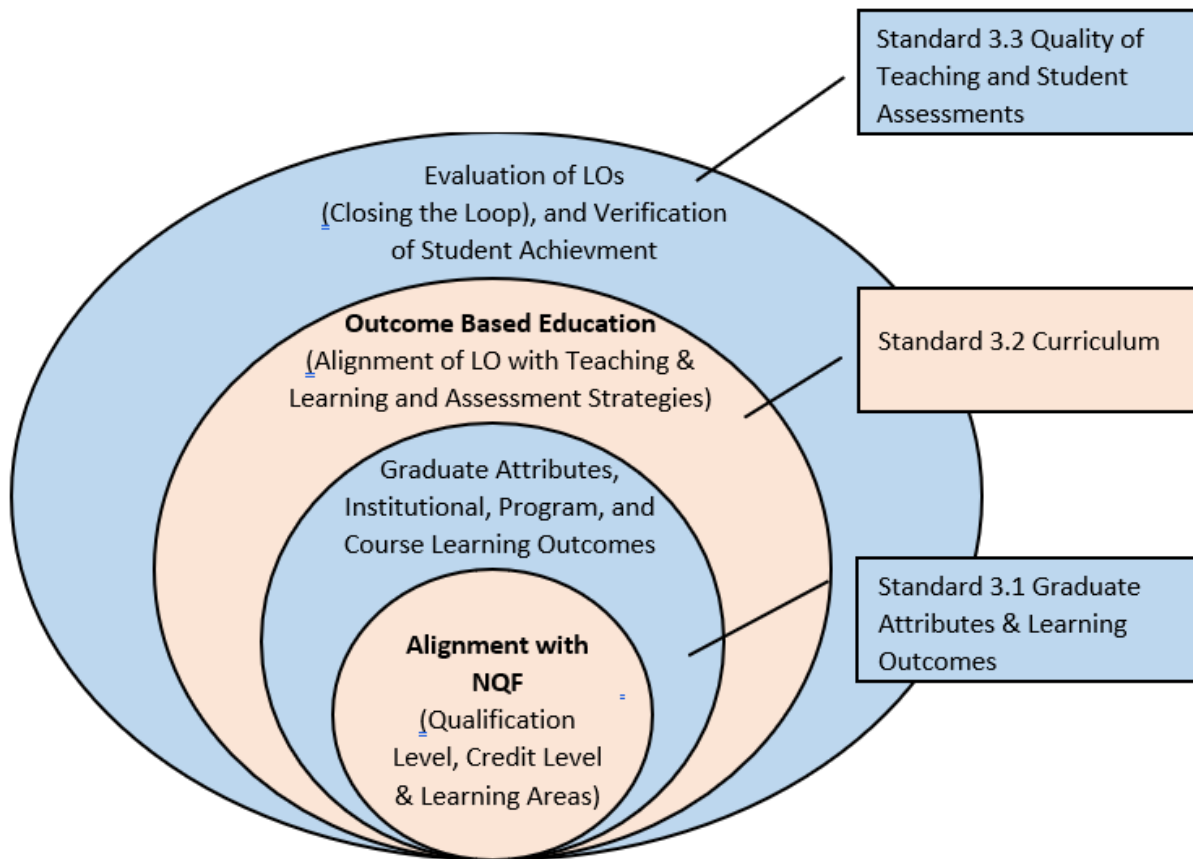


Figure 2: Quality Management System

It is important to highlight that the quality management system (QMS) at PSU is aligned with the National Qualifications Framework as well as NCAAA's standards. The above diagram portrays this connection. The NQF is the guide for aligning our educational practices in line with the job market needs by ensuring the quality practices across the educational sectors. PSU, has adopted the NQF as its framework for the quality management system at the university.

10. Key Performance Indicator for Learning Outcome Assessment

Following the OBE approach, learning outcomes are indicators of success of an academic course/program. Learning outcomes give a clear idea of what can be achieved by joining a particular program or a course. In this context, every academic program at PSU is required to assess the program learning outcomes according to an assessment cycle of 2 to 4 years. The assessment process is complete only when the information has been used to improve student learning which is known as closing the loop. Therefore, at the end of the assessment cycle, the learning outcome assessment results are used to reevaluate and/or revise the curriculum or individual courses, teaching strategies, and assessment methods used to improve the achievement of the program learning outcomes.

PSU has earmarked Learning Outcome Assessment as one of the key pillars of the Quality Management System. This is evident from its 3rd 5-year Strategic Plan. One of the Key performance indicators in Theme 1- Excellence in Education is shown below:

P.S.4.3 Proportion of programs that complete their assessment cycle.

Section II

Course Learning Outcome Assessment

Section II- Course Learning Outcome Assessment

All courses offered have clearly stated Course Learning Outcomes (CLOs), and these are mapped to the learning outcomes of the programs included in the course specifications. These are periodically reviewed during the process of course/program assessment. CLOs are aligned with the teaching and assessment strategies within the National Qualification Framework (NQF).

1. Course Assessment Process using PIMRU Model

The Course Learning Outcomes should be aligned with the National Qualifications Framework (NQF) categorized under three domains of learning (Knowledge & Understanding, Skills, and Values) and the Program Learning Outcomes (PLOs). The Course Assessment Plan should incorporate a PIMRU cycle to illustrate the continuous improvement of the programs.

Planning:

The course instructor will select relevant assessment tools for course-level assessment with the help of which each CLO in the course will be measured using both direct (e.g. a learning outcome's rubric) and indirect assessment methods (e.g., course exit surveys). The academic units will have the discretion of deciding the process of course-level assessment. This should occur regardless of the environment (face to face(F2F) or online). The following steps are taken in the planning phase.

1. The Assessment Plan should be prepared by the Course Group Supervisor/Coordinator in which all the CLOs will be assessed using direct or indirect methods.
2. The course assessment plan should be approved by the Quality/Assessment Coordinator or Chairperson/Director.
3. All CLOs are to be assessed at the course level using direct measurements via a specific rubric for each CLO.
4. The selected direct assessment method(s) should cover all CLOs in a course in every academic semester.
5. The selected tools account for at least 50% of overall course assessments, such as a final exam or major exam(s) and a course project.
6. The course instructor should prepare a course exit survey every academic semester or year, depending on the department policy.

Implementing:

1. The approved course assessment plan is implemented using direct (such as rubrics) or indirect methods (using course exit surveys).

2. Academic departments are free to make use of the appropriate tools and approaches to measure the learning outcomes based on an acceptable standard scale.
3. The course instructor will report all CLO results every academic semester using direct and indirect methods in the semester in accordance with the combined course report per ETEC-NCAAA regulations. The direct and indirect results cannot be aggregated as they measure two different things.
4. At the end of every academic semester, the course instructors are required to submit the PLO assessment results for the courses selected for the program assessment.

Monitoring:

1. The Assessment Committee/Quality Committee members are required to monitor the CLO assessment process throughout the semester.
2. At the end of every semester, the Course Group or Course Coordinators collect and analyze the CLO assessment results (direct and indirect) for the respective courses using appropriate calculations and tools. The improvement actions related to learning outcomes, curriculum, and course management are discussed with the course instructors and then submitted to the Quality Committee and Curriculum Committee for approval.

Reviewing (Auditing) and Updating (Closing the Loop):

Assessment Plans should incorporate a Review-Update cycle to illustrate the continuous improvement of the programs.

1. Based on the analysis done in the above step, **PAC/QC** will review and approve recommendations for course improvement or promotion of good practices in coordination with course groups or coordinators, Curriculum Committee, and the Department Chairpersons.
2. The course assessment results are also recorded in the annual Quality/Assessment Report and reported to PAC/QC/CC for monitoring and feedback at the program level.
3. These approved improvement actions are then submitted to the department chairperson to be included in the decision-making process and continuous enhancement of the program.

Figure 3 shows the visual representation of the process flow of the CLO Assessment Process based on the PIMRU cycle.

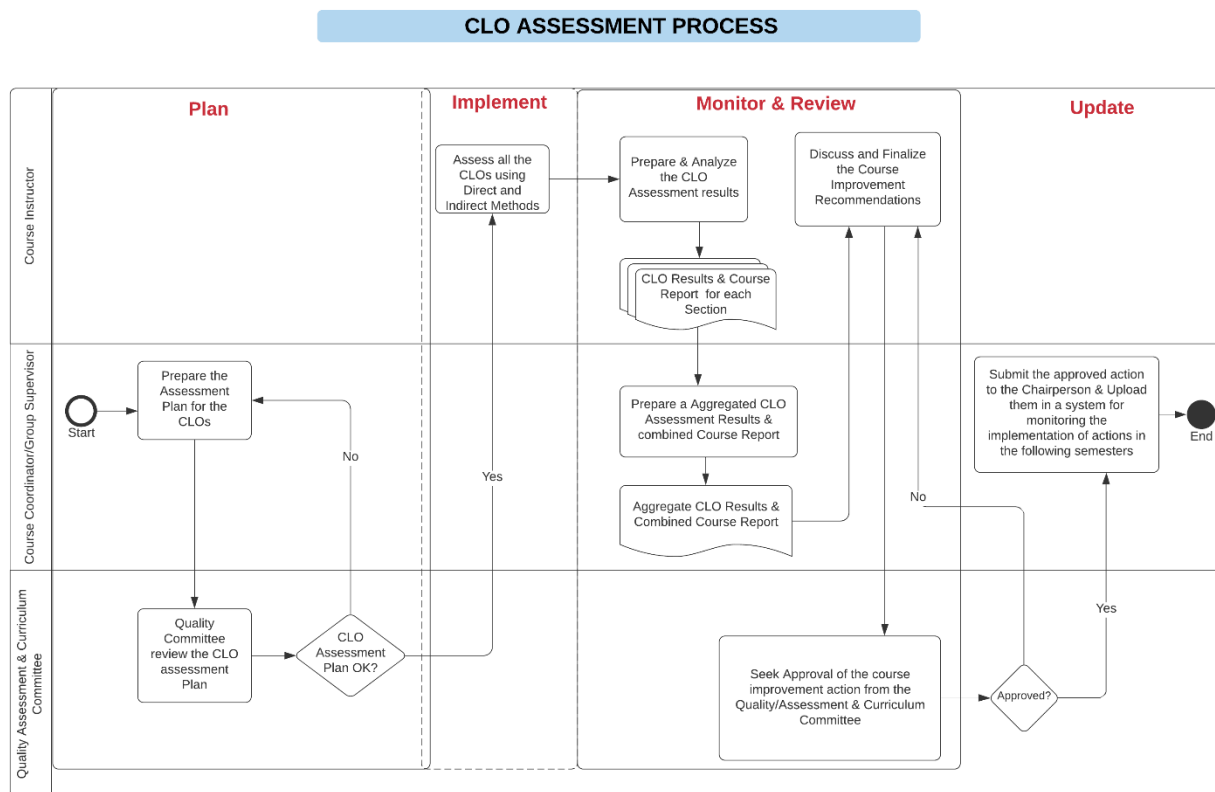


Figure 3: CLO Assessment Process

Table 1 highlights what is expected based upon the PIMRU cycle (Planning, Implementing, Monitoring, Reviewing, and Updating).

Table 1: The CLO Assessment Process and Reporting Requirements

The CLO Assessment Process and Reporting Requirements			
Plan and Implement	Documents Required	Timeline	Responsibility
1. Develop/Update CLOs in alignment with the PLOs and NQF Learning Areas	Course specifications (and review for currency before planning)	Beginning of an	Course Coordinator

2. Develop/Update mapping of CLOs with the PLOs	PLO-CLO Matrix	Beginning of an academic year or semester	Course Coordinator
3. Design Assessment timeline, instruments, and measures (establish targets)	Course Assessment Plan	Beginning of an academic year or semester	Course Coordinator
Implement			
4. Collect Data	CLO assessment results (every semester) using approved templates.	During academic semesters	Course Instructor & Coordinator
Monitor and Review			
5. Analyze and evaluate CLO assessment results	Analyze the CLO results and make recommendations for continuous improvement. Section D of the Course Report by the Course instructors & Coordinators	At the end of every academic semester	Course Instructor & Coordinator
6. Share Results	Department Chairperson, Council, and/or appropriate Department Committee	Meetings with the Course Coordinators for CLO results at the end of every academic semester	Course Coordinator
Update			
7. Make necessary updates (minor or major) in the course	Approvals from the appropriate entities	Beginning of an academic semester	Department in coordination with the appropriate entities

8. Reflect and begin again	Update Course Specification. Update course syllabi based on the revised course specifications.	Beginning of an academic semester	Department in coordination with the appropriate entities
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2. Types of Instruments Used in CLO Assessment.

a. Direct Assessment

The differentiated assessment instruments/strategies used for CLO assessment using direct methods are midterm or final exams, course portfolios, long and short essays, logbooks, analytical reports, individual and group presentations, posters, journals, case studies, lab manuals, video analysis, group reports, lab reports, debates, speeches, learning logs, peer evaluations, self-evaluations, videos, graphs, dramatic performances, tables, demonstrations, graphic organizers, discussion forums, interviews, learning contracts, anecdotal notes, artwork, KWL charts(pre-reading strategy), and concept mapping.

b. Indirect Assessment

Students self-assess the course they are enrolled for and provide an indirect measure of what students have learned in the classrooms. The Program emphasizes the students' feedback about the satisfaction in achieving the learning outcomes at the course level by administering the course exit survey.

At the end of each semester, students are required to provide feedback on their learning satisfaction in a course. The surveys are conducted on the Moodle Learning Management System and use a 5-point Likert scale of Fully Satisfied, Adequately Satisfied, Somewhat Satisfied, Barely Satisfied, and Not Satisfied. The questions in this survey are directly aligned to the course learning outcomes of a course. The CLO results accumulated from these surveys are computed for each course.

The course learning outcomes results using an exit survey for core courses are aggregated for computing the PLO results based on CLO-PLO mapping. This is one of the ways of measuring PLO using indirect methods.

3. Develop Rubrics for CLO Assessment

Step 1: Select the CLO for assessment. Identify the characteristics/dimensions to be rated (rows)in the CLO.

Step 2: Identify the four levels of mastery/scale (columns)
0-Below expectations

- 1- Developing Expectations
- 2- Meeting Expectations
- 3- Above Expectations

Step 3: Describe each level of mastery for each characteristic/dimension (cells).

- Describe the best work you could expect using these characteristics. This describes the **top category (Above Expectation)**.
- Describe an unacceptable product. This describes the **lowest category (Below Expectation)**.
- Develop descriptions of intermediate-level products for **intermediate categories (Developing and Meeting Expectations)**.

Important: Each description and each characteristic should be mutually exclusive.

Step 4: Test rubric. Apply the rubric to an appropriate assessment e.g., assignment, exam question, etc.

Step 5: Calculate the CLO result in one course-section and compare it with the attainment level e.g., 75% of the students must score 3. In other words, 75% of students must meet expectations or exceed expectations. If CLO assessment results fall short, action will need to be taken for improvement.

Step 6: Share and discuss the CLO results with the course coordinator. Review improvement actions and revise.

Step 7: The course Coordinator will compute the aggregated CLO results for the entire course based on the section-CLO results.

Important: Rubrics promote shared expectations and consistent grading practices which benefit faculty members and students in the program.

4. Semesterly Assessment Cycle Reflection

The course learning outcome results obtained using direct and indirect methods are recorded and analyzed in Section D of the section course reports and also shared with the Course Coordinator for compiling the aggregated Course Learning Outcome results based on all the course section CLO results.

The aggregated CLO results are also shared with the Program Assessment Coordinator or Institutional Assessment Coordinator for the department, in case the course is selected for a PLO assessment.

A report should be prepared and shared with the TLCDQAD to monitor learning outcome achievement across the campus after the completion of each academic year.

5. Templates for CLO Assessment Report

a. Sample Rubric to assess Course Learning Outcomes Template

Rubric for assessing the Course Learning Outcomes of [insert course code]: [insert course name] – Prince Sultan University

Program Learning Outcomes [insert which PLO] have been chosen for assessment purpose in the [insert name of direct or indirect assessment and academic semester]:

[Insert the complete PLO here]

The description of identifiable characteristics required to meet the course learning outcome, which would reflect the student's learning as: below expectations, developing expectations, meeting expectations, and exceeding expectations, have been included in the assessment rubric.

Table 2: Course Learning Outcome Rubric Template

Course Learning Outcome	Below Expectations 0	Developing Expectations 1	Meets Expectation 2	Exceeds Expectation 3	Score
<u>[insert the CLO being assessed here]</u>	[insert performance criteria here]	[insert performance criteria here]	[insert performance criteria here]	[insert performance criteria here]	
<u>[insert the CLO being assessed here]</u>	[insert performance criteria here]	[insert performance criteria here]	[insert performance criteria here]	[insert performance criteria here]	

b. Template for Course Learning Outcome Survey

Table 3: Course Learning Outcome Exit Survey Template

**Prince Sultan University
College of XXXXX
Program XXXXX
Course Exit Survey Template**

Course:	Instructor:					
Rate the contribution of this course to increase the ability to do the following from 1 to 5, where:						
CLO	SCALE	Fully Satisfied	Adequately Satisfied	Somewhat Satisfied	Barely Satisfied	Not Satisfied
	Course Learning Outcome	5	4	3	2	1
Knowledge and Understanding:						
1	I am able to {for each CLO add this statement}					
2						
Skills:						
1						
2						
Values:						
1						

Please add several open-ended questions to the Course Exit Survey, such as:

What about the course do you feel helped to support your learning?

In your opinion, how has the feedback provided in the course helped you to achieve the learning outcomes of the course?

Note: additional questions can be added that are course-specific about a teaching strategy used or a specific assessment used. These data will help support the analysis of the Course reports.

c. Semesterly Course Assessment Report

Table 4: Course Learning Outcome Assessment Report Template

Course Learning Outcomes (CLOs)	PLOs Code	Assessment Methods	Assessment Results		Comment on Assessment Results
			Target Level/ Criterion for Success	Actual Level	
1	Knowledge:				
1.1					
1.2					
2	Skills:				
2.1					
2.2				
3	Values:				
3.1					
3.2	...				

d. Course Assessment Cycle Reflection

Table 5: Action Plan for Next Semester/Year

Recommendations for CLO Results Improvement	Actions	Responsibility For Implementation	Time		Needed Support
			Start	End	
1.					
2.					

Section III

Program Learning Outcomes Assessment

Introduction: Outcome-based education is the core of the teaching and learning framework (TLQF) at PSU. Institutional mission, goals, and stakeholder interests (employers, students, etc.) drive the preparation of Program Learning Outcomes (PLOs) for all PSU programs.

Program Learning Outcomes (PLOs) describe what students are expected to be able to do at or near the time of graduation. The ultimate goal of learning outcomes assessment is to improve student learning. Learning outcomes assessment intends to improve student learning through evidence-based program review.

The PLOs describe detailed aspects of the program goals. PLOs must be cognitively appropriate to the degree's level; for example, the PLOs for master's programs should reflect higher-order cognitive skills more than those for baccalaureate programs. Program learning outcomes should represent the collective agreement of program faculty concerning:

- What students will learn instead of what they will be taught What students will demonstrate, represent, or produce because of their learning in their program
- How knowledge and skills of the discipline are used and applied Essential qualities of individuals who work in the discipline (Jonson, 2006)

The PLOs are published on the department website and in the university bulletin. The Program Specifications include the program map, which shows the mapping of courses offered with the domains of learning as required by the National Qualifications Framework (NQF). Through the defined set of program learning outcomes, the knowledge, skills, and attributes acquired through programs are clearly laid out to prospective students. Employers can, therefore, have a clear picture of the unique characteristics or attributes of PSU's students graduating from each of its programs.

The following are the requirements before finalizing the PLOs.

Consistent with the institution's mission: The PLOs should reflect pertinent parts of PSU, college, and department's mission statement and long-range plans.

Consistent with the needs of key constituencies: The PLOs should address the concerns of the major stakeholders in the program, such as students, employers, industry advisory boards, etc.

Comprehensive: The PLOs should be broad and overarching, providing a vision for the whole program.

Consistent with the needs of national and international accreditation bodies: The PLOs should be compatible with the language of national and international accreditation bodies such as NCAAA, ABET, NAAB, CIDA, etc.

Clearly defined: The PLOs should be delineated with enough detail to make their relevance to the program unmistakable.

Measurable: The PLOs should be written in a way that allows for qualitative and quantitative assessment.

Flexible: The PLOs should not narrow or unduly limit the program's possibilities but should be adaptable to future changes in constituencies' needs and the institution's mission.

Published: The PLOs should be made public, for example, placed on the program's website, included in brochures about the program, printed in newsletters sent to alumni and employers, and given to students upon entry into the program.

Section III - Program Learning Outcomes Assessment

The goal of learning outcomes assessment is to improve student learning. Learning outcomes assessment intends to improve student learning through evidence-based program review—failing this, assessment becomes another meaningless bureaucratic chore.

1. Program Assessment Process Using PIMRU Model.

The various phases covered for Program Assessment Process following the PIMRU model are shown below:

Planning

1. Documenting your assessment plan will help you stay organized and on track while working on the assessments and later help you remember what you did. You must specify *who* does *what* & *when*. If responsibility is clearly defined, the tasks are much more likely to be completed.
2. The assessment plan should be prepared in which all the PLOs will be assessed using direct or indirect methods over a period of 2 to 4 years. Every year a subset of the full list of Program Learning Outcomes is required to be assessed.
3. The **Program Assessment Committee (PAC)** identifies the core courses to be used in assessing the selected program learning outcomes for the current year. The highly contributing or senior level courses to the selected PLO should be used for direct and indirect assessments. It is advisable to use mainly program core courses for assessing the program learning outcomes.
4. The Program Learning Outcomes should be aligned with the National Qualifications Framework (NQF), categorized under three learning domains (Knowledge & Understanding, Skills, and Values).
5. The PAC's program assessment plan should be submitted to the department chairperson and then subsequently to the Department Councils for approval.
6. Once approved by the College Council, the academic unit level academic assessment plans are raised to the **Program Assessment Committee** (the committee is composed of the members from the TLC or Quality committees in the program and college) for coordination and implementation.
7. Every academic semester, the courses that have been selected for PLO assessment will prepare a detailed course assessment plan mentioning what CLOs and assessment methods are being used to measure the selected PLOs. The CLOs which are highly contributing to the PLOs should be assessed.
8. The department council sets target benchmarks for direct and indirect assessment methods to refer to the Template for Planning Assessment of a program learning outcome.

Implementing:

1. The approved program assessment plan is implemented using direct (such as Rubrics) or indirect methods (using Course Exit Surveys/Program Exit Surveys).
2. Academic departments are free to make use of the appropriate tools and approaches to measure the learning outcomes based on an acceptable standard scale.
3. Actual benchmarks or Results from **direct assessment** of courses, e.g., rubrics are aggregated and analyzed according to the target benchmarks.
4. Actual benchmarks from the **indirect assessment**, e.g., survey questions from the institutional (PSU) surveys, are aggregated separately for each survey and analyzed according to the target benchmarks.
5. Another **indirect assessment method** used for assessing course learning outcomes is the course learning outcome survey.
6. At the end of every academic semester, the PAC instructors are required to submit the assessment results (separately for the direct and indirect results) for the PLOs selected for the assessment.
7. The PAC will also report all PLO results using direct and indirect methods in the academic year in accordance with the Assessment Report per NCAA regulations.

Reviewing (Auditing) and Updating (Closing the Loop):

Assessment Plans should incorporate a Review-Update cycle to illustrate the continuous improvement of the programs.

1. Based on the analysis done in the above step, PAC/QC will review and approve recommendations for program improvement or promotion of good practices in coordination with course groups or coordinators, Curriculum Committee, and the Department Chairpersons.
2. The recommendations for improvement and the collected assessment data mentioned in the annual program report will be reviewed and approved by the PAC/QC and subsequently by the department chairperson.
3. The program assessment results are also recorded in the annual program report and reported to DQAD for monitoring and feedback at the institutional level.
4. DQAD will follow an annual audit session where it will study the recommendations, summarize the issues, observations, and recommendations, and raise a report for major actions to the concerned parties.
5. The whole process is documented for accountability and review purposes.

Figure 4 shows the visual representation of the PLO assessment process's process flow based on the PIMRU cycle.

PLO Assessment Process

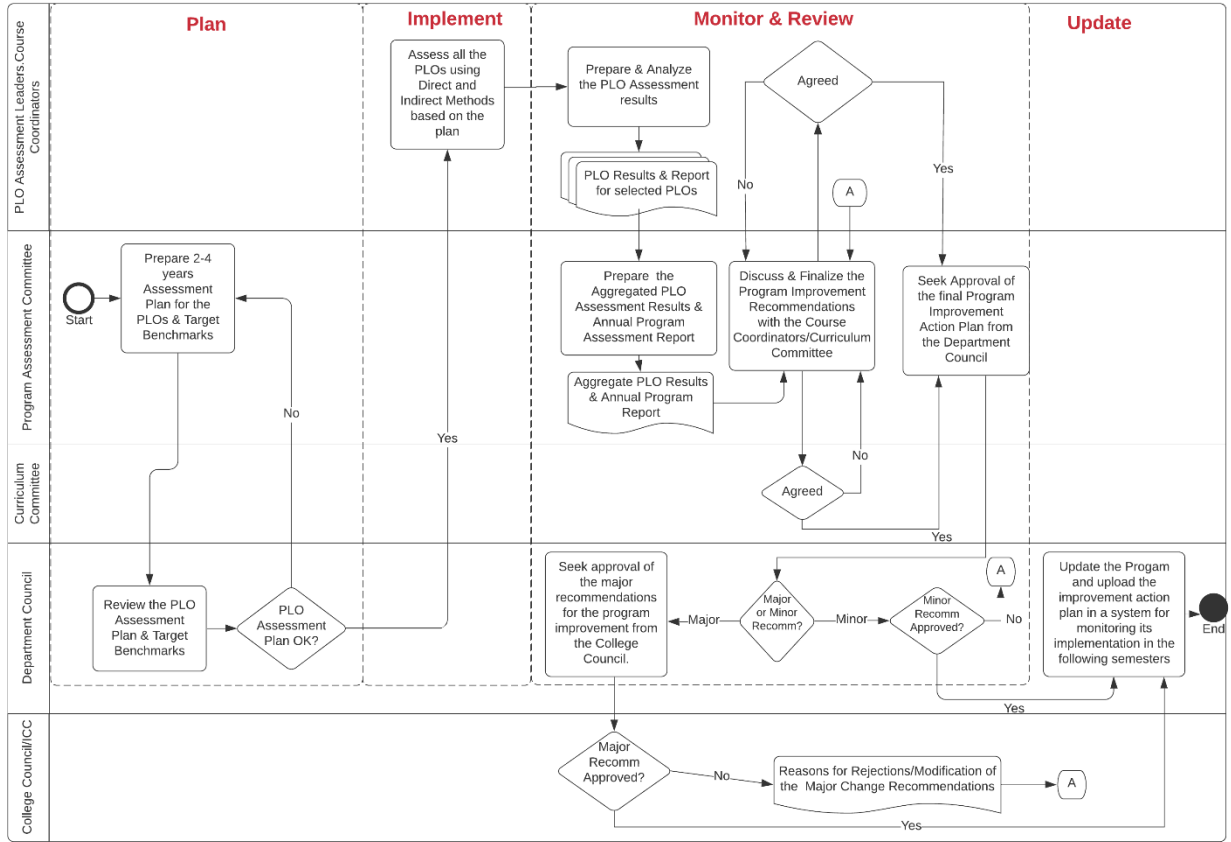


Figure 4: PLO Assessment Process

Table 6 below highlights what is expected based upon the PIMRU cycle (Planning, Implementing, Monitoring, Reviewing, and Updating).

Table 6: The PLO Assessment Process and Reporting Requirements

The PLO Assessment Process and Reporting Requirements			
Plan and Implement	Documents Required	Timeline	Responsibility
1. Develop/Update PLOs in alignment with the NQF learning areas	Program specifications (and review for currency before planning)	Beginning of an academic year or semester	Curriculum Committee & Department Chairs
2. Develop/Update mapping of PLOs with the Institutional Learning Outcomes	PLO-ILO Matrix	Beginning of an academic year or semester	Curriculum Committee & Department Chairs
3. Prepare a Curriculum map showing Course mapping with the PLOs	Curriculum Map	Beginning of an academic year or semester	Curriculum Committee & Department Chairs
4. Design assessment timeline, instruments, and measures (establish targets)	Program Assessment Plan	Beginning of an academic year or semester	PAC & Department Chairs
Implement			
5. Collect Data	PLO Assessment results (e semester) using approved templates.	During academic semesters	PAC
Monitor and Review			

6. Analyze and evaluate PLO assessment results	Analyze the PLO results and make recommendations for continuous improvement. Section B of the Annual Program Report by the PAC	At the end of every academic Year	PAC
7. Share results	Department Chairperson, Council, and/or appropriate Department Committee	Meetings with the Curriculum Committee, PAC, Course Coordinators for PLO results at the end of every academic Year	PAC
Update			
8. Make necessary updates (minor or major) in the program	Approvals from the appropriate entities	Beginning of an academic year	Department in coordination with the appropriate entities
9. Reflect and begin again	Update pProgram sSpecification. Updated course specifications based on the revised program specifications.	Beginning of an academic year	Department in coordination with the appropriate entities

2. Program Assessment Cycle

While programs are expected to engage in annual assessment cycles, it is not a requirement that every program learning outcome is assessed every year. As part of the assessment planning process, programs should identify a two- or four-year cycle.

Note: Programs with specialized international accreditations may be required by the accreditors to assess each outcome every year and must follow the accreditation standards.)

For example, if a program has seven program learning outcomes, PLOs 1 and 2 would be assessed in the first year of the cycle; PLOs 3, 4, and 5 would be assessed in the second year; and PLOs 6 and 7 would be assessed in the third year. The assessment cycle would then be repeated. Another example of an assessment cycle for a program with 8 PLO's has been shown in Table 7 [1] . Collecting data on the selected outcomes each year provides the opportunity for programs to analyze the assessment findings, plan, and implement programmatic enhancements prior to the next cycle of data collection for a particular outcome, refer to Table 7 to see the activity Plan for each Program Learning Outcome.

Table 7: Assessment cycle for 4 years (Example assessment plan)

Schedule of Assessment	Program Learning Outcomes							
	A	B	C	D	E	F	G	H
Semester 1	■	■						
Semester 2	■	■						
Semester 3			■	■				
Semester 4			■	■				
Semester 5					■	■		
Semester 6					■	■		
Semester 7							■	■
Semester 8							■	■

3. PLO Assessment Plan

a. Direct

1. Types of Courses Chosen for PLO Assessment

It is mandatory to use only the core courses for assessing the PLOs. In addition to that, it is preferable to use the courses at the mastery level for the assessment purpose.

2. Assessment Instrument Used for PLO Assessment

The questions used for the final or midterm exams, which are peer-reviewed by the exam committee, should be used for CLO and, in turn, PLO assessment. For the PLOs which cannot be assessed through the exams, such as communication or teamwork, other appropriate assessment instruments should be used such as group pProject, presentation, seminars, showcases, portfolios, etc.

b. Indirect

1. Questions Used in the Program Exit Survey

The specific questions numbered from 41-49 in the program exit survey can be used for assessing certain PLOs.

In other cases, the academic departments can administer a survey for the graduating students, which will allow COOP students to assess the satisfaction of the Program Learning Outcomes.

2. COOP Employer Feedback.

The COOP or training organization's feedback based on certain performance criteria can also be considered an indirect measure of assessing the PLOs.

4. Use of Curriculum Mapping in PLO Assessment

Once Program Learning Outcomes have been determined, they are ready to be mapped to the curriculum. A curriculum map is created as it can help in designing and communicating the coherence (the introductory, developing, and proficient or mastery levels) of the program. It can be thought of as a process of plotting the course of the students' learning journey.

A curriculum map identifies where the curriculum learning outcomes are addressed—what is taught, where, and how. Or, conversely, the mapping process may help you determine whether the curriculum and learning outcomes are aligned and may reveal gaps in the curriculum. When building the map, the curriculum and program assessment committee might discover:

1. that there are learning outcomes that are not being fully addressed (or addressed at all). It is important to note that based on the mapping, the program might need to consider refining either the outcomes, course design, curriculum, or a combination of three.
 2. when, where, and how to collect assessment data. There are most likely embedded assignments or activities that the curriculum and program assessment committee can sample to assess your outcomes.
 3. where changes for improvement can be made after assessment data is collected and analyzed by the curriculum and program assessment committee
- Curriculum Map:** a table or grid that documents at what complexity level the program learning outcome is achieved through courses. The Curriculum map helps the programs in aligning course contents, course learning outcomes, and assessment to the Program Learning outcomes. This may even reveal gaps in the curriculum, if any, and also helps in designing an assessment plan.

How is a curriculum map created?

Step 1: Faculty members begin with

- The program's intended student learning outcomes (PLOs),

- Recommended/ required and elective courses (including General Education courses if appropriate)
- Other required events/experiences (e.g., internships, coop, research, senior project)

Step 2: Create the "map" in the form of a table. Microsoft Excel tool can be used for this purpose.

Step 3: Enter an indicator of level for each PLO with the courses offered in a program. Enter a letter

- "I" (Introduction), which indicates that the students are introduced to the program learning outcome.
- "P" (Practiced), which indicates that program learning outcome is reinforced and students are provided several opportunities to practice the skills through tutorials, labs, case discussions, etc.
- "M" (Mastered), which indicates that students have had sufficient practice and can now demonstrate mastery skills in that program learning outcome.
- "A," which indicates evidence might be collected and evaluated for program-level assessment.

Step 4: Faculty members, especially the course coordinators, are involved in analyzing the curriculum map. They discuss and revise so that each PLO is introduced, reinforced/practiced, and then mastered(advanced).

Step 5: Since each is required to be assessed in an assessment cycle, each PLO should have at least one mapping of "A." This is important for indicating that evidence can be collected for the program-level assessment.

Note: It is important to note that every outcome is not assessed every semester. The timeline for assessing PLOs is indicated on the assessment plan.

An example of a curriculum map is located in the [Appendix-B Form 4/PSU Assessment](#)

5. Assessment Cycle Reflection (2-4 years Closing the Loop Report)

A full assessment cycle will take 2-4 years to complete in order to close the loop of student achievement (or learning) of the learning outcomes. Figure 5, describes the process of closing the loop at PSU at the program levels.



Figure 5: Closing the Loop

(Taken from the Applied Linguistics Program Assessment Plan at PSU)

Programs are required to prepare an annual report, section C of the Annual Program report, about their assessment findings. Section G refers to the action plans for any alterations that might be required to enhance teaching and learning and the status of action plans reported in previous assessment cycles. The department is expected to summarize the results of the two- or four-year assessment activity and take relevant actions as required to ensure the effectiveness of student learning at PSU. Departments report their assessment results in the APR to the TLC using the annual program report section G/C, Appendix [Form 2/PSU Assessment](#).

6. Templates for PLO Assessment Report

a. 2- 4 years Assessment Plan of PLOs Template

Table 8: Assessment Plan Template

Student Outcomes	AY20xx-20xx	AY20xx-20xx	AY20xx-20xx	AY20xx-20xx
PLO 1				
PLO 2				
PLO 3				
PLO 4				
PLO 5				
PLO 6				
PLO 7				

PLO 8				
PLO 9				
PLO 10				
PLO 11				

b. Rubric to assess the PLO Assessment Plan

TLC Program Assessment Plan Rubric

Program: _____ **Reviewer:** _____

Table 9: Rubric to Assess the Assessment Plan/Institutional

Assessment Plan Section	1	2	3	Total
<i>a. Program Goals</i>	Does not describe what the program intends to accomplish, how the program goals are related to the programs' mission, and purposes for assessment.	Somewhat describes what the program intends to accomplish, how the program goals are related to programs' mission, and purposes for assessment.	Clearly describes what the program intends to accomplish, how the program goals are related to the programs' mission, and purposes for assessment.	
<i>b. Learning Outcomes</i>	Does not describe what students must know, do, and value (PLOs and CLOs).	Somewhat describes what students must know, do, and value (PLOs and CLOs).	Clearly describes what students must know, do, and value (PLOs and CLOs).	
<i>c. Techniques and Target Groups</i>	Does not indicate how the faculty members will determine whether learning objectives have been met, including methods, target groups, and any impact on students.	Somewhat indicates how the faculty members will determine whether learning objectives have been met, including methods, target groups, and any impact on students.	Clearly indicates how the faculty members will determine whether learning objectives have been met, including methods, target groups, and any impact on students.	
<i>d. Timeline</i>	Does not indicate when data will be collected and analyzed, when reports will be available, and when recommendations will be made.	Somewhat indicates when data will be collected and analyzed when reports will be available, and when recommendations will be made.	Clearly indicates when data will be collected and analyzed when reports will be available, and when recommendations will be made.	
<i>e. Provisions for Administration</i>	Does not indicate who has responsibility for seeing the plan is carried out, who will conduct and analyze data, and who will summarize/report results.	Somewhat indicates who has responsibility for seeing the plan is carried out, who will conduct and analyze data, and who will summarize/report results.	Clearly indicates who has responsibility for seeing the plan is carried out, who will conduct and analyze data, and who will summarize/report results.	

<i>f. Use of Information</i>	Does not describe provisions for sharing information with internal and external audiences, and for making recommendations and decisions.	Somewhat describes provisions for sharing information with internal and external audiences, and for making recommendations and decisions.	Clearly describes provisions for sharing information with internal and external audiences, and for making recommendations and decisions.	
<i>g. Assessment Evaluation and closing the assessment cycle loop</i>	Does not indicate how the assessment program itself will be evaluated. Does not illustrate how the program will close the assessment cycle loop.	Somewhat indicates how the assessment program itself will be evaluated. Somewhat illustrates how the program will close the assessment cycle loop.	Clearly indicates how the assessment program itself will be evaluated. Illustrates how the program will close the assessment cycle loop.	
<i>h. Trend Analysis (if this is the second assessment cycle or beyond the trend analysis of the previous cycle needs to be included and illustrate how the data was used to generate the current assessment plan/cycle)</i>	No Trend Analysis included	Trend Analysis has been somewhat included.	Clearly illustrates trend analysis.	
			Total (Out of 24)	

Assessment Plan Evaluation:

Above 19	19 -15	Below 15
Acceptable	Somewhat Acceptable Please Revise	Not Acceptable Please Revise Significantly

Comments:

**c. Curriculum Mapping Template
Program Learning Outcomes Mapping Matrix**

Identify in table 10 below the courses that are required to achieve the program learning outcomes. According to the level of instruction, insert the program learning outcomes from the above table 10 below and indicate the courses and levels required to teach each one; use your Program's course numbers across the top and the following level scale.

Levels: I = Introduction P = Practiced M = Mastered

Table 10: Curriculum Mapping Template

Course code & No.	Program Learning Outcomes										
	Knowledge and Understanding				Skills				Values		
	K1	K2	K3	---	S1	S2	S3	---	V1	V2	----
Course ...											
Course ...											
Course ...											
Course ...											

Course													
Course													
Course													
Course													
Course													
Course													
Course													
Course													

d. Mapping Teaching Strategies and Assessment Methods Template (Form 6/PSU Assessment)

Table 11: Mapping of PLOs with Teaching Strategies and Assessment Methods

	NQF Learning Areas and PLO Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	Knowledge and Understanding		
1.1			
1.2			
2.0	Skills		
2.1			
2.2			
3.0	Values		
3.1			
3.2			

e. Level Assessment Map Template

Table 12: Mapping of Assessment Methods with Courses offered in a Program

Assessment Methods		Course Offering												
		A-100	A-101	A-102	A-103	A-104	A-105	A-106	A-107	A-108	A-109	A-110	A-111	A-112
1	Written Exams													
2	Presentation													
3	Class Discussion													
4	Project													
5	Report													

6	Research paper													
7	Poster													
8	Practical report													
9	Group Project													
10	Video Analysis													
	<i>Add rows for the assessment methods relevant to the program</i>													

f. CLO-PLO Mapping Template

**Table 13: Mapping of Course Learning Outcomes to Program Learning Outcomes
(Form 7/PSU Assessment)**

Program Learning Outcome Assessment											
Course Name											
Course Code1											
		PLO A	PLO B	PLO C	PLO D	PLO E	PLO F	PLO G	PLO H	PLO I	PLO J
Sr #	Course Learning Outcomes	A1	B1	C1	D1	E1	F1	G1	H1	i1	J1
1	Course Learning Outcome 1	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>
2	Course Learning Outcome 2	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>
3	Course Learning Outcome 3	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>
4	Course Learning Outcome 4	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>
5	Course Learning Outcome 5	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>
6	Course Learning Outcome 6	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>
7	Course Learning Outcome 7	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>
8	Course Learning Outcome 8	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>
Total Mapped Course Learning Outcomes		0	0	0	0	0	0	0	0	0	0
Contributed Program Learning Outcome		0	0	0	0	0	0	0	0	0	0

g. Annual Program Assessment Report Template

Table 14: Annual Program Learning Outcomes Assessment (from NCAA Annual Program Report, 2020, Template)

a) Program Learning Outcomes Assessment Results.

#	Program Learning Outcomes	Assessment Methods (Direct and Indirect)	Performance Target	Results
Knowledge and Understanding				
K1				
K2				
K3				
K#				
Skills				
S1				
S2				
S3				
S#				
Values				
V1				
V2				
V3				
V#				
Comments on the Program Learning Outcome Assessment results:				

* Include the results of measured learning outcomes during the year of the report according to the program plan for measuring learning outcomes.

** Attach a separate report on the program learning outcomes assessment results for male and female sections and for each branch (if any)

b) Analysis of Program Learning Outcomes Assessment

(including strengths, areas for improvement, and priorities for improvement)

Strengths:
Areas for Improvement:

Priorities for Improvement:

h. Evaluation of Program learning Outcome Assessment Results:
Table 15: Closing the Loop

Approved Actions implemented in AY 20xx-20xx for improving the Program Learning Outcomes	
Program Learning Outcome PLO #:	
Data collected for instrument	Achievement
PLO Results using Direct Method*	(xx out of 5)_%
PLO Results using Indirect Methods * Name the Direct or Indirect Method. Add more rows in case of assessment using more than two methods	(xx out of 5)_%
Approved Actions to be implemented in AY 20xx-20xx (Academic Terms xxx1 & xxx) Action #:	
Implementation Tasks:	
Status:	
Evidence:	

Note: Add rows for each PLO

We can also use a tabular format for Evaluation of the PLO Assessment Results:

[Evaluation of Assessment Results](#)

Section IV

Institutional Learning Outcomes

Section IV- Assessment of Institutional Learning Outcomes (ILOs) process at PSU

1. PSU's Core Competencies & ILOs

The Institution follows the target accreditation body (NCAAA) to create its Institutional Learning Outcomes [1] that are aligned with the Institution's mission statement and that has all Program Learning Outcomes and General Education Course Learning Outcomes aligned with them.

Core Competencies or Graduate Attributes and Institutional Learning Outcomes are the abilities and skills that students should develop by graduation as a result of their education regardless of their field(s) of academic study. Below you will find the core competencies or graduate attributes and institutional learning outcomes recommended for Prince Sultan University.

Table 16: Institutional Learning Outcome and NQF Learning Areas¹

Institutional Learning Outcome[1]		NQF Learning Domains
ILO 1	Knowledgeable: Our graduates demonstrate a comprehensive understanding of their academic studies through general education and their areas of specializations.	Knowledge & Understanding
ILO 2	Critical Thinkers: Our graduates are curious, reflective, and critical. Able to analyze the world to solve problems creatively using innovative solutions.	Skills
ILO 3	Leaders: Our graduates display and promote lifelong learning and seek to contribute to society. They have integrity, are prepped with entrepreneurship skills, open to ideas, and foster sustainable and accommodating practices.	Skills
ILO 4	Communicators & Team Players: Our graduates articulate ideas clearly to others in both oral and written forms, and know how to effectively work with others and in teams to accomplish a goal.	Skills
ILO 5	Digital Natives: Our graduates develop digital literacy skills and demonstrate proficiency encompassing a wide	Skills

	range of technological tools and strategies that enhances their ability to solve problems and resiliency.	
ILO 6	Socially Responsible & Ethical: Our graduates act responsibly in personal and professional relationships by engaging in the intellectual life of the university and as a member of the community in an ethical manner that reflects high moral standards.	Values

¹ References:

1. Cornell University: <http://learninggoals.cornell.edu/>
2. National Qualifications Framework, Version 3, October 2015 & the 2020 version.

The above emphasizes how PSU strives to provide graduates an education that will help them achieve these learning goals and outcomes. The role of assessment here is to determine how well these goals and outcomes are being achieved and to apply that knowledge to the continuous improvement of student learning.

2. ILO Assessment Process using PIMRU Model

The Institutional Learning Outcomes (ILO) should be aligned with the National Qualifications Framework (NQF), categorized under three domains of learning (Knowledge & Understanding, Skills, and Values).

The various phases covered under the PIMRU model for Institutional Learning Outcome Assessment Process are shown below:

Planning

1. Develop an ILO assessment plan, which helps the institution stay organized and on-track. It is very important to mention the entity responsible for ILO assessment and at the same time what and when ILO are assessed. If responsibility is clearly defined, the tasks are much more likely to be completed.
2. The **Institutional Assessment Committee (IAC)** verifies the mapping of PLO of all the academic and Preparatory Year Program courses offered at PSU with the ILOs.
3. The IAC also verifies the mapping of all general courses with the ILOs.
4. The **Institutional Assessment Committee (IAC)** identifies the general education courses to be used in assessing the selected Institutional learning outcomes for the current year. The relevant PLO results from each academic program, which are mapped to the ILOs being assessed are used which are obtained from direct and indirect assessments.
5. The Assessment Plan should be prepared in which all the ILOs will be assessed using direct or indirect methods over a period of 2 to 4 years. Every year a subset of the full list of ILOs is required to be assessed.

6. The DQAD council sets target benchmarks for ILO results which are obtained through direct and indirect assessment methods. Refer to the Template for Planning Assessment of an ILO.
7. The Institutional Assessment Plan should be submitted by the IAC to the TLC and then subsequently to the DQAD Council for approval.
8. Once approved by the DQAD Council, the Institutional Assessment Plan is raised to the **Institutional Assessment Committee** (the committee is composed of the members from the TLC or IQC/DQAD members) for coordination and implementation.
9. Every academic semester, the General Education courses that have been selected for ILO assessment will prepare a detailed course assessment plan mentioning what CLOs and assessment methods are being used to measure the selected PLOs. The CLOs which are highly contributing to the PLOs should be assessed.

Implementing:

1. The approved institutional assessment plan is implemented using direct (such as rubrics) or indirect methods (using course exit surveys/program exit surveys).
2. Academic departments are free to make use of the appropriate tools and approaches to measure the program learning outcomes based on an acceptable standard scale.
3. PLO Results obtained from direct assessment methods e.g., Rubrics, are aggregated and analyzed according to the target benchmarks.
4. CLO Results obtained from direct assessment of General Education courses, e.g., Rubrics, are aggregated and analyzed according to the target benchmarks.
5. Actual benchmarks from the indirect assessment, e.g., survey questions from the course exit surveys or institutional (PSU) surveys, are aggregated separately for each survey and analyzed according to the target benchmarks. Notably, items in each survey could have different target benchmarks.
6. Another indirect assessment method used for assessing course learning outcomes is the course learning outcome survey.

Reviewing (Auditing) and Updating (Closing the Loop):

Assessment Plans should incorporate a review-update cycle to illustrate the continuous improvement of the programs.

1. At the end of every academic semester, the IAC is required to report all ILO results using direct and indirect methods in the academic year in accordance with the Assessment Report per NCAAA regulations along with the deep analysis of each ILO assessed in that academic year. The actions are recommended for improving the ILOs.
2. Based on the analysis done in the above step, IAC/DQAD-TLC will review and approve recommendations for program improvement or promotion of good practices in coordination with IQC, ICC, and DQAD.

- The recommendations for improvement and the collected assessment data mentioned in the annual program report will be reviewed and approved by the IAC/DQAD-TLC and subsequently by the Dean DQAD.
- The ILO assessment results are also recorded in the institutional report and reported to DQAD-TLC for monitoring and feedback at the institutional level.
- DQAD follows an annual audit session where it will study the recommendations, summarize the issues, observations, and recommendations, and raise a report for major actions to the concerned parties.
- The whole process is documented for accountability and review purposes.

Figure 6 shows the visual representation of the process flow of the ILO Assessment Process based on the PIMRU cycle.

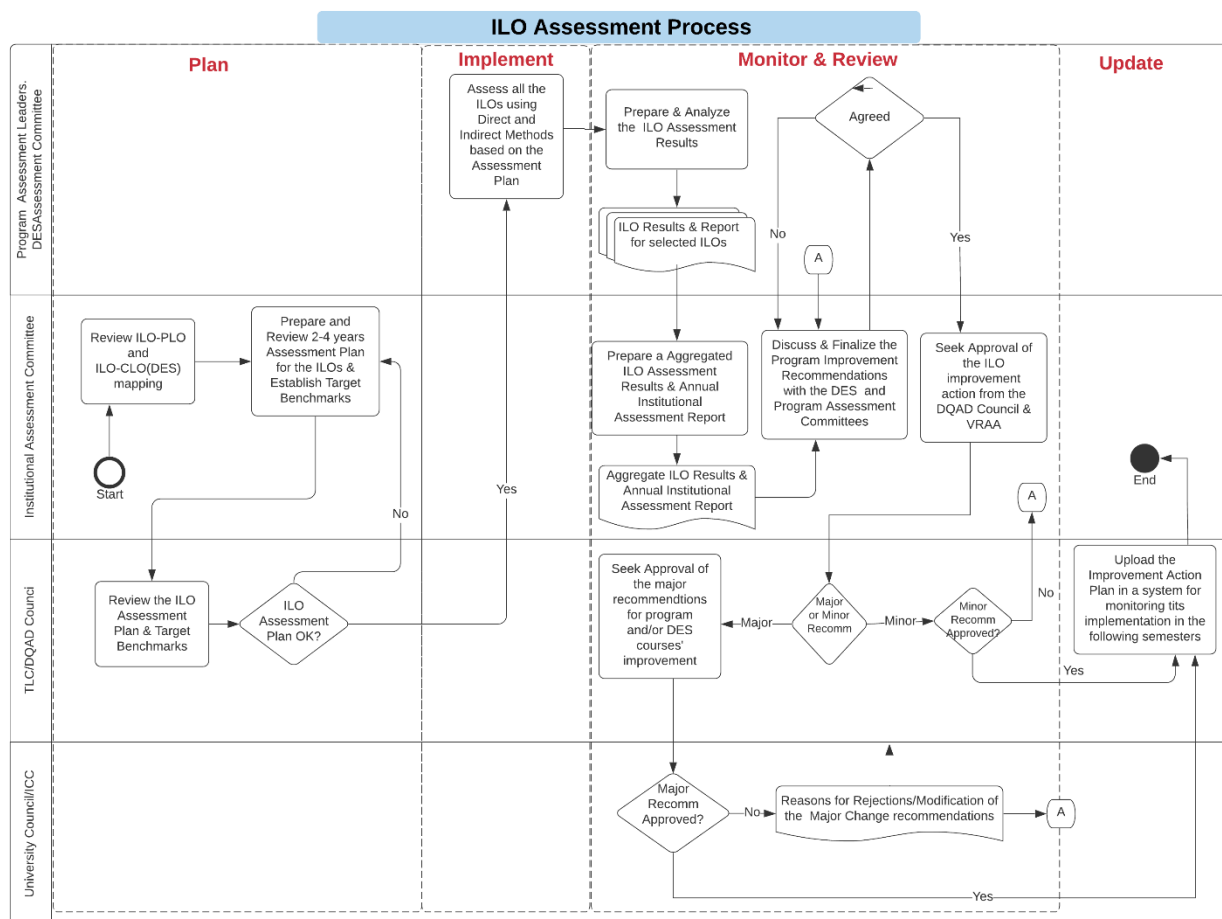


Figure 6: ILO Assessment Process

Table 17 below highlights what is expected for ILO assessment based upon the PIMRU cycle (Planning, Implementing, Monitoring, Reviewing, and Updating).

Table 17: ILO Assessment Process and Reporting Requirements

The ILO Assessment Process and Reporting Requirements			
Plan and Implement	Documents Required	Timeline	Responsibility
1. Develop/Update ILOs in alignment with the NQF Learning Areas	Approved ILOs (and review for currency before planning)	Beginning of an academic year or semester	ICC, IQC, DQAD-TLC
2. Develop/Update mapping of PLOs with the ILOs	Mapping of PLO with revised ILOs. Mapping of general education courses with ILOs.	Beginning of an academic year or semester	DES- Curriculum Committee & Department Chairs
3. Design ILO assessment timeline, instruments, and measures (establish targets)	Institutional Assessment Plan	Beginning of an academic year or semester	IAC & DQAD-TLC
Implement			
4. Collect PLO and CLO results mapped to the ILO being assessed	ILO Assessment Results (Every semester) using approved templates.	During academic semesters	IAC
Monitor and Review			
5. Analyze and evaluate ILO assessment results	Analyze the ILO results and make recommendations for continuous improvement.	At the end of every academic Year	IAC
6. Share results	Dean of the Colleges, VRAA, Rector's Office, IQC, IEQC	Meetings with the IEQC, IAC, IQC for the ILO results at	IAC

		the end of every academic Year	
Update			
7. Make necessary updates/improvements (minor or major) at the program or institutional level.	Approvals from the appropriate entities	Beginning of an academic Year	DQAD
8. Reflect and begin again	Update program specification. Update course specifications based on the revised program specifications.	Beginning of an academic year	DQAD in coordination with the appropriate entities

3. ILO Assessment Plan

The development of an Assessment Plan that allows all ILOs to be evaluated over 4 years should be created, monitored, and used for continuous improvement.

4. Types of Instruments Used for ILO Assessment

ILOs are to be assessed using both direct and indirect measurements via a specific rubric for each ILO. The direct and indirect results cannot be aggregated as they measure two different things.

Direct Measures: quizzes, exams, projects, assignments, etc.

Indirect Measures: Course exit survey or formative assessments collected from the College programs and the General Education courses.

5. Role of General Education Courses in ILO Assessment

Assessment of the General Education learning outcomes is coordinated through the Teaching and Learning Center and the concerned Centers within DQAD, in conjunction with the General Education Quality Coordinator and the General Education Curriculum Committee. Primarily, direct assessment of ILOs is conducted by faculty using faculty-developed shared rubrics (in case there is more than one section of the same course) to evaluate student achievement of the learning outcomes. Indirect assessments of the general education learning outcomes include the course learning outcome surveys and other institutional

surveys such as PES, CES, Alumni survey & Employer survey. Questions from these surveys are mapped to the ILO's.

Upon completing the programs, students will show evidence of learning regarding the core student competencies at PSU.

6. Role of PLO Assessment Results in ILO Assessment

The College programs map their program learning outcomes to the institutional learning outcomes, and these mappings are used to assess the percentage of student achievement of the learning outcomes. For the General Education courses offered at PSU across the Colleges and the Deanship of Educational Services, the course learning outcomes are mapped to the ILOs. These data are shared with the TLC and the concerned Centers within DQAD in order to assess the student achievement of the ILOs across the University.

7. Assessment Cycle Reflection (2-4 years Closing the Loop Report)

A full assessment cycle will take 2-4 years to complete in order to close the loop of student achievement (or learning) of the institutional learning outcomes.

The institution prepares a report every 4 years on the achievement of learning outcomes.

The university assessment committee reviews the annual assessment reports and provides feedback to the programs concerning assessment methods and the use of their findings. Each program must identify two assessment coordinators who will be responsible for developing, implementing, and maintaining the program assessment efforts, coordinating meetings with faculty to discuss assessment findings, and developing and monitoring the action plans. The committee works closely with the Departments that teach the General Education courses to develop, monitor, and review their assessment plan and communicate the findings to assessment coordinators from all colleges.

Templates for ILO Assessment Report

a. 2- 4 years Assessment Plan of ILOs Template

Table 18: Template for Planning Assessment at the program level

Points that need to be included in the assessment plan. The assessment plan needs to be submitted to the TLC prior to the assessment cycle for feedback.
Program Learning Outcome : (if any modifications to the PLOs explain the data used to modify the PLOs and provide justification for doing so)
Program Objective (optional)
Institutional Learning Outcome Mapping:
CLO to PLO mapping
Student Core competency
The Domain of Learning
List the courses which are assessed
Mapping to Program mission statement
Direct methods used for Assessment (Cover all three Domains)
Indirect methods used for Assessment (Cover all three Domains)
Note: Separate tables would be used to report benchmarks for direct & indirect methods of assessment.

b. ILO to PLO Mapping

The template used for ILO-PLO Mapping

Table 19: Mapping of Institutional Learning Outcomes(ILOs) with Student Outcomes(SOs)

LA	Course code & No.	Institutional Learning Outcomes										
		Knowledge and Understanding				Skills				Values		
		K1	K2	K3	---	S1	S2	S3	---	V1	V2	----
Knowledge and Understanding	PLO #											
	PLO #											
	PLO #											
	PLO #											
Skills	PLO #											
	PLO #											
	PLO #											
	PLO #											

Values	PLO #											
	PLO #											
	PLO #											

c. ILO to DES-Course Mapping

The template used for ILO-PLO Mapping

Table 20: Mapping of Institutional Learning Outcomes (ILOs) with DES Course Mapping

Course code & No.	Institutional Learning Outcomes										
	Knowledge and Understanding				Skills				Values		
	K1	K2	K3	---	S1	S2	S3	---	V1	V2	----
Course											
Course											
Course											
Course											
Course											
Course											
Course											
Course											
Course											
Course											
Course											
Course											

d. Annual ILO Assessment Report

Table 21: Institutional Assessment Report (Form 4/PSU Assessment)

(The DQAD assessment committee prepares this report at the institutional level)

Assessment Matrix
[College Name: Program name]
[Academic year]

Part I: Report on This Year's Assessment Project for the Institution

Where are the outcomes being assessed published? Mark all that apply.

	University Bulletin	Program Website	Course Syllabi	Program Documents	Other (list)
Institutional Learning Outcomes					
Program Learning Outcomes					
General Education Courses					

Institutional Learning Outcomes

Institutional Values	Institutional Learning Outcomes (ILOs)	Performance Indicators	Assessment Measurement Tools & Data Collection Cycles	Findings from Assessment Data Collection	Suggested Action Items (Based on Findings)	Who is responsible for the action?
To be reviewed with the third strategic plan	1. Disciplinary Knowledge					
	2. Critical Thinking					
	3. Self-Directed Learning					
	4. Communication Skills					
	5. Teamwork					
	6. Information Literacy					

	7.Social Responsibility					
	8.Moral & Ethical Awareness					
	9.Technology					
	10.Fitness & Health					

Based on your recommendations for improvement, please describe your plans for implementing your recommendations. Please explain:

- Your expected timeline for each of these actions
- Any potential barriers you see to implementing these actions

e. ILO Assessment Cycle Reflection

DQAD follow up on the last year's assessment report recommendations and planned actions as well as the ILO results.

Table 22: Closing the Loop at the Institutional Level

Approved Actions implemented in AY 20xx-20xx for improving the Institutional Learning Outcomes	
Program Learning Outcome ILO #:	
Data collected for instrument	Achievement
ILO Results using Direct Method*	(xx out of 5)_%
ILO Results using Indirect Methods * Name the Direct or Indirect Method. Add more rows in case of assessment using more than two methods	(xx out of 5)_%
Approved Actions to be implemented in AY 20xx-20xx (Academic Terms xxx1 & xxx) Action #: Implementation Tasks: Status: Evidence:	

Note: Add rows for each I

Section V

Guidelines

1. Institutional Support Provided to PSU Faculty

The Teaching and Learning Center provides workshops, disseminates assessment findings, and shares best practices in assessment at PSU. The centers from DQAD collaborate and support each other in reviewing the assessment findings for all academic programs, analyze and disseminate student performance data, provide recommendations for corrective actions, and take leadership to ensure the closing of the assessment loop.

2. Student Awareness of Assessment Activity and Privacy Issues

Students should be aware that their work may be used for assessment purposes. A syllabus statement regarding student work in an assessment provides an example of a statement that departments may want to use. The department informs students about its assessment work by incorporating the statement on select or all program courses.

Syllabus statement regarding the retention of student work

Notice: Copies of your coursework including any submitted papers and/or portfolios may be kept on file and reviewed for improvement of curriculum, teaching strategies, and assessment strategies.

3. How to write Learning Outcomes?

Good learning outcomes are focused on what the learner will know or be able to do by the end defined period of time and indicate how that knowledge or skill will be demonstrated.

Learning outcomes place emphasis on the learner and instructor by:

- Making it clear to students what is expected of them
- Making it clear to teachers what students are expected to learn in their course and other courses (pre-requisites)
- Helping instructors to select the most appropriate teaching strategy for the intended learning outcomes, e.g., lecture, seminar, tutorial, group work, discussion, student presentation, lab work
- Helping instructors select the most appropriate assessment style to assess the achievement of the learning outcomes, e.g., project, essay, performance assessment, multiple-choice questions, and end-of-term examination.

Four essential components of a measurable learning outcome are:

1. Student learning behaviors
2. Appropriate assessment methods
3. Specific student performance criteria for success
4. Begin with an active verb

Some Suggestions to write learning outcomes.

- The learning outcomes aligned with the mission, vision, and objectives of the program
- The outcomes must describe the behavior of the student rather than the teacher
- Try to use just one verb per learning outcome.
- Ensure that each learning outcome is acquirable.
- Avoid complicated sentences. If necessary, use more than one sentence for clarity. Bear in mind that a learning outcome does not need to be as specific as an assessment question.
- Aim for a maximum of six-eight learning outcomes per course as recommended by – ETEC-NCAAA.

4. Bloom's Taxonomy

It is recommended to use the revised Bloom's Taxonomy (Shrock, 2012) to select the action verbs that equal the desired outcome. It will also guide what assessment method is used and what teaching strategy will be used.

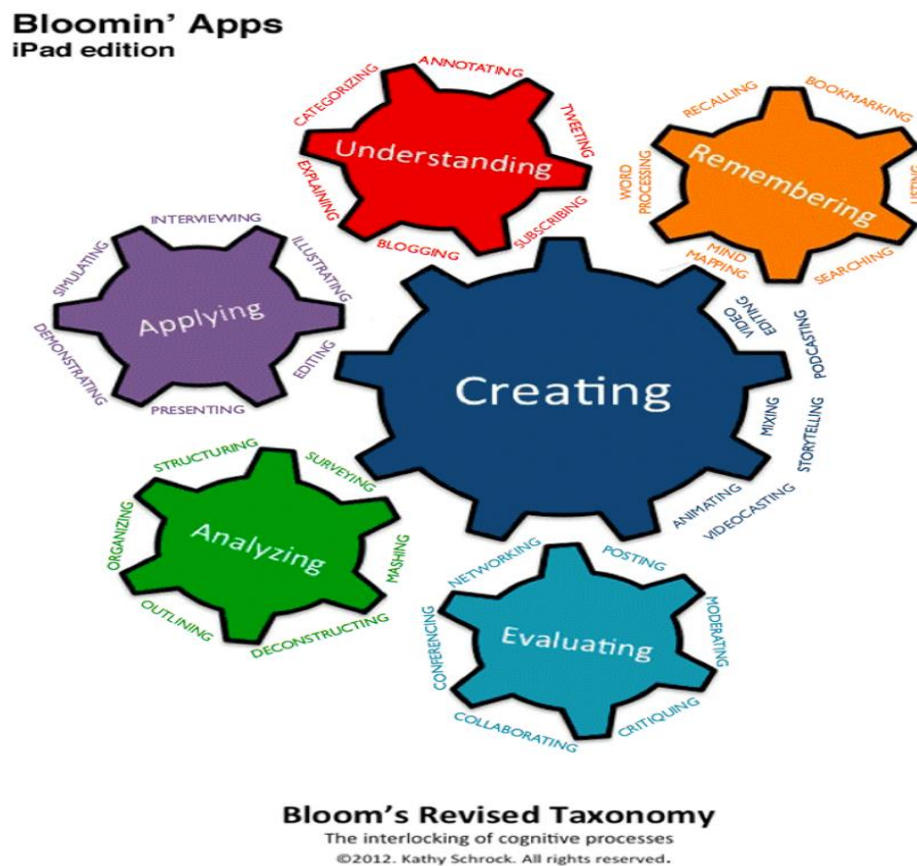


Figure 7: Bloom's Taxonomy Revised (Schrock, 2012)

When drafting learning outcomes try to avoid making them too wordy or too complex, make certain that they measure one skill at a time, they are specific enough, and they should describe learning outcomes and not the program outcomes.

Table 23: Example of Bloom’s Taxonomy

Level	Responds to the Question	Action Verbs
Remembering	Can the learner explain an idea/concept?	Identify, list, define, name, present, write, reproduce, repeat, match extract, organize
Understanding	Can the learner use the knowledge in a familiar context?	Interpret, exemplify, summarize, judge, reformulate, report, find, name classify, paraphrase, explain
Applying	Can the learner use knowledge in an unfamiliar context?	Apply, practice, resolve, select, explain, how, modify,
Analyzing	Can the learner identify the essential/important points?	Compare, contrast, examine, categorize, justify, breakdown
Evaluating	Can the learner make a justified assessment or conclusion?	Judge, conclude, compare, justify, interpret
Creating	Can the learner create new ideas, viewpoints, or products?	Design, devise, produce, develop, generate, derive

5. Rubrics

As is recommended by the quality framework of PSU, assessment of course learning outcomes needs to utilize rubrics. A rubric is a guide for evaluating student work along certain dimensions. Within the context of program assessment, the dimensions can be specific skills or aspects of a learning outcome. For each dimension, there are concrete descriptors for different levels of performance. Essentially a rubric takes professional judgments about qualities of student work and aligns them with a rating scale. Rubrics can be developed for virtually any student work product, performance, or behavior (e.g., written work, presentations, participation in discussions, etc.). For example:

Table 24: Example of Rubrics Using Direct Methods

Learning Outcome	Exceeds Expectation (EE) (3)	Meets Expectation (ME) (2)	Developing Expectation (DE) (1)	Below Expectation (BE) (0)
<i>Uses valid, accurate, and appropriate evidence to support arguments.</i>	Uses a variety of appropriate, effective, relevant evidence.	Evidence is appropriate and relevant.	Limited evidence provided.	Little or no evidence is provided.

The rubric used to assess a program learning outcome can be created by either an individual faculty member or a committee. Once created, the majority of the faculty in the program must agree that it captures the range of performance of the specific learning outcome.

Five steps for creating and applying rubric for program assessment:

- 1. Determine where the outcome is addressed in the curriculum and at what level you want to assess it.**

Example:

Outcome: Students will be able to give professional quality oral presentations.

- 2. Identify the work you will evaluate with the rubric (e.g., paper, presentation, and portfolio). The performance criteria will be shaped by the type of work you will be evaluating.**

Example: Student work product: Presentation of the senior research project.

- 3. Identify the component dimensions or skills of the learning outcome.**

The organization, idea development, draws appropriate conclusions and audience awareness are the skills involved in giving a professional quality oral presentation that we are interested in.

- 4. Create the descriptors for each component of the learning outcome.**

For each component, describe the best work you could expect. This describes the top category.

- *For 'draws appropriate conclusions:' Draws an appropriate conclusion and thoroughly and accurately explains why the conclusion is drawn.*
- Describe unacceptable work for this component. This describes the lowest category.
 - *Either draws no conclusion or draws an inappropriate conclusion.*

Determine the number of categories you will use, and then develop descriptions of intermediate-level work. Rubrics commonly use 3 (e.g., weak, satisfactory, strong) to 5 (e.g., unacceptable, marginal, acceptable, good, outstanding) categories; however, any number that is meaningful can be used.

- *TLC suggests using 4 categories: Exceeds Expectations, Meets Expectations, Develop Expectations, Below Expectations*
- *Pilot the rubric by applying it to samples of student work; then revise the rubric as needed to eliminate ambiguities. Consider asking faculty who were not involved in developing the rubric to pilot it for you as they may be more able to identify if there are any ambiguities in the rubric.*

5. Apply the rubric.

- Ideally, more than one rater would independently apply the rubric.
- Remember to consider each dimension of the rubric separately, being careful not to let a student's performance on one rubric element bias your impression of the whole work.
- Once you have applied the rubric, aggregate rubric scores across students for each outcome or skill on the rubric using frequencies or mean scores.
- If you had two or more individuals independently apply the rubric, you would first need to average their scores for each student on each dimension of the rubric.
- Present the data in a way that is user-friendly to your program's faculty. Then, discuss what the results mean for your program.
- A user-friendly presentation of rubric data can mean putting it into a table, a graph, or a paragraph—whatever makes the most sense for you and your discipline.
- It is very helpful to have a criterion or standard of success in mind when you start the discussion of results. For example, you might say that the average score must be above a 3 on a 4-point scale, or you might say that 75% of your students must fall in the 'Exceeding Expectation' range of your rubric.

Sample Rubric to Assess Course Learning Outcomes

Rubric for Assessing the Course Learning Outcomes

ELAN 335 Discourse Analysis

Program Learning Outcomes () has been chosen for assessment purposes in (XXX):

The description of identifiable characteristics required to meet the course learning outcome which would reflect the performance of the student rated as: below expectations, developing expectations, meeting expectations and exceeding expectations have been included in the assessment rubric.

All CLOs were assessed using the following direct measures and indirect measures: Direct: Research paper, Oral Presentation, and Final Exam; Indirect: Reading Buddies, Rough draft feedback, and Course Exit Survey

Course Learning Outcome	Below Expectations 0	Developing Expectations 1	Meets Expectation 2	Accomplished Expectation 3	Score
Recognize the different interpretations of discourse across the social sciences.	Not able to recognize the different interpretations of discourse across the social sciences.	Partially able to recognize the different interpretations of discourse across the social sciences.	Able to recognize the different interpretations of discourse across the social sciences.	Able to fully recognize the different interpretations of discourse across the social sciences.	
Distinguish the ways in which discourse practices vary across social, cultural and linguistic boundaries, and how this impacts within local and global contexts.	Not able to distinguish the ways in which discourse practices vary across social, cultural and linguistic boundaries and the implications for both local and global contexts.	Partially able to distinguish the ways in which discourse practices vary across social, cultural and linguistic boundaries and the implications for both local and global contexts.	Able to distinguish the ways in which discourse practices vary across social, cultural and linguistic boundaries and the implications for both local and global contexts.	Able to fully distinguish the ways in which discourse practices vary across social, cultural and linguistic boundaries and the implications for both local and global contexts.	
Apply the different tools of analysis utilized specifically	Not able to apply the different tools of analysis utilized specifically within	Partially able to apply the different tools of analysis utilized specifically	Able to apply the different tools of analysis utilized specifically	Able to fully apply the different tools of analysis utilized	

within Linguistics for discourse analysis.	Linguistics for discourse analysis.	within Linguistics for discourse analysis.	within Linguistics for discourse analysis.	specifically within Linguistics for discourse analysis.	
Critically evaluate written materials in the field of discourse and discourse analysis	Not able to illustrate the ability to critically evaluate written materials in the field of discourse and discourse analysis	Partially able to illustrate the ability critically evaluate written materials in the field of discourse and discourse analysis	Able to illustrate the ability critically evaluate written materials in the field of discourse and discourse analysis	Able to fully illustrate the ability to critically evaluate written materials in the field of discourse and discourse analysis	
Integrate tools from linguistics and also social theory as a key method in discourse analysis.	Was not able to demonstrate integration of tools from linguistics and also social theory as a key method in discourse analysis.	Was partially able to demonstrate integration of tools from linguistics and also social theory as a key method in discourse analysis.	Was able to demonstrate integration of tools from linguistics and also social theory as a key method in discourse analysis.	Was able to fully demonstrate integration of tools from linguistics and also social theory as a key method in discourse analysis.	
Demonstrate interpersonal skills that can be applied in other university courses and in professional and personal contexts beyond the university.	Was not able to demonstrate interpersonal skills via group work activities in class and online.	Was able to partially demonstrate interpersonal skills via group work activities in class and online.	Was able to demonstrate interpersonal skills via group work activities in class and online.	Was able to fully demonstrate interpersonal skills via group work activities in class and online.	
Produce a research paper that demonstrates their knowledge of	Not able to produce a research paper that illustrates their knowledge of discourse analysis	Produced a research paper that partially illustrated their knowledge of discourse	Produced a research paper that illustrated their knowledge of discourse	Successfully produced a research paper that fully illustrated their	

Discourse Analysis using a topic of their choice.	using a topic of their choice.	analysis using a topic of their choice.	analysis using a topic of their choice.	knowledge of discourse analysis using a topic of their choice.	
Defend their research paper in an oral presentation	Not able to defend their research paper in an oral presentation or did not give a presentation.	Partially able to defend their research paper in an oral presentation and partially demonstrated their knowledge of how to give a presentation.	Able to defend their research paper in an oral presentation and demonstrate their knowledge of how to give a presentation.	Able to defend their research paper fully in an oral presentation and demonstrate their knowledge of how to give a presentation.	

6. Mapping Teaching Strategies and Assessment

When designing a course according to the backwards design approach and OBE, both the assessments and teaching strategies are to be linked back to the learning outcome. The learning outcomes are at the center, and they offer teachers the flexibility to structure both the learning experience and the evaluative tools used to gauge students' progress, so that they align appropriately with the course content, and so that they foster desirable learning outcomes. This means that we start with the learning outcome, develop our method of assessment that is aligned with the learning outcome, and the teaching strategy is aligned with the assessment method and the learning outcome.

During the course design process, the content should be distilled and prioritized. The learning outcomes will become underlying themes which thread the course together. Backward course design will allow you to create a road map: where are we now and where are we headed?

When students understand the course goals, they can then understand how each assignment will help them work towards these. Students will be able to see the road map of the course and identify the relevance of each activity, exam, quiz, or assignment.

Table 25 below is an example to help illustrate this point.

**Table 25: Linking Assessments, Learning Outcomes, and Teaching Strategies:
Humanities Example**

<i>Bloom's Taxonomy hierarchy</i>	<i>Sample Learning Outcomes</i>	<i>Sample Assessment/Activity</i>	<i>Sample Instructional Strategy</i>
Apply	Apply basic applied linguistic theories to current controversies in language use in society	Students work in groups to create a poster board presentation and present their topic of choice, explaining how it relates to a applied linguistic theory	Instructor asks students to form groups. Then, each group is assigned a different applied linguistic theory and answers questions relating to their respective theories. Students then form new groups with people from other topics and teach each other the theories

7. Mapping Course Learning Outcomes to Program Learning Outcomes

A learning outcome is a clear and specific statement that identifies what students must demonstrate at the level and standard required to successfully pass their study at program and course levels. All courses within academic programs are to map the course learning outcomes to the program learning outcomes.

CLO-PLO mapping facilitates the alignment of course learning outcomes with program learning outcomes. It allows faculty to create a visual map of a program. It is also used to explore how students are meeting program learning outcomes at the course level by identifying how required courses contribute to achievement of program outcomes mapping

focused on student learning. It also helps in revealing gaps in the curriculum or prompt reexamination of outcomes.

The process of CLO-PLO mapping involves the following steps:

- a. Align the CLOs and PLOs according to the learning domains provided by NCAAA (Knowledge & Understanding, Skills, and Values).
- b. A CLO mapped to a PLO should belong to the same learning domain.
- c. Not every CLO will support or align with a PLO.
- d. Each CLO should align with a minimum of one PLO.
- e. Use the CLO-PLO map/matrix to identify where to collect artifacts (assignments, activities, exams, projects, etc.) that demonstrate achievement of program outcomes.
- f. Publish the CLO-PLO map/matrix and distribute to all faculty.
- g. Reduce or revise CLOs that don't support PLOs.

CLO-PLO Mapping Template

Table 26: Mapping of Course Learning Outcomes to Program Learning Outcomes (Form 7/PSU Assessment)

Program Learning Outcome Assessment											
Course Name											
Course Code1											
Sr #	Course Learning Outcomes	PLO A	PLO B	PLO C	PLO D	PLO E	PLO F	PLO G	PLO H	PLO I	PLO J
		A1	B1	C1	D1	E1	F1	G1	H1	i1	J1
1	Course Learning Outcome 1	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>
2	Course Learning Outcome 2	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>
3	Course Learning Outcome 3	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>
4	Course Learning Outcome 4	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>
5	Course Learning Outcome 5	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>
6	Course Learning Outcome 6	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>
7	Course Learning Outcome 7	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>
8	Course Learning Outcome 8	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>	NA <input type="checkbox"/>
Total Mapped Course Learning Outcomes		0	0	0	0	0	0	0	0	0	0
Contributed Program Learning Outcome		0	0	0	0	0	0	0	0	0	0

8. How to prepare the CLO Assessment Report?

According to NCAAA guidelines and Course Report template, all CLOs are to be assessed each semester. The preparation of the CLO assessment section in the Course report should follow these steps:

- a. Preparation of a rubric for each CLO
- b. Alignment of the assessments to the CLOs
- c. Choosing the assessment(s) that will be used in the assessment report
- d. Collecting both direct and indirect measures
- e. Provide analysis of the results
- f. Speak about the areas of strength and areas of improvement
- g. Provide recommendations for actions to be taken based on the results if necessary

9. How to prepare the PLO Assessment Report?

According to NCAAA guidelines and Annual Program Report template, all PLOs are to be assessed each semester. The preparation of the PLO assessment section in the Annual Program Report should follow these steps:

- a. Preparation of a rubric for each PLO
- b. Alignment of the assessments to the PLOs
- c. Choosing the assessment(s) that will be used in the assessment report
- d. Collecting both direct and indirect measures
- e. Provide analysis of the results
- f. Speak about the areas of strength and areas of improvement
- g. Provide recommendations for actions to be taken based on the results if necessary

10. How to prepare the ILO Assessment Report?

According to NCAAA guidelines and the ILO report template, all ILOs are to be assessed each semester. The preparation of the ILO assessment section in the ILO report should follow these steps:

- a. Preparation of a rubric for each ILO
- b. Alignment of the assessments to the ILOs
- c. Choosing the assessment(s) that will be used in the assessment report
- d. Collecting both direct and indirect measures
- e. Provide analysis of the results
- f. Speak about the areas of strength and areas of improvement
- g. Provide recommendations for actions to be taken based on the results if necessary

NCAAA Institutional and Program Standards

Institutional Standards:

3.1 Design and Development of Academic Programs

3.1.3

The institution ensures that its academic programs at all levels meet the standards and requirements of the National Qualifications Framework (NQF).

3.1.4

The institution applies a clear and approved strategy for teaching, learning, and assessment that defines its philosophy and ensures the accomplishment of its educational goals and learning outcomes of its programs.

3.1.5

The institution implements clear and published regulations, policies and procedures governing all aspects of assessment (e.g. test specifications and grade distributions).

3.1.6

The institution applies effective mechanisms to verify that programs meet academic and professional standards and to ensure the proper sequencing and integration of program courses in achieving program learning outcomes.

3.2 Graduate Attributes and Learning Outcomes

3.2.1

The institution defines its general graduate attributes that derive learning outcomes at the institutional level, which are consistent with its mission, educational goals, development requirements and labor market, and are approved and publicized.

3.2.2

The institution ensures that the graduate attributes are identified for each program, and that these attributes are in line with the institutional graduate attributes, the program mission, the discipline and professional standards, and the needs of the labor market.

3.2.3

The institution ensures that academic programs have identified student learning outcomes that integrate graduate attributes, meet the expectations of stakeholders within and outside the institution, and are aligned with the requirements of the National Qualifications Framework (NQF).

3.2.4

The institution ensures that its graduates achieve targeted attributes through variety of appropriate assessment mechanisms

3.3 Academic Programs Quality Assurance and Enhancement

3.3.1

The institution has clear policies and procedures for reviewing, assessing, and improving the academic programs and courses, and for the quality assurance of teaching and learning in all sites and in different modes of learning (e.g., blended learning and distance learning), including the identification of related responsibilities and authorities at all levels.

3.3.2

The institution applies periodic procedures to ensure the quality of the educational process, including the review of the annual reports of all programs by specialized committees at the level of the programs, colleges and institution; and the institution takes appropriate actions for enhancement and development.

3.3.3

The institution applies systems and procedures to monitor and assess the extent to which graduate attributes and intended learning outcomes at all levels are achieved.

3.3.4

The institution conducts periodic comprehensive evaluation for the programs (e.g., once every three years), and prepares reports on the overall level of quality of the programs, with identification of points of strength and weakness, and significant levels of quality discrepancies among programs, departments, and units.

3.3.5

The institution provides the programs and the teaching staff with the necessary data for assessment processes and preparation of reports (e.g., performance indicators data for each program or branch separately, the progress of students in the programs, their completion rates, student evaluations of courses and programs).

3.3.9

The institution adopts mechanisms for the independent verification of the validity and objectivity of assessment of student achievement.

Programs Standards:

3-1 Graduate Attributes and Learning Outcomes

3-1-1

The program identifies its graduate attributes and intended learning outcomes that are consistent with its mission, and aligned with the graduate attributes at the institutional level; and they are approved, publicly disclosed, and periodically reviewed.

3-1-2

The graduate attributes and learning outcomes are consistent with the requirements of the National Qualifications Framework (NQF) and with academic, professional, and labor market requirements.

3-1-3

The program identifies the learning outcomes for the different tracks (if any).

3-1-4

The program applies appropriate mechanisms and tools for measuring the graduate attributes and learning outcomes, and verifying their achievement according to specific performance levels and assessment plans.

3-2 Curriculum

3-2-6

The curriculum includes integrated curricular and extracurricular activities that contribute to the achievement of the program learning outcomes.

3-2-8

Teaching and learning strategies and assessment methods are aligned with the intended learning outcomes at the program and course levels.

3-2-10

Teaching and learning strategies and assessment methods in the program vary according to its nature and level, enhance the ability to conduct research, and ensure students' acquisition of higher cognitive thinking and self-learning skills.

3-2-11

The learning outcomes of the field experience activities are aligned with the learning outcomes of the program; and appropriate strategies for training, assessment, and training venues are identified in order to achieve these outcomes.

3-2-12

Both the program field-experience supervisor and the field supervisor are informed with the intended learning outcomes and the nature of the tasks entrusted to each of them (supervision, follow-up, student assessment, evaluation and development of field experience); and their commitment is followed up according to specific mechanisms.

3-3 Quality of Teaching and Students' Assessment

3-3-1

The program monitors the commitment of the teaching staff to the learning and teaching strategies and assessment methods included in the program and course specifications through specific mechanisms.

3-3-2

The necessary training is provided for the teaching staff on learning and teaching strategies and assessment methods identified in the program and course specifications, along with the effective use of modern and advanced technology; and their use is monitored.

3-3-3

At the beginning of each course, students are provided with comprehensive information about the course, including learning outcomes, teaching and learning strategies, and assessment methods and dates, as well as what is expected from them during the study of the course.

3-3-4

The courses are periodically evaluated for ensuring the effectiveness of the teaching and learning strategies and assessment methods, and reports are prepared on them.

3-3-6

The program implements clear and publicized procedures to verify the quality and validity of the assessment methods (e.g., their specifications, diversity, and comprehensiveness to cover the learning outcomes, distribution of grades and accuracy of marking), and to ensure the level of student achievement.

3-3-7

Effective procedures are used to verify that the work and assignments of students are of their own.

3-3-8

The feedback is provided to students about their performance and evaluation results at a time that allows them to improve their performance.

Conclusion

Final points to consider.

This document is intended to provide a general overview of the purposes and processes for assessing the achievement of student learning using assessment results to make programmatic alterations to enhance student learning. The framework has as its foundations the recognition that assessment of student learning is the faculty's responsibility and that effective assessment is driven by faculty questions about student learning, by program learning outcomes identified by faculty, and by disciplinary and accreditation factors.

These guidelines were developed to help departmental/program faculty and staff address the program assessment process. In closing, a few final reminders:

- **We are all in this together.** Accreditation-related requirements for documenting and assessing student achievement of learning outcomes are now a fact of academic life not only for those of us at PSU but at all colleges and universities across the globe.
- **Establish a solid foundation.** Working together to build the base will help our programs and courses when it comes time to analyze the data collected and to use the results for making informed decisions about curricula, methods of teaching, methods of direct assessment in the classroom, and establishing key performance indicators (KPIs).
- **Keep it simple.** Simplification of our assessment plans and processes will help to keep it meaningful, manageable, and sustainable. A series of simple, well-conceived assessment studies that can be completed under realistic constraints are much more likely than complicated study designs to result in the incremental improvements that characterize sustainable assessment programs.
- **Be flexible.** Keep an open mind to the assessment process and note that no plan fits all programs. It goes back to the department's dynamics, the learning outcomes for the program, and its courses. If a particular assessment method or part of an assessment does not meet the targeted benchmark – IT IS OKAY – refine it or find a better method to improve the process or review the course for details.
- **Do not hesitate to ask for help.** When first experiencing this process, it can be frustrating and perhaps confusing. Please remember that comments, questions, and requests for assistance are all very much welcomed!

Frequently Asked Questions

What are student learning outcomes?

Essentially, learning outcomes are the results of instruction. They are the end rather than the means. Statements of learning outcomes express, in observable terms, the knowledge, skills, and values that students are expected to exhibit upon successful completion of a course, academic program, co-curricular program, etc.

What characterizes an effective statement of learning outcomes?

Effective statements of expected student learning are focused on the most important goals of a course or program. They address learning as a multidimensional process, stress generalizable and higher-order thinking skills rather than memorization of facts, and they are sufficiently explicit so that all stakeholders understand their meaning.

What counts as evidence of student learning?

A variety of approaches may be used as evidence of student learning. The best approaches clearly and purposefully relate to the goals they are assessing, such as

- maximizing the use of existing data and information,
- including direct evidence of whether or not a student has command of a specific subject or content area,
- whether or not a student can perform a certain task, exhibits a particular skill,
- whether or not a student demonstrates a certain quality in his or her work, or
- whether or not a student holds a particular value.

This may include examinations, writing samples, presentations, artistic performances, research projects, fieldwork, or service-learning.

Is "grading" the same as "assessment"?

No. Grades alone may not tell us much about student learning because a letter or numeric grade does not express the content of what students have learned. The grading process can provide a lot of helpful information, particularly when it is linked to learning goals. Grading and assessment criteria may differ, and grades may not reflect all learning experiences. While grades certainly play a role in the assessment process, they are usually not sufficient for answering questions about whether specific learning goals or outcomes have been achieved. In addition, grading standards may be vague, idiosyncratic, or inconsistent.

Are course evaluations useful for an assessment?

Course evaluations can be useful for assessment, provided they address learning outcomes. Most course evaluations focus on instruction (course organization, content, instructor attributes, etc.) and not on the specific learning outcomes.

When should I assess student learning?

Assessment is an integral part of the teaching and learning process. For the assessment results to be useful, it needs to be part of your everyday processes, but the timing and scope of your efforts should be logical and appropriate for your learning outcomes. Because the purpose of assessment is to improve the quality of student learning through teaching, the assessment must be ongoing and useful. **Do not try to assess every Institutional or Program outcome at once; focus on a small number of fundamental outcomes at a time.**

Does my program have to address every ILO?

No. Because the ILOs encompass the PSU experience as a whole—academic and co-curricular—it is understood that any specific department may not address all the ILOs.

Does my program have to do more assessments because of the ILOs?

No. Your program is responsible for assessing its program learning outcomes at least once every Program Review or professional accreditation cycle. Please note that when a PLO is aligned with an ILO, your program is also assessing how well your students are achieving the ILO when it conducts its regular assessment of student learning.

What is the best example of an assessment from my field?

There are lots of instances of acceptable assessment practices going on at other universities. However, we need to keep in mind that the best assessment will be what is most beneficial to support student learning.

References used & recommended useful websites for assessment of learning outcomes section.

Western Association of Schools and Colleges (WASC)

<http://www.wascsenior.org/>

WASC's Accrediting Commission for Senior Colleges and Universities is responsible for the evaluation of the quality and effectiveness of colleges and universities offering the baccalaureate degree and above in California, Hawaii, Guam, and the Pacific Basin. WASC is LMU's accrediting agency.

Association of American Colleges and Universities – Resources on Assessment

<http://www.aacu.org/resources/assessment/index.cfm>

Loyola Marymount University–LMU | LA

<http://academics.lmu.edu/spee/officeofassessment/universityassessmentreports/>

Outlining a comprehensive approach to assessment planning provides the rationale and methods - as well as concrete examples - for developing program-level learning outcomes, curricular maps as well as descriptions of direct and indirect methods.

<https://cte.cornell.edu/index.html>

Frequently asked questions for this handbook have been adapted from the Cornell University website

<http://assessmentcommons.org/>

This link has one of the most extensive lists of links related to assessment, grouped by topic (e.g., rubrics, outcomes planning). Check out the links to university sites that host discipline-specific assessment plans. While most plans are sound examples of assessment plans, a few are not.

Assessment Process used in College of Humanities

Assessment process used in College of Computer & Information Sciences