



Universidad de Puerto Rico
Recinto Universitario de Mayagüez
SENADO ACADEMICO

CERTIFICACION NUMERO 03-43

La que suscribe, Secretaria del Senado Académico del Recinto Universitario de Mayagüez de la Universidad de Puerto Rico, **CERTIFICA** que en reunión ordinaria celebrada el martes, 30 de septiembre de 2003, este organismo **APROBÓ** el **Informe del Comité de Asuntos Académicos relacionado con el borrador del "Institutional Plan for the Assesstment of Student Learning"**.

Exposición de Motivos:

Este documento responde a un requerimiento de la *Middle States Commission on Higher Education* para que se desarrolle e implemente un plan abarcador de avalúo que incluya los resultados del aprendizaje de los estudiantes.

El mismo constituye una guía adecuada para cada departamento en general, y para cada profesor en particular, de los distintos aspectos que debe tomar en consideración para efectuar el avalúo del aprendizaje de los estudiantes, a la vez que provee flexibilidad a cada unidad académica para que decida los criterios de evaluación del rendimiento académico de los estudiantes en los cursos respectivos.

El informe del comité junto al borrador del documento forman parte de esta certificación.

Y para que así conste, expido y remito la presente certificación a las autoridades universitarias correspondientes, bajo el Sello de la Universidad de Puerto Rico al primer día del mes de octubre del año dos mil tres, en Mayagüez, Puerto Rico.


Joanne R. Savino
Secretaria





Universidad de Puerto Rico
Recinto Universitario de Mayagüez
Junta Administrativa, Senado Académico y Claustro



Certificación #03-43
Aprobado
30/sept/03
JCS

18 de septiembre de 2003

A: Miembros del Senado Académico

De: Julio C. Quintana Díaz, Presidente
Comité de Asuntos Académicos

Asunto: **INFORME SOBRE EL "INSTITUTIONAL PLAN FOR THE ASSESSMENT OF STUDENT LEARNING"**

El Comité de Asuntos Académicos, en reunión celebrada el jueves, 11 de septiembre de 2003 tuvo ante su consideración el asunto de epígrafe. A tales efectos se invitó al Prof. Hiram González, miembro del equipo de trabajo del Comité para la Acreditación del Recinto Universitario de Mayagüez para hacer una exposición sobre el Plan. Luego de que el profesor González contestara las preguntas de los miembros del Comité y analizar el borrador del documento, el Comité aprobó recomendar al Senado Académico que se apruebe el "Institutional Plan for the Assessment of Student Learning" basándose en los siguientes aspectos:

- a. Que este documento responde a un requerimiento de la *Middle States Commission on Higher Education* para que "se desarrolle e implemente un plan abarcador de avalúo de resultados que incluya los resultados del aprendizaje de los estudiantes".
- b. Que el documento sometido constituye una guía adecuada para cada departamento en general, y para cada profesor en particular, de los distintos aspectos que debe tomar en consideración para efectuar el avalúo del aprendizaje de los estudiantes, a la vez que provee flexibilidad a cada unidad académica para que decida los criterios de evaluación del rendimiento académico de los estudiantes en los cursos respectivos.

Respetuosamente sometido.

-- DRAFT --

University of Puerto Rico at Mayagüez (UPRM)
www.uprm.edu



**Institutional Plan
for the
Assessment of Student Learning**

August 15, 2003

-- DRAFT --

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Institutional Plan for the Assessment of Student Learning

Our Commitments: *We at the University of Puerto Rico – Mayagüez will regularly and continuously assess student learning in each area of general education and in each academic program, and will use that information for improving all programs.*

1. Introduction

The University of Puerto Rico at Mayagüez (UPRM) intends to continually review the institution's effectiveness. UPRM recognizes that excellent institutions are self-reflective and continually seeking to improve. The improvement of overall educational quality and the enhancement of effective teaching and learning will occur when faculty and administrators work together to implement a sound, institution-wide program for outcomes assessment. The *assessment of student learning* is one component of the institution's overall assessment and, in fact, *the most important one*. The assessment of student learning has the *student as its primary focus of inquiry*; therefore UPRM recognizes that the assessment of student learning first occurs on an individual student basis within a particular course, is processed mainly at the department/program level, and is supported by the institution when and where appropriate.

The primary focus of this plan is on the *immediate design and implementation* of programs or processes to assess student learning outcomes. While the temptation to "start from scratch" is powerful, it is important for several reasons to begin assessment planning by building and documenting on existing practices. By using existing assessment, the institution can "start with success" to reinforce successful practices. Although some of the processes suggested in this plan are new, most are simply formalizations of procedures we have followed for many years.

In fact, over the last three years, our College of Engineering (CoE) has been formalizing the *continuous quality improvement (CQI)* processes used in such matters as establishing program educational objectives, program outcomes, assessment tools and strategies, making changes in the curriculum, introducing new courses in response to the needs of industry, and incorporating outcomes assessments principles, among others. This plan offers the CoE's experience as a guide or "pilot program" for other colleges and departments to modify, adjust, and use as they may see fit; *there is no need to "reinvent the wheel."*

It is clear that a student learning assessment program will undoubtedly evolve, as academic programs evolve. The end result will be an institution actively concerned not just with what it does, but with how well it does it – especially on how effective it is in ensuring individual student development and academic achievement.

2. Purpose of Assessment

The fundamental purpose of assessing student learning is to improve student learning. The fundamental purpose of assessing other institutional outcomes is to improve those

institutional functions. A secondary purpose of assessment is accountability; demonstrating to our accreditors, governing bodies, constituencies, and other interested parties that we are effective in achieving our aims. The institution has a collective responsibility for producing, reporting, interpreting, and explaining learning outcomes.

Academic assessment ensures that departmental reviews contribute in a fundamentally important way to the attainment of the Institution's Mission. In the end ... *the assessment of student learning must demonstrate that the institution's students have knowledge, skills, and competencies consistent with institutional goals and that students at graduation have achieved appropriate higher education goals [MSCHE].*

3. Purpose of the Plan

The purpose of this plan is *to guide UPRM academic departments/programs* in the development of student learning outcomes assessment processes and continuous quality improvement (CQI) programs. This plan could not reasonably include in full detail all activities for the assessment of all levels of student learning goals. Rather, the focus in the plan is to set the frame for the development and implementation of assessment processes at the department/program level. It is intended to be a source of guidance without constraining experimentation or alternate approaches that may be developed by Departments or Programs within the Institution.

Due to the nature and size of the institution, this plan will only delineate institutional level broad principles, goals, and characteristics by which departments, programs, and other academic units will develop their own subsidiary plans. This approach affords the opportunity for departments to take responsibility for their own plans, and for those closest to the students to make decisions about what students should be learning. Therefore, *assessment of student learning at UPRM shall be primarily course-embedded and department/program-based.*

Each department/program may use this plan as a basis for developing their specific approach and plans. The choice of instruments/tools and assessment activities shall be grounded on the capabilities, idiosyncrasies, and in the approach that is typical of each discipline/program/department. Although departmental or programmatic assessment plans will follow a format similar to the institutional assessment plan, the content of the plans, the learning outcomes, and the means used to evaluate/assess them may be very different for the various departments. *When completed, individual department plans for the assessment of student learning will be appended to this Institutional Plan* and published in departmental Web Pages and in UPRM's Middle States Accreditation Web Page, for easy access and full sharing with the rest of the academic community.

4. Applicability

This plan applies to all student-credit-generating academic units of UPRM, such as academic colleges, academic departments, academic programs, and certificate programs. For some units, the Dean of Academic Affairs and the Director of the Office of Institutional Research and Planning may recommend modifications to the process and procedures outlined in this plan.

5. Institutional Mission

The Mission Statement of UPRM clearly describes our institutional academic product or outcome, as follows:

“Within the philosophical framework established by the University of Puerto Rico Act, the Mayagüez campus directs its efforts towards the development of educated, cultured citizens, capable of critical thinking, and professionally qualified in the fields of agricultural, social, and natural sciences, engineering, humanities and business administration. They should be able to contribute in an efficient manner to the cultural, social, and economic development of the Puerto Rican and international community. This process is aimed at endowing our alumni with a strong technical and professional background and to instill a strong commitment to Puerto Rico and our hemisphere. Our alumni should have the necessary skills and knowledge to participate effectively in the search for solutions to the problems facing us, to promote the enrichment of the arts and culture, the development and transfer of technology as well as to uphold the essential attitudes and values of a democratic society.”

The structure and scope of UPRM's student learning assessment plans must flow from this mission. It is because of this broad mission with its responsibilities to all of Puerto Rico's citizens, and to our hemispheric and international community, that UPRM's assessment program also looks broadly at the effectiveness of our academic programs and services.

Based on UPRM's broad mission, the student learning assessment program addresses the institution's major responsibilities in education. It focuses, first, on assessment within programs; then on assessment strategies to provide evidence of the extent to which the institution is meeting broader goals identified as UPRM priorities.

As a more formal, participatory institution-wide planning process is implemented at UPRM, assessment experiences and results will help in adjusting and sharpening UPRM's mission and developing a more clearly defined and shared sense of direction. Thus, the mission statement and the assessment program at UPRM are interdependent – each more clearly defined and understood in light of the other. Hopefully, as UPRM moves forward, each will spur the university community to reflect on and reaffirm its institutional purpose and to commit to achieving institutional goals.

6. Relationship Between Plans (Strategic, Institutional Assessment, and Student Learning Assessment)

Student learning is the fundamental goal of every institution of higher education. Overall strategic planning efforts at UPRM are directed ultimately to the enhancement of student learning. The strategic plan takes into account the assessment plan, and results from student learning assessment are used to inform the strategic plan.

Evidence gathered about student's development and learning outcomes are used to make judgments about resource allocation in planning for overall institutional effectiveness and to enhance academic programs. Institutional effectiveness is also assessed to monitor and improve the environment provided for teaching and learning and for enhancing overall student success.

The assessment of student learning must always be aligned with the strategic plan and its constituent parts.

The strategic plan includes a requirement for institutional assessment that provides for regular assessment of all of the institution's components and functions, particularly its overall effectiveness in:

- achieving mission, goals, and outcomes
- implementing planning
- resource allocation
- institutional renewal process
- efficient use of institutional resources
- leadership and governance
- administrative structures and services
- institutional integrity
- assuring that institutional processes and resources support appropriate learning and other outcomes for its students and its graduates

7. Guiding Principles

The following set of principles will serve to unify departmental assessment practices without prescribing a particular content for those plans, allowing for flexibility in approach for each program. UPRM's main guiding principles for the development of student learning assessment plans at department/program and course levels are:

- Mission serves as the foundation for all planning.
- Assessment Plans are aligned with Institutional and Departmental Strategic Plans.
- Assessment of student learning interacts with and informs the self-assessment or self-study of other institutional areas.
- Assessment plans and processes take into consideration or are applicable to the requirements of all external accreditation agencies; avoid duplication of effort.
- Assessment tasks are shared. The whole campus community participates in creating and implementing plans.
- Assessment is not an event but a process that must be an integral part of the life of the institution/department/program/course/academic activity.
- Assessment focuses on key learning outcomes/goals.
- The plans acknowledge already existing assessment practices.
- The plans are created by a participatory process.
- The plans are systematic.
- The plans have realistic timetables.
- The plans are supported by institutional resources.
- The plans make wise use of faculty and staff times.
- The plans **ARE SIMPLE !!! (to be likely to succeed)**
 - Clearly focused on institutional mission, values, and priorities
 - Directed at assessing the most important outcomes for student learning

- Easy to interpret
- Easy to implement
- Easy to adapt
- The annual Student Learning Outcomes Assessment process informs the Program Review process.
- The emphasis of the annual Student Learning Outcomes Assessment is on the assessment process itself rather than on generating an extensive report.
- Do not wait for a "perfect" plan.
- Not everything needs to be assessed each year
- Assessment is conducted in a non-threatening environment.
- Most significantly ... a commitment to assessment of student learning requires a parallel commitment to ensuring its use in the improvement of academic programs.

8. Process for Setting Learning Outcomes/Goals

a. **Start with success:** Begin with an audit or inventory of existing practices that have been successful; a basic tenet for the assessment of student learning is to begin with successful assessment activities already in place. Then develop those that are missing, are unclear, have changed, or are complimentary. In general, among those assessment instruments that may already exist at UPRM, there are:

- **Institutional Level**
 - Surveys of student satisfaction
 - Alumni career and satisfaction surveys
 - Tests; standardized and/or locally-created
 - Program reviews of both academic and support programs
 - Annual Reports
 - Self-study Questionnaires
- **Department/Program Level**
 - Senior Capstone Projects, Theses, Papers, Performances, and/or other Presentations (individual or group)
 - Student Portfolios
 - Course Portfolios
 - Student Research Evaluations
 - Departmental student and alumni surveys
 - Standardized tests of subject area or broad skills
 - Student internship evaluations
 - Self-study Questionnaires
- **Course Level:**
 - Traditional assessment elements used by faculty, such as syllabi, curricula, instructional materials and methods, homework assignments, exams, and quizzes.

- Direct evidence of student learning and development, such as student products and copies of evaluated student works resulting from the traditional homework assignments, tests, and other educational experiences.
- Evidence of indirect indicators such as opinion surveys, self-study questionnaires, placement, and other institutional research data.

b. Ensure the Quality and Relevance of Learning Outcomes: Focus on those that are most important, widely accepted by the various stakeholders, meaningful, sufficiently explicit, interconnected among the various academic levels and curricula, and consonant with UPRM's mission and with the standards of higher education within the individual disciplines. Keep in mind that *all selected outcomes must be measurable and regularly assessed*.

- **Identify the key learning outcomes:** Focus only on *the most important* student learning outcomes of the course and program. Attempts to assess every possible outcome can overwhelm the departments with tasks and with too much information, diluting the focus from the areas that may need the most attention.
- **Use widely agreed-upon concepts (reach consensus):** Statements of expected learning outcomes will only be effective if they are developed with the collaboration and *consensus (acceptance)* of faculty members, students, staff, and by others affected by or concerned with the program (employers, alumni, etc.).
- **Communicate/publish learning outcomes:** Clearly expressed expectations for the learning outcomes of courses and programs will help students to focus their studies and, as a result, learn more effectively. Prospective students can make a better-informed decision about the program that meets their needs, especially when evidence is available that outcomes are actually achieved. *Departments must share/publish their student learning outcomes by all possible means; catalog, brochures, posters, handouts, newsletters, student orientations, web pages.*

c. Choose outcomes/goals that can lead to improvement: Address learning as a multidimensional and integrated process, occurring over time. Do not focus on trivial learning outcomes. Meaningful learning outcomes stress higher-order thinking skills rather than memorization of facts or very simple conceptual understanding. They must be measurable, so benchmarks can be established and improvement can be pursued.

9. Conceptual Relationship of Learning Outcomes at Different Levels

Goals or outcomes for student learning are the foundation of meaningful assessment. Students learn specific content and skills in each *course*. In aggregate, those courses, together with other program experiences such as academic advising, internships, and research should result in the desired student learning outcomes at the *department/program* level. Similarly, outcomes at the program level combine with general education goals and other goals to create *institutional* outcomes. In other words, learning outcomes at the institution, department (or program), and course (or activity) levels are interconnected, complimentary, and reciprocal.

10. Learning Outcomes/Goals (Institutional Level) ** Pending Institutional Approval **

In accordance with the institutional mission and with current higher education trends ...

By the time of their graduation, UPRM students will be able to:

- a. Communicate effectively.
- b. Identify and solve problems, think critically, and synthesize knowledge appropriate to their discipline.
- c. Apply mathematical reasoning skills, scientific inquiry methods, and tools of information technology.
- d. Apply ethical standards.
- e. Recognize the Puerto Rican heritage and interpret contemporary issues.
- f. Appraise the essential values of a democratic society.
- g. Operate in a global context, relate to a societal context, and demonstrate respect for other cultures.
- h. Develop an appreciation for the arts and humanities.
- i. Recognize the need to engage in life-long learning.

Every department/program at UPRM shall develop and include in their Student Learning Assessment Plans a matrix depicting the relationship of their program outcomes with these institutional learning outcomes, and a matrix or table outlining how each of the program outcomes will be assessed, and in what courses (examples in Appendix 4 of this plan.

11. Assessment Process and Methods

a. **Key Terms Definitions:** For the purpose of avoiding confusion and for the equal interpretation of key terms in the development of student learning assessment plans throughout UPRM, *the following definitions shall be adhered to:*

- **Program Educational Objectives (PEOs):** Statements that describe the expected accomplishments or performance of graduates during the first few (5) years after graduation.
- **Program Outcomes (POs) = Program Student Learning Outcomes/Goals:** Statements that describe what students are expected to know and be able to do by the time of graduation.
- **Course Learning Outcomes/Goals (CLOs):** Statements that describe what students are expected to know and be able to do by the end of the course.

b. **Conceptual Assessment Cycle:** The assessment processes at UPRM are cyclical and continuous, as conceptually reflected on *Figure 1*. These assessments cycles are repeated after changes have been implemented. The time for completion of a cycle up to implementation, or the "*closing of the loop*" as it is commonly referred to, may be different for the different assessment levels. An assessment cycle or loop at the course level will likely take the least time to complete as professors, within their authority, can use assessment results to make positive changes in their

10. Learning Outcomes/Goals (Institutional Level) * Pending Institutional Approval *****

Although not all programs are designed to meet all institutional goals, by the time of their graduation, UPRM students should have:

- a. Be able to think critically, in a global and societal context
- b. Be able to integrate and synthesize knowledge in the solution of problems
- c. Demonstrate literacy in reading, writing, and oral communications
- d. Understand science, scientific inquiry, and the development & transfer of technology
- e. Have a historical consciousness, with an understanding of own heritage and the essential values of a democratic society
- f. Have an appreciation for the arts and culture
- g. Be familiar with ethical implications and with the various branches of human understanding
- h. Be professionally qualified in their fields of study

Every department/program at UPRM shall develop and include in their Student Learning Assessment Plans a matrix depicting the relationship or connection of their program outcomes with these institutional learning outcomes, and a matrix or table outlining how each of the program outcomes will be assessed (i.e., written/oral exams, portfolios, etc.), and in what course or courses. Recommend use of examples found in Appendix 4a of this plan. Other helpful examples can be found in Appendixes 4b-4d.

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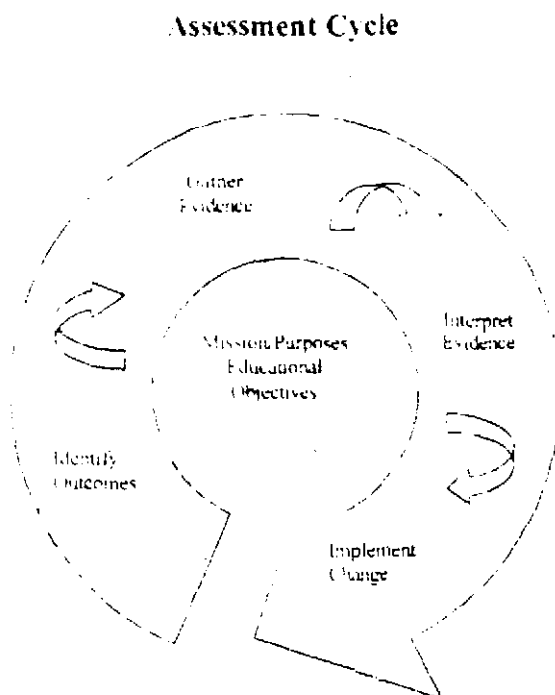


Figure 1. A conceptual assessment cycle or loop

courses almost immediately. In the other hand, at the program level, the implementation of a course or curricular change may take months or years, as the approval may take it through various levels of authority within the institution.

c. Decentralized Process: The assessment of student learning at UPRM is a decentralized process by which faculty in each academic department or program, at both the undergraduate and graduate levels, identify key learning outcomes, determine how outcomes will be measured, carry out assessment activities, analyze results, and use those results in program planning to improve student learning. Departments are free to develop their own format; however it might be helpful to use tabular formats, matrixes, and brief descriptive narratives. *Appendix 4* offers some good examples.

d. Institution-wide Assessment: In addition to the assessment programs focused on assessment in the departments/programs, UPRM is concerned with overall student success and the extent to which the institution is meeting its broader goals relating to educational performance and student development. The *Office of Continuous Improvement Educational Initiative (CIEI)* was recently created to concentrate on institution-level priorities in assessing student learning. This office is subordinate to the Office of Institutional Research and Planning, and is charged with setting a priority agenda and providing guidance on assessing student success at UPRM. It will also *oversee and follow-up to ensure the full and timely implementation of these plans at all levels*, as well as their evaluation in time.

e. Suggested Steps in Establishing and Reviewing Department/Program Educational Objectives and Student Learning Outcomes:

- a review of the institution's, college's, and department's mission statements;
- a review of outcomes assessments criteria, along with definitions and examples of key terms;
- the writing of broad program educational objectives that could be linked to the department's mission statement;
- the identification of course and program learning outcomes;
- the identification of assessment *strategies, methods/tools, metrics, and benchmarks* to assess the achievement of educational objectives and learning outcomes.

f. Sample Listing of Successfully Utilized Assessment Strategies and Operational Actions for Achieving Outcomes:

- Maintain regular correspondence with graduates and their employers to know their needs and to evaluate whether modifications to the program are necessary and appropriate.
- Establish an annual process in which a faculty/student committee reviews course and senior design projects to evaluate how well students in capstone courses are applying material learned throughout the curriculum.
- Draw upon students' co-op/intern/undergraduate research experiences as a source for interdisciplinary experiences, class problems, and information to other students.
- Require students to prepare written reports and oral presentations targeted to different audiences and topics.
- Make use of available resources to present case studies of actual examples in which the consequences of ethical and safety-related decisions were not properly considered.
- Require a large number of courses to have at least one major writing assignment.
- Require students to evaluate peer performance in team settings.
- Document and distribute official department policies on sexual harassment and academic and ethical misconduct.
- Have faculty design research projects appropriate for undergraduate students.
- Establish seminar series for undergraduates to present their research work results.
- Promote the use of programming, spreadsheets and the most modern hardware and software tools at all levels in the curriculum.
- Have faculty make greater use of informational sources beyond the course textbook.

- Promote student participation in the local student chapter of professional organizations and service clubs. Encourage and provide funds for student participation in local and regional events sponsored by professional and civic organizations.

g. Example of Assessment Methods/Tools with Utilization Strategy, Timing, and Execution Responsibility:

The assessment tools and procedures set forth in the Outcomes Assessment Strategies *Table 1* have been followed in UPRM's Civil Engineering Program with great acceptance by all involved, and were rated highly during a recent extremely successful professional accreditation visit. When analyzed closely, most professors execute only one, two, or three of these assessments per semester, on things they were already doing in their courses, which does not constitute an additional heavy load on them and, therefore, they accept and perform without resistance.

h. Metrics:

Metric goals should be simple to use and to analyze. *Departments/programs shall establish the metrics* necessary to measure the degrees of achievement or satisfaction of their learning outcomes. However, for easier reference and comparison between departments/programs within the institution, it is suggested that most assessment tools/forms/rubrics rate responses from 1 to 5, where 5 is "excellent" or "extremely satisfied," and 1 is "poor" or "extremely dissatisfied."

i. Evidence Successfully Used at UPRM's College of Engineering to Show Achievement of Learning Outcomes:

Listed below is the suggested evidentiary documentation that can and should be filed/maintained (as appropriate for the particular levels) to prove that processes for the Assessment of Student Learning that lead to the continuous improvement of our educational programs are in place. For a listing of multiple other examples of possible evidence of academic quality and assessment refer to *Appendix 3*.

At Course level – COURSE PORTFOLIOS/Binders, for each course, with:

- Syllabi with detailed course outlines, descriptions, and course learning outcomes
- Examples of student works for required courses, including representative samples of homework assignments, quizzes, exams, and project works.
- Copies of completed assessment tools/instruments and summaries of results
- Videos of student oral presentations
- Any other materials that support student learning outcomes assessment efforts

TABLE 1
OUTCOMES ASSESSMENT TIMING & STRATEGIES

Assessment Tools	Utilization Strategy - Timing - Responsibility
<i>Pre-Engineering</i>	
Freshman Orientation Questionnaire	at UNIV-0004 Freshman Orientation Course (by Departmental Counselor)
Ethics Integration Assessment Form	at UNIV-0004 Freshman Orientation Course (by Departmental Counselor)
<i>Course Assessment</i>	
Laboratory Reports (<i>copies of</i>)	at all Laboratory Courses (by Lab Instructors)
Exams, Quizzes, Homeworks (<i>copies of</i>)	retain examples of these tools (by all Professors/Instructors)
EIT Exam Statistical Report	obtain annually from Examining Board (by Department)
Written Report Evaluation	anytime written reports are required (labs, etc) (by all Professors/Instructors)
Oral Presentation Assessment	at all student oral presentations (by all Professors/Instructors)
Teamwork Assessment Form (I)	at end of any semester where work done in groups (Professors/Instructors)
Teamwork Assessment Form (II)	at end of any semester where work done in groups (Professors/Instructors)
Peer Evaluation Form	at end of any semester where work done in groups (Professors/Instructors)
Undergrad Research Exp Assessm. Form	at end of any such experience (by Mentors)
Course/Project Skills Assessment Form	at end of every course (by all Professors/Instructors)
Student Evaluation of Teaching (SET)	at end of every course (by all students)
Video of Presentations	at Design/Project Presentations (by all Professors/Instructors)
<i>Program Assessment</i>	
Ethics Integration Assessment Form	at end of CAPSTONE Courses (by CAPSTONE Professors)
Graduating Student Exit Survey (Part I)	at end of CAPSTONE Courses (by CAPSTONE Professors)
Graduating Student Exit Survey (Part II)	at Graduation time (by Department)
Internship Assessment Form (Student)	at completion of all Internships (by Mentors)
Internship Assessment Form (Mentor)	at completion of all Internships (by Mentors)
COOP Supervisory Evaluation Form	at completion of COOP terms (by Mentors)
COOP Student Evaluation Form	at completion of COOP terms (by Mentors)
Student Resume (<i>Special Format</i>)	start at UNIV-0004 Course; maintain up-to-date thru college years
<i>Post Graduation</i>	
Alumni Survey	mail to 2 nd and 5 th year alumni, every year, Feb-Apr (by Department)
Employers Survey	mail to employers with 5-yr graduates, every year, Feb-Apr (by Department)
FE Exam Statistics	obtained by CoE every year
Advisory Board Input	obtained at annual meeting, Jun-Jul

At Department/Program level – PROGRAM PORTFOLIOS/Binders and/or FILES, with:

- Posters/Catalogs/Brochures listing Student Learning Outcomes, Educational Objectives, etc.
- Graduation Exit Survey documentation and results
- Alumni Survey documentation and results
- Employer Survey documentation and results
- Stats from Licensing Exam (where applicable)
- Copies of minutes of the Department's Faculty Meetings, Academic Affairs Committees, and Advisory Board meetings and recommendations (where applicable)
- Copies of curriculum development/revisions
- Student transcript samples
- Copies of completed assessment instruments and summaries of results
- Minutes of faculty meetings where assessment results considered and actions taken
- Any other materials that support student learning outcomes assessment efforts

At Other levels/Offices – GOOD FILES, with:

- Institutional research results/statistics, with their analysis, recommendations, and actions taken (if any).
- Students/Graduates/Alumni/Employer Satisfaction Survey results/statistics, with their analysis, recommendations, and actions taken (if any).
- GPA/Grade trends, Graduation Rates, Retention Rates, etc., and any other statistical data gathered throughout the institution, with their analysis, recommendations, and actions taken (if any).

12. Reporting and Utilization of Assessment Results

All reporting shall be accomplished in accordance with the guidelines provided for each level of responsibility in *Section 13 (next)* of this plan. Utilization of assessment results shall be in accordance with guidelines and suggestions presented throughout this plan.

13. Responsibility for Enacting and Maintaining the Plan

a. Department/Program Directors:

- Each department/program must develop and enact a student learning assessment process with documented results.
- This must be done through a participatory process of faculty, students, staff, and other stakeholders of the department.
- Evidence must be maintained that the results are applied to the further development and improvement of the program.
- The assessment process must demonstrate that those learning outcomes important to the mission of the institution and of the department/program are being measured.
- Within each year's *Annual Report*, each academic department will include a section on academic outcomes assessment, composed of:
 - The list of learning outcomes in their program;
 - A brief description of how the department is ensuring that students achieve these outcomes by the time of their graduation;

- A brief description of how the department is assessing these outcomes;
- A brief report on positive evidence of what students have learned as a result of the assessment over the past year; and
- A brief report on how the department has used assessment results in the past year to improve student learning.

[If a department does not have all these elements in place by the time its Annual Report is prepared, it will include in its Report the steps it will take to ensure that the missing elements are in place by the time of its next Annual Report]

- All of this planning and execution shall be done in accordance with the general guidelines established throughout this plan.

b. Deans of Academic Colleges: Each academic college will establish and implement the necessary infrastructure, resources, and training to institutionalize these processes and to supervise/oversee, guide, and support department/program assessment efforts, in accordance with the general guidelines established throughout this plan.

c. Institutional Leadership: UPRM leadership is fully committed to the implementation and support of student learning assessment efforts at all levels. In addition, UPRM leadership is committed to support the resulting program improvement initiatives through the established means and procedures in the governance structure of the institution. The institution will provide outcomes assessment training support to the faculty and staff of all academic units, as justifiably requested and/or needed, through workshops and seminars organized and coordinated by the UPRM's *Center for Professional Enrichment (CEP)* – for its acronym in Spanish).

14. Time Line

a. General: This plan is for immediate implementation. All design and development activities by the individual academic departments/programs shall start immediately upon receipt of the draft plan. Departments will not wait for the “final” or “perfect” plan to get started; plans will always evolve with time. Implementation of the student learning outcomes assessment process will begin as the various components are completed.

In fact, over 50 percent of UPRM's student body is involved in, and have already implemented, the outcomes assessment processes outlined in this plan. These include all of the departments of the College of Engineering, which after a two year implementation, underwent a highly successful ABET accreditation visit in November 2002. In addition, the UPRM Department of Nursing has been conducting and documenting these assessment processes for the past few years. And more recently, within the UPRM College of Arts and Sciences, the Departments of Biology and Chemistry, and the College of Business Administration, have aggressively started to develop plans and to implement these outcomes assessment processes and techniques within their departments. Therefore, the assessment tools, instruments, and techniques outlined and suggested in this plan have been tested here and are already in use at UPRM.

b. Timetable Summary for Development and Implementation: As applicable, to departments who have already implemented, for formal continuation and maintenance, and for departments who have not implemented yet, for timely and immediate compliance. Individual academic departments can set their own internal assessment timelines as long as they comply with the following institutional deadlines:

Spring 2003

- Dr. Anand Sharma, UPRM's new director of the Office of Continuous Improvement Education Initiative (CIEI), began work in January.
- Members of the accreditation Steering Committee met for the first time in mid-January.
- Process for securing office space, equipment, and staff began.
- Institutional accreditation and assessment Web Page created.
- Initial budget requests made.
- Structure of general meetings agreed upon.
- Assessment Task Force Members identified and notified.

Summer 2003

- Institutional Plan for the Assessment of Student Learning drafted based on "pilot plan" from the CoE.
- Plan reviewed, analyzed, discussed, and unanimously approved by UPRM Steering Committee and by the new Office of CIEI.

Fall 2003

- Plan submitted for Chancellor's review and subsequent presentation to the UPRM Administrative Board and Academic Senate for approval.
- Begin presentation of plan to all academic colleges/units for comment/consensus and for the immediate initiation of their own plans development processes.
- Begin the assessment of current status of academic departments and units by means of the 39 newly develop Questionnaires.
- Determine the needs of faculty members and instructional staff across UPRM and the ways in which the CIEI and the CEP may be of assistance.

- Each academic department develops assessment plans by a participatory process and consensus.
- Each academic department begins to conduct and document student learning assessment for selected outcomes.
- UPRM implements process for faculty orientation, training, and consultation.
- UPRM and individual academic departments encourage and elicit more participation from faculty, staff, and students.
- Distinguish and define roles and responsibilities of the Steering Committee, Task Forces, OIRP, CIEI, CEP, and key personnel involved in outcomes assessments.

Winter 2003-2004 (by mid-December 2003)

- Complete the assessment of current status of academic departments and units by means of the 39 newly develop Questionnaires.
- Academic departments complete their assessment plans and submit them to CIEI (OIRP) to be appended to Institutional Plan.
- Academic departments close, analyze, and document student learning assessment activities and decisions for the past semester (an assessment cycle closes).
- Continue process for faculty orientation, training, and consultation.

Spring & Summer 2004

- Academic departments close, analyze, and document student learning assessment activities and decisions for the Spring semester (a second assessment cycle closes).
- Department Directors submit their first report on student learning assessment as part of their Annual Report, as stated in *Section 13* of this Plan.
- Task Forces consolidate and analyze responses to the 39 Questionnaires and draft a Self-Study Report.
- Office of CIEI (OIRP) assesses implementation process to this date and reviews plans and procedures, and adjusts them, if appropriate.

Fall & Winter 2004

- Academic departments continue implementation of student learning assessment and Continuous Quality Improvement (CQI) processes, results and decisions documented, evidence maintained, and plans adjusted, if appropriate.

- Academic departments close, analyze, and document student learning assessment activities and decisions for the Fall semester (a third assessment cycle closes).
- Student learning assessment plans and processes fully in-place and implemented throughout all academic departments of UPRM, and set for permanent continuation.

Spring & Summer 2003

- Academic departments repeat full assessment processes/cycles of previous two semesters.
- Academic departments and all UPRM offices/units involved and concerned with student learning assessment organize all documentary evidence for presentation to and review/inspection by MSCHE during the Middle States Accreditation Visit of April 2005.

Thereafter

- Academic departments and units repeat assessment cycles, continuously and permanently, unless otherwise directed by a new plan.

15. Process for Reviewing the Plan

Departments/programs shall review assessment plans during and, as part of, the cyclic reviews of assessment results. Therefore, the evaluation of assessment plans shall be incorporated into the assessment process itself and conducted on a regular basis. This review need not be complicated or cumbersome. It should lead to the refinement or improvement of the plans and to the elimination of ineffective assessment practices that are likely to promote exasperation with and rejection of the assessment process and the concept of assessment in general.

The Institutional *Office of Continuous Improvement Educational Initiative (CIEI)* shall review this institutional student learning assessment plan on an annual basis.

16. Provision for Funding and Support Resources

Resources can be generally defined as any input to an educational program that is necessary for the program to succeed, as shown in *Figure 2*. Adequate resources must be available to the department/program at all times to be successful and have on-going accreditation. The following subsections highlight the major resource categories and the means by which the department and the institution will monitor progress in each category.

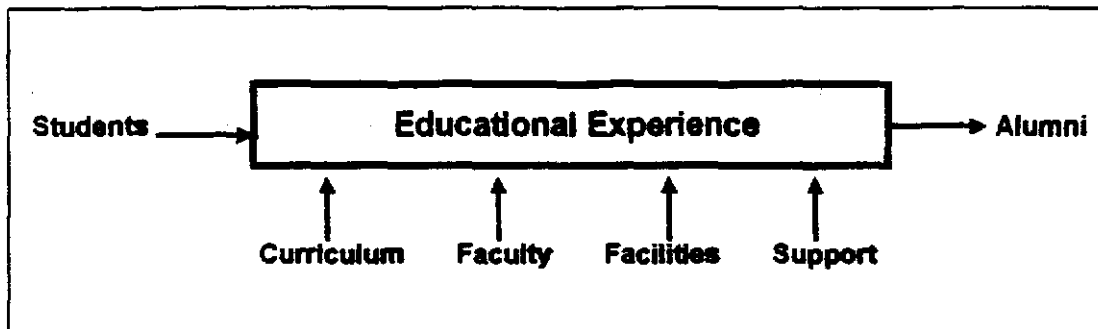


Figure 2. Resource Perspective

a. Students:

- The institution and the department/program evaluate, advise, and monitor students to determine long-term success in meeting learning outcomes.
- The institution will retain responsibility to ensure that students admitted to the departments/programs meet the qualifications needed and that correspond to the expected achievement level.
- Further, each department/program will have assessment processes and improvement mechanisms in place to monitor the progress of their students. Each department/program will also monitor the progress of its alumni and solicit their input for program improvement.

b. Curriculum:

- Each department/program establishes its uniqueness through its educational objectives, learning outcomes, and curriculum design.
- The institution assumes responsibility to ensure that all departments/programs operate within a certain envelope and to ensure that all graduates matriculate with specific qualifications. Towards this end, the Office of the Dean of Academic Affairs is charged with the responsibility to "Review and approve or disapprove proposals for new courses and proposals for changes in courses and curricula which are recommended by departments."
- Thus, Dean of Academic Affairs plays the critical role of quality curriculum control within UPRM.

c. Faculty:

- The faculty must be sufficient number, and must have competencies to cover all of the curricular areas of the program.
- It is the responsibility of the departments/programs to assure that no Program of Study is offered or continued unless requirements for faculty are met or exceeded.

d. Facilities:

- Classrooms, laboratories, and associated equipment must be adequate to accomplish the program educational objectives and provide an atmosphere conducive to learning.
- Each department/program assumes the responsibility to periodically assess priorities for equipment purchase and replacement, and to plan for the maintenance of adequate laboratory facilities.
- The institution will coordinate distribution of student computing funding based on the student laboratory fees and matching funds.

e. Institutional Support and Financial Resources:

- Institutional support, financial resources, and constructive leadership must be adequate to assure the quality and continuity of the engineering program.
- To assure that this is monitored, the Department Chairs will annually report to their faculty regarding resources and expenditures of the departments/programs in all categories. Where feasible, the Department Chairs will use both internal and external benchmarks.

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APPENDICES

1. Assessments Terms Glossary
2. Some Principles of Good Practice for the Assessment of Student Learning
3. Examples of Evidence of Academic Quality
4. Examples of Department Student Learning Assessment Plans:
 - a. **Department of Civil Engineering and Surveying (UPRM) Assessment Plan – *(Pilot Plan for UPRM)***
 - b. Assessment Plan: Department of Mechanical Engineering (NIU)
 - c. Assessment Plan Bachelors Degree in Marketing (NIU)
 - d. Undergraduate Assessment Plan BS in Chemistry (NIU)
5. **UPRM's Departmental Plans for the Assessment of Student Learning:**
****** *Under Construction by Academic Departments/Programs* ******
 - a. Department A
 - b. Department B
 - c. Department C
 - d. *and so on ...*

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APPENDIX 1: Assessment Terms Glossary

Annual update: A brief report from each academic program based on its assessment plan and submitted annually, which outlines how evidence was used to improve student learning outcomes through curricular and/or other changes or to document that no changes were needed.

Archival records: Biographical, academic, or other file data available from the college or other agencies and institutions.

Assessment: The act of assessing; to evaluate; appraise. In higher education, assessment is the process of systematically collecting information about some aspect of institutional performance and then using the results to improve that performance. It usually focuses on assessing outcomes, specifically what students have learned. Colleges and universities have other outcomes, such as faculty scholarship, community service, and others, and these can be assessed as well.

Assessment plan: A document that outlines the student learning outcomes (for academic programs) or unit outcomes (for support units), the direct and indirect assessment methods used to demonstrate the attainment of each outcome, a brief explanation of the assessment methods, an indication of which outcome(s) is/are addressed by each method, the intervals at which evidence is collected and reviewed, and the individual(s) responsible for the collection/review of evidence.

Backlog (–Ed, –ding): Amount of effort required after the data collection.

Behavioral observations: Measuring the frequency, duration, *topology*, etc. of student actions, usually in a natural setting with non-interactive methods. For example, formal or informal observations of a classroom. Observations are most often made by an individual and can be augmented by audio or videotape.

Commercial, norm-referenced, standardized exams: Group administered mostly or entirely multiple-choice, "objective" tests in one or more curricular areas. Scores are based on comparison with a reference or *norm* group. Typically must be purchased from a private vendor.

Competency: Level at which performance is acceptable.

Confounded: Confused.

Constituents: Individuals whom we serve and provide input to help us assess our academic programs.

Constituencies: Classifications of individuals whom we serve, including students, faculty, industry, government, and others.

Continuous Quality Improvement (CQI): The systematic pursuit of excellence and satisfaction of the needs of constituencies, in a dynamic and competitive environment, by assessing current practices and using the results of that assessment to continually improve those practices.

Convergent validity: General agreement among ratings, gathered independently of one another, where measures should be theoretically related.

Criterion-referenced: Criterion-referenced tests determine what test-takers can do and what they know, not how they compare to others. Criterion-referenced tests report on how well students are doing relative to a predetermined performance level on a specified set of educational goals or outcomes included in the curriculum.

Exit and other interviews: Asking individuals to share their perceptions of their own attitudes and/or behaviors or those of others. Evaluating student reports of their attitudes and/or behaviors in a face-to-face-dialogue.

External examiner: Using an expert in the field from outside your program, usually from a similar program at another institution to conduct, evaluate, or supplement assessment of your students. Information can be obtained from external evaluators using many methods including surveys, interviews, etc.

Externality: Externality refers to the extent to which the results of the assessment can be generalized to a similar context.

External validity: External validity refers to the extent to which the results of a study are generalizable or transferable to other settings. **Generalizability** is the extent to which assessment findings and conclusions from a study conducted on a sample population can be applied to the population at large. **Transferability** is the ability to apply the findings in one context to another similar context.

Focus groups: Typically conducted with 7-12 individuals who share certain characteristics that are related to a particular topic related a research or evaluation question. Group discussions are conducted by a trained moderator with participants (several times, if possible) to identify trends/patterns in perceptions. Moderator's purpose is to provide direction and set the tone for the group discussion, encourage active participation from all group members, and manage time. Moderator must not allow own biases to enter, verbally or nonverbally. Careful and systematic analysis of the discussions provides information that can be used to evaluate and/or improve the desired outcome.

Follow-up report: A report requested by the academic or accreditation authorities following program review to address specific issue(s)/concern(s) that result from their review of program review documents. The report is submitted within the time frame identified by the reviewing authority.

Forced-choice: The respondent only has a choice among given responses (e.g., very poor, poor, fair, good, very good). **Formative assessment:** Intended to assess ongoing program/project

activity and provide information to improve the project. Assessment feedback is short term in duration.

Formative assessment: Intended to assess ongoing program/project activity and provide information to improve the project. Assessment feedback is short term in duration.

Frontload (-ed, -ing): Amount of effort required in the early stage of assessment method development or data collection.

Generalization (generalizability): The extent to which assessment findings and conclusions from a study conducted on a sample population can be applied to the population at large.

Goal-free evaluation: Goal-free evaluation focuses on actual outcomes rather than intended program outcomes. Evaluation is done without prior knowledge of the goals of the program.

Inter-rater reliability: The degree to which different raters/observers give consistent estimates of the same phenomenon
Internal validity: Internal validity refers to (1) the rigor with which the study was conducted (e.g., the study's design, the care taken to conduct measurements, and decisions concerning what was and wasn't measured) and (2) the extent to which the designers of a study have taken into account alternative explanations for any causal relationships they explore.

Internal validity: Internal validity refers to (1) the rigor with which the study was conducted (e.g., the study's design, the care taken to conduct measurements, and decisions concerning what was

Locally developed exams: Objective and/or subjective tests designed by faculty of the program, or course sequence being evaluated.

Longitudinal studies: Data collected from the same population at different points in time

Norm (-ative): A set standard of development or achievement usually derived from the average or median achievement of a large group.

Norm-reference: A norm-referenced test is designed to highlight achievement differences between and among studies to produce a dependable rank order of students across a continuum of achievement from high achievers to low achievers.

Observer effect: The degree to which the assessment results are affected by the presence of an observer

Open-ended: Assessment questions that are designed to permit spontaneous and unguided responses

Operational (-ize): Defining a term or object so that it can be measured. Generally states the operations or procedures used that distinguish it from others.

Oral examination: An assessment of student knowledge levels through a face-to-face dialogue between the student and examiner-usually faculty.

Performance appraisals: A competency-based method whereby abilities are measured in most direct, real-world approach. Systematic measurement of overt demonstration of acquired skills.

Portfolios: Collections of multiple student work samples usually compiled over time and rated using rubrics. The design of a portfolio is dependent upon how the scoring results are going to be used.

Program review: The administrative and peer review of academic programs conducted on an annual or regularly-established cycle, the results of which are reported to the UPR Board of Trustees and the PRCHE. This review includes a comprehensive analysis of the structure, processes, and outcomes of the program. The outcomes reported in the program reviews should include program outcomes (e.g. costs, degrees awarded) as well as student learning outcomes (i.e. what students know and can do at the completion of the program).

Reliability: Reliability is the extent to which an experiment, test or any measuring procedure yields the same result on repeated trials.

Rubrics: A rubric is a set of categories that define and describe the important components of the work being completed, critiqued or assessed. Each category contains a graduation of levels of completion or competence with a score assigned to each level and a clear description of what criteria need to be met to attain the score at each level.

Salience: A striking point or feature.

Simulations: A competency-based measure where a person's abilities are measured in a situation that approximates a "real world" setting. Simulation is primarily used when it is impractical to observe a person performing a task in a real world situation (e.g. on the job).

Stakeholder: Anyone who has a vested interest in the outcome of the program/project.

Status report: A description of the implementation of the plan's assessment methods, the findings (evidence) from assessment methods, how the findings were used in decisions to maintain or improve student learning (academic programs) or unit outcomes (support units), the results of previous changes to improve outcomes, and the need for additional information and/or resources to implement an approved assessment plan or gather additional evidence.

Summative assessment: Assessment that is done at the conclusion of a course or some larger instructional period (e.g., at the end of the program). The purpose is to determine success or to what extent the program/project/course met its goals.

Third Party: Person(s) other than those directly involved in the educational process (e.g., employers, parents, consultants).

Triangulate (triangulation): The use of a combination of assessment methods in a study. An example of triangulation would be an assessment that incorporated surveys, interviews, and observations.

Topology: Mapping of the relationships among subjects.

Utility: Usefulness of assessment results.

Variable (variability): Observable characteristics that vary among individuals responses.

Validity: Validity refers to the degree to which a study accurately reflects or assesses the specific concept that the researcher is attempting to measure. Validity has three components:

- relevance - the option measures your educational objective as directly as possible
- accuracy - the option measures your educational objective as precisely as possible
- utility - the option provides formative and summative results with clear implications for educational program evaluation and improvement

Written surveys/questionnaires: Asking individuals to share their perceptions about the study target- e.g. their own or others skills/attitudes/behavior, or program/course qualities and attributes.

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APPENDIX 2: Some Principles of Good Practice for the Assessment of Student Learning

Purpose of Assessment: The fundamental purpose of assessing student learning is to improve student learning.

Characteristics of "Good" Assessment

1. **There are clear, measurable goals/learning outcomes that flow from institutional mission, meet the needs of students and other constituents, and are widely accepted by the institutional community.**
 - *Program descriptions and course syllabi, especially in General Education, have clear learning outcomes. Multi-section courses have common learning outcomes. Where appropriate, disciplines share learning outcomes.*
 - *There is a clear sense of which learning outcomes are most important and most valued.*
2. **There are clear strategies to achieve those goals.**
3. **The assessment tools are valid and apt.**
 - *Multiple measures-including different kinds of measures-are used systematically over time.*
 - *There is a good match between the goal and the assessment tool used to assess it (e.g., research skills are assessed using a research project rather than an objective test, thesis assignments are teamed with opportunities to learn how to write a thesis).*
 - *Assessments that are either embedded in learning activities or indirect, rather than stand-alone assessments are used when appropriate and feasible.*
4. **The results of the assessments are put to good and appropriate use.**
 - *There is no heavy reliance on any one assessment for any major decision.*
 - *There are clear standards for sufficient and exemplary performance. Where appropriate, disciplines and institutions share common standards.*
 - *Appropriate frames of reference (e.g., standards-based, norm-referenced) are used to interpret assessment results.*
 - *Because the fundamental purpose of assessment is to help students learn, assessments examine how students learn as well as what they learn.*
 - *Results are shared with those in a position to use them to improve the processes being assessed.*
 - *Assessment efforts lead to conversations across campus on teaching/learning, mission, and institutional effectiveness.*
 - *Results are celebrated and used, as appropriate, to improve goals, pedagogy, curricula and/or assessment strategies as well as for planning and budget decisions.*

Keys to Institution-Wide Assessment Success

1. **The institutional climate encourages innovation and change.**
2. **A common understanding of assessment pervades the institutional community.**
 - *Faculty, administrators, trustees, and students all understand the nature and purpose of assessment. Students receive written information on assessment (e.g., a college statement) and on the learning outcomes they are expected to achieve.*
 - *The assessment plan (what's done, who does it, and why) is written and widely disseminated.*
3. **Teaching, learning, and assessment engage the institutional community, especially faculty. Assessment is department-based, with shared faculty and student ownership, rather than imposed from above.**
4. **Teaching, learning, and assessment efforts receive strong institutional support.**
 - *Institutional leaders actively stimulate faculty interest in assessment.*
 - *There are professional development opportunities for faculty to learn about assessment and to use it in practice.*
 - *Faculty are motivated and rewarded for assessment work. Tangible support, including staffing, funds, and time, is provided. Faculty engagement in assessment is a consideration in tenure and promotion decisions. Departments and programs that engage in assessment are rewarded through their budgets.*
 - *Faculty, departments, and programs are never penalized or unduly criticized for unsatisfactory assessment results; they are instead given support to address shortcomings.*
 - *The burden of assessment is minimized. Faculty, departments, and programs are encouraged to "start small," focusing initially on existing information and modest additional assessments. Centralized leadership, coordination and support for assessment are provided. Centralized data collection, analysis, and dissemination are available when appropriate. Paperwork is minimal; electronic tools are provided.*
5. **The assessment program is systematic, ongoing, and periodically evaluated. The assessment cycle may be biennial or triennial instead of annual.**
6. **Assessment results are celebrated.**
 - *Faculty, departments, and programs are encouraged to focus initially on assessing learning successes.*
 - *Assessment results are actively used to demonstrate the quality and uniqueness of the institution to its stakeholders and constituents.*

APPENDIX 3: Examples of Evidence of Academic Quality**Evidence of Student Learning**

- Graduate school admission rate
- Graduate and professional programs into which students are accepted
- Placement into career positions
- Ratings by cooperative education/internship supervisors
- Employer ratings of satisfaction with the program
- Pass rates on appropriate licensure/certification exams (e.g., Praxis, NLN) or exit exams (e.g., MFATs, Test of Critical Thinking Ability)
- Scores on locally-designed multiple choice and/or essay tests, accompanied by test "blueprints" describing what the test assesses
- Score gains between entry and exit on published or local tests or writing samples
- "Blind" or externally-scored rubric scores on writing samples or "capstone" projects such as research papers, class presentations, exhibitions, or performances
- Rubric scores and notes for oral presentations and interviews
- Honors, awards, and scholarships awarded to students
- Student publications and conference presentations
- Student reflections on what they have learned over the course of the program
- Student reflections on their attitudes and beliefs, if developing those are intended outcomes of the program
- Excerpts of student work, before-and-after samples of student work, or portfolios of student work (e.g., teaching portfolios for students in teacher education programs)

Indirect Evidence of Student Learning

- List of the major learning outcomes of the program, distributed to all students in the program
- Percent of courses whose syllabi include a list of the major learning outcomes of the course
- Percent of courses whose syllabi state learning outcomes that include higher order thinking skills (not just simple understanding of facts and principles)
- Average proportion of final grade based on assessments of higher-order thinking skills
- Ratio of paper-and-pencil tests to performance assessments
- Test "blueprints"-outlines of the concepts and skills covered on tests
- Documentation of the match between course/program objectives and assessments
- Percent of freshman-level classes taught by full professors
- Number or percent of courses with service learning opportunities
- Number or percent of courses with collaborative learning opportunities
- Number or percent of courses taught using culturally-responsive teaching techniques
- Percent of class time spent in active learning
- Number of student hours spent in community service activities
- Percent of student majors participating in relevant extracurricular activities (e.g., clubs in discipline)

- Attendance at intellectual/cultural events germane to the program
- Student and/or alumni ratings of satisfaction with the program

Evidence of Other Aspects of Academic Quality

- Specialized accreditation
- Graduation rate
- Length of time to degree
- Student/alumni satisfaction, collected through surveys, exit interviews, or focus groups
- Library holdings in the program's discipline(s)
- Expenditures for faculty professional development
- Department-sponsored opportunities for faculty professional development
- Number and/or dollar value of grants awarded to faculty
- Number and/or dollar value of grants awarded to faculty whose purpose is improved student learning
- Number and/or dollar value of gifts to the department

* IMP: Follow up report DUE: 1 Oct 2003



Middle States Commission on Higher Education

3624 Market Street, Philadelphia, PA 19104-2680 Tel: 215-662-5606 Fax: 215-662-5501
www.msache.org

November 20, 2001

Dr. Pablo Rodriguez
Interim Chancellor
University of Puerto Rico
Mayaguez Campus
P.O. Box 9000
Mayaguez, Puerto Rico 00681

Dear Dr. Rodriguez:

At its sessions on November 14-15, 2001, the Commission on Higher Education acted to accept the Periodic Review Report submitted by the University of Puerto Rico, Mayaguez Campus, to reaffirm accreditation, and to commend the institution for the quality of the report. The Commission requested a follow-up report by October 1, 2003, documenting (1) development and implementation of a comprehensive institutional strategic plan, and (2) development and implementation of a comprehensive outcomes assessment plan including student learning outcomes. The next evaluation visit is scheduled for 2004-2005.

Enclosed for your information is a copy of the Statement of Accreditation Status for your institution. The Statement of Accreditation Status (SAS) provides important basic information about the institution and its affiliation with the Commission, and it is made available to the public upon request. Accreditation applies to the institution as detailed in the SAS; institutional information is derived from data provided by the institution through annual reporting and from Commission actions. If any of the institutional information is incorrect, please contact the Commission as soon as possible.

Please check to ensure that published references to your institution's accredited status (catalog, other publications, web page) include the full name, address, and telephone number of the accrediting agency. Further guidance is provided in the Commission's policy statement *Principles of Good Practice in Institutional Advertising, Student Recruitment, and Representation of Accredited Status*, a copy of which is enclosed.

Please be assured of the continuing interest of the Commission on Higher Education in the well-being of the University of Puerto Rico, Mayaguez Campus. If any further clarification is needed regarding the SAS or other items in this letter, please feel free to contact Dr. George Santiago, Jr., Executive Associate Director.

Sincerely,

William B. DeLauder
Chair

/clr

cc: Dr. Jorge Luis Sanchez, Interim President, University of Puerto Rico
Ms. Sandra Espada Santos, Puerto Rico Council on Higher Education

m:0618



Middle States Commission on Higher Education

3624 Market Street, Philadelphia, PA 19104-2680 Tel: 215-662-5606 Fax: 215-662-5501 www.msache.org

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July 7, 2003

Dr. Jorge I. Velez Arocho
Chancellor
UPR - Mayaguez
P. O. Box 9000
Mayaguez, PR 00681

Dear Dr. Velez Arocho:

This is just a reminder that the Commission on Higher Education expects to receive a report from your institution on the date indicated on the enclosed Commission action letter. Also enclosed is the "Policy on Follow-up Reports".

Please send four (4) copies of the report and any attachments to me at the Commission Office and include a copy of your most recent Institutional Profile with each copy of the report.

If you have any questions or if I can be of assistance, please feel free to call or write.

Sincerely,

Carmella R. Morrison

Carmella R. Morrison
Office Associate

832-0119
Dr. Shama

Milfred

Saludos. Por favor
atender y contestar
etc peticion de UESA

Gracias
T.

IMP: Follow up Report DOE: 1 Oct 2003

Universidad de Puerto Rico
Recinto Universitario de Mayagüez
Colegio de Ingeniería - Oficina del Decano
Apartado 9040 - Estación Colegial
Mayagüez, Puerto Rico 00681-9040



University of Puerto Rico
Mayagüez Campus
College of Engineering - Office of the Dean
P.O. Box 9040
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August 1, 2003

Ms. Carmella R. Morrison
Office Associate
Middle States Commission on Higher Education
3624 Market Street
Philadelphia, PA 19104-2680

Dear Ms. Morrison:

The Dean of Academic Affairs, Dr. Mildred Chaparro, recently referred your letter dated July 7, 2003 addressed to the Chancellor, Dr. Jorge I. Vélez Arocho, to me for response. Yes, we are fully aware of the contents of the letter dated November 20, 2001, which was addressed to the then Interim Chancellor, Prof. Pablo Rodriguez, in response to the five-year Periodic Review Report, which was submitted by us in June 2001. In this letter, "The Commission requested a follow-up report by October 1, 2003, documenting (1) development and implementation of a comprehensive institutional strategic plan, and (2) development and implementation of a comprehensive outcomes assessment plan including student learning outcomes."

We do have institutional teams in place, and it is our earnest goal to provide the requested followup reports prior to the established deadline. While this is one of the established milestones for the UPRM/MSCHE Steering Team, we are also well poised to start working on strategies to complete and submit the Self-Study Report for the upcoming reaccreditation visit in 2004-2005.

If there is anything else that may be required in the meantime from our institution prior to this date, please do not hesitate to contact us. We look forward to a very productive relationship with the Middle States Commission on Higher Education. Thank you for your reminder letter.

Sincerely,

Anand D. Sharma, Ph.D.
Coordinator - UPRM/MSCHE Steering Team
Professor & Spec. Asst. to the Dean of Engineering

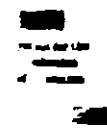
cc: Dr. Jorge I. Vélez Arocho, Chancellor
Dr. Mildred Chaparro, Dean of Academic Affairs
Dr. Antonio González Quevedo, Director, Office of Institutional Research & Planning

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PATRONO CON IGUALDAD DE OPORTUNIDADES EN EL EMPLEO M/P/V/I
AN EQUAL OPPORTUNITY EMPLOYER M/P/V/I



University of Puerto Rico – Mayagüez
Middle States Steering Committee
Task Force 11 (Standard 14)



Drafting Considerations:

Institutional Plan for the Assessment of Student Learning

Prof. Hiram Gonzalez, Coordinator
Email: hram@sa.sprn.edu

MSCHE Requirements

Standard #14

"Assessment of Student Learning"

Standard 14

Assessment of Student Learning

Assessment of student learning demonstrates that the institution's students have knowledge, skills, and competencies consistent with institutional goals and that students at graduation have achieved appropriate higher education goals.

Fundamental Elements of Assessment of Student Learning

Relative to this standard, an accredited institution is characterized by:

- articulated expectations of student learning at various levels (institution, degree/program, course) that are consistent with the institution's mission and with the standards of higher education and of the relevant disciplines
- a plan that describes student learning assessment activities being undertaken by the institution, including the specific methods to be used to validate articulated student learning goals/objectives
- evidence that student learning assessment information is used to improve teaching and learning; and
- documented use of student learning assessment information as part of institutional management.

MSCHE Guidance

Standard #14

"Assessment of Student Learning"

Guidance on Plan Format

MSCHE *Optimizing & Redesigning*, Page 50

Suggest the components of the Plan

"The Commission does not expect Institutions to adopt the format or structure described and presented in Figure 15, but most good institutional plans for the assessment of student learning will contain these or similar components in some form"

Additional Guidance for the Plan

MSCHE *Designs for Excellence*, Page 47

"...a plan that describes student learning activities being undertaken ..."

"... the plan, which in many ways is more of a summary with sufficient detail to make it comprehensible ..."

"... would need to be supported at a more detailed level by other documents (e.g., individual departmental or program assessment plans)..."

Additional Guidance for the Plan

MSCHE Designs for Excellence, Page 47)

"The plan for the assessment of student learning could not reasonably include in full detail all activities for the assessment of all levels of student learning goals."

- "Rather, the focus in the plan for assessment of student learning should be on institution-wide learning goals, and these goals should set the frame for assessment processes at the department/program level"***

Additional Guidance for the Plan

MSCHE Options & Resources, Page 85)

"...and the plan should show how the institution translates its mission into learning goals and objectives."

- "While specific goals at each level (course, program, institution) need not be included in the assessment plan itself, statements of expected student learning must be available on campus to those planning or implementing assessment activities and to those evaluating the institution."***

Additional Guidance for the Plan

NISHE Options & Resources Page 55

"The institution should specify those assessment measures, methods, and analyses that will be used to validate stated expectations for student learning."

"...while the assessment of learning first occurs on an individual student basis within a particular course, institutions may select the level or levels at which they report assessment data."

"In developing their assessment plans, institutions should begin, of course, with those assessment measures already in place"

Additional Guidance for the Plan

NISHE Options & Resources Page 56

"In all instances, institutions should utilize multiple approaches, which may be qualitative and/or quantitative, to demonstrate that graduates have achieved stated learning outcomes."

"Assessment is not an event but a process and should be an integral part of the life of the institution."

"Not everything needs to be assessed each year"

Additional Guidance for the Plan

MSCHE Options & Resources, Page 57

"Comprehensive plans for the assessment of student learning ... take into account the institution's mission and provide for the manner of assessing student learning at the different levels with varying degrees of specificity, depending on the nature and size of the institution ... and the level or levels at which the institution has chosen to conduct assessment"

"...most will delineate at the institutional level broad principles, goals, and characteristics by which departments, programs, and other units can develop their own subsidiary plans ... which then can be appended to the institutional plan."

Additional Guidance for the Plan

MSCHE Options & Resources, Page 57

"Because student learning is a fundamental goal of every institution of higher learning, the Commission (MSCHE) expects a separately identifiable written plan for the assessment of student learning, although no particular form is required."

1 "The student learning assessment plan may be a compilation of departmental plans ..."

Additional Guidance for the Plan

MSCHE Options & Resources, Page 62

"...the institution develops a set of overall institutional learning goals (outcomes) stemming from its mission; these goals serve as the super-ordinate (highest level) goals from which program and course level goals flow."

- "...the institution adopts general education goals as overall institutional goals ... umbrella-like general education goals, which are essentially institutional goals (outcomes)."*

Additional Guidance for the Plan

MSCHE Options & Resources, Page 62

- "The institutional plan for the assessment of student learning is not likely to include detail on how these evaluations are carried out but, rather, provides a framework and general description ..."*
- "Departmental or programmatic evaluation methods would be included in the assessment plan for the particular department and could vary considerably, depending on department need."*
- "...the variety of methods used will depend on the goals (outcomes) being evaluated and other factors, including budgets available ..."*

UPRM's Proposed Plan (Summary)

Standard #14 "Assessment of Student Learning"

Suggested Components (Format) of a Student Learning Assessment Plan

MNCHE Options & Resources, Figure 15, Pg. 61

- Introduction
- Purpose of Assessment
- Purpose of the Plan
- Applicability
- Institutional Mission
- Relationship Between Plans
- Guiding Principles
- Process for Setting Learning Goals/Outcomes
- Conceptual Relationships of Learning Outcomes at Different Levels
- Learning Outcomes (Institutional Level)
- Assessment Process and Methods
- Reporting and Utilization of Assessment Results
- Responsibility for Enacting and Maintaining the Plan
- Time Line
- Process for Reviewing the Plan
- Provision for Funding and Support Resources
- References
- APPENDICES

Red Text = Sections Added Locally

Our Commitment

*We at the University of Puerto Rico—
Mayagüez will regularly and continuously
assess student learning in each area of
general education and in each academic
program, and will use that information for
improving all programs.*

Introduction

- **“Assessment of student learning” – the most important component of the Institution’s overall assessment program**
- **Student – primary focus of inquiry**
- **Start by reinforcing & documenting existing successful assessment practices**
- **Use CoE experience as “Pilot” – “no need to reinvent the wheel”**
- **Goal is the formalization of a “Continuous Quality Improvement” (CQI) process**

Purpose of Assessment

- 1 To improve student learning
- 1 Accountability to:
 - *Accreditation Agencies*
 - *Governing Bodies*
 - *Constituencies*
 - *Other interested parties*
- 1 To demonstrate knowledge, skills, and competencies

Purpose of the Plan

- 1 Delineate Institutional assessment broad principles, goals, and characteristics
- 1 Set the frame for the implementation of student learning assessment processes
- 1 Establish that the assessment of student learning at UPRM will be *course-embedded* and *Department/Program-based*
- 1 Guide Departments/Programs in the development of their own Plans & Processes

Applicability

- All student-credit-generating academic units of UPRM
- Office of the Dean of Academic Affairs
- Office of Institutional Research & Planning (OIRP)
- "New" Office of Continuous Improvement Educational Experience (CIEE)

Institutional Mission

Within the philosophical framework established by the University of Puerto Rico Act, the Mayaguez campus directs its efforts towards the development of educated, cultured citizens, capable of critical thinking, and professionally qualified in the fields of agricultural, social, and natural sciences, engineering, humanities and business administration. They should be able to contribute in an efficient manner to the cultural, social, and economic development of the Puerto Rican and international community. This process is aimed at endowing our alumni with a strong technical and professional background and to instill a strong commitment to Puerto Rico and our hemisphere. Our alumni should have the necessary skills and knowledge to participate effectively in the search for solutions to the problems facing us, to promote the enrichment of the arts and culture, the development and transfer of technology as well as to uphold the essential attitudes and values of a democratic society.

Institutional Mission (cont'd)

- 1 Describes our Institutional product or outcome
- 1 Learning assessment plans must flow from the Mission
- 1 Learning assessment program focuses:
 - *Assessment within courses & programs*
 - *Evidence of meeting identified outcomes*
- 1 Assessment results help adjust Mission
- 1 Mission Statement & Assessment Program are interdependent

Relationship Between Plans

(Strategic Plan, Institutional Assessment & Student Learning Assessment)

- 1 Student learning - fundamental goal of UPRM
- 1 Strategic Plan - directed to the enhancement of student learning
- 1 Results from Assessment Plans inform the Strategic Plan
- 1 EVIDENCE on learning outcomes used for:
 - *Resource allocation*
 - *Planning for Institutional effectiveness*
 - *Enhancing academic programs*

Guiding Principles

for Student Learning Assessment Plans at UPRM

- Mission serves as foundation of all planning
- Assessment Plans are aligned with Institutional & Departmental Strategic Plans
- Assessment of student learning interacts with assessment of other areas
- Plans are applicable to all Accrediting Agencies
- Assessment tasks shared by all
- Assessment is a process that must be institutionalized
- Assessment focuses on key learning outcomes
- Plans acknowledge existing practices
- Plans are created by participatory process
- Plans are systematic
- Plans have realistic timetables
- Plans are supported by institutional resources

Guiding Principles (cont'd)

for Student Learning Assessment Plans at UPRM

- Plans make wise use of faculty & staff times
- Plans are SIMPLE !!!
 - Clearly focused on Mission, values, and priorities
 - Directed at assessing the most important outcomes
 - Easy to interpret
 - Easy to implement
 - Easy to adapt
- The annual assessment process informs the Program Review process
- Emphasis is on assessment rather than on extensive reports
- Do not wait for the "perfect" plan
- Not everything needs to be assessed each year
- Assessment conducted in non-threatening environment
- Must use results for improvement of programs

Process for Setting Learning Outcomes/Goals

- 1 Start with success
- 1 Ensure the quality and relevance of Learning Outcomes
 - *Identify key learning outcomes*
 - *Use widely agreed-upon concepts (reach consensus)*
 - *Communicate/publish learning outcomes*
- 1 Choose outcomes that can lead to improvements

Relationship of Outcomes at Different Levels

- 1 Tie (by matrix) outcomes at various levels:
 - *Course Learning Outcomes (in Syllabus)*
 - *Department/Program Learning Outcomes (in Departmental Learning Assessment Plan)*
 - *Institutional Learning Outcomes (in Departmental & Institutional Learning Assessment Plans)*
- 1 Learning Outcomes at these levels must be:
 - *Interconnected*
 - *Complimentary*
 - *Reciprocal*

Institutional Learning Outcomes

*(***Pending Institutional Approval***)*

- a. Be able to think critically, in a global and societal context
- b. Be able to integrate and synthesize knowledge in the solution of problems
- c. Demonstrate literacy in reading, writing, and oral communications
- d. Understand science, scientific inquiry, and the development & transfer of technology
- e. Have a historical consciousness, with an understanding of own heritage and the essential values of a democratic society
- f. Have an appreciation for the arts and culture
- g. Be familiar with ethical implications and with the various branches of human understanding
- h. Be professionally qualified in their fields of study

Assessment Process & Methods

Key Terms Definitions:

- Program Educational Objectives (PEOs)
"Statements that describe the expected accomplishments of graduates during the first few (5) years after graduation"
- Program Outcomes (POs)
"Statements that describe what students are expected to know and be able to do by the time of graduation"
- Course Learning Outcomes (CLOs)
"Statements that describe what students are expected to know and be able to do by the end of a course"

Assessment Process ... (cont'd)

• **Conceptual Assessment Cycle (Loop)**

Assessment Cycle



Assessment Process ... (cont'd)

- **Decentralized Process – Individual Academic Departments ...**
 - *Identify key learning outcomes*
 - *Determine how outcomes will be measured*
 - *Carry out assessment activities*
 - *Analyze results*
 - *Use those results for improving learning*
- **Institution-wide Assessment - led by Office of CIEE, subordinate to OIRP**

Assessment Process ... (cont'd)

• Institutional Plan provides:

- *Suggested steps in establishing & reviewing learning objectives and outcomes (Section 11e)*
- *Sample listing of successfully used assessment strategies & operational actions for achieving outcomes (Section 11f)*
- *Examples of assessment methods, tools, and rubrics, with utilization strategy, timing, and assigned responsibility (Section 11g & Table 1)*
- *Suggested Metric Goals, to measure outcomes accomplishment (Section 11h)*
- *Suggested EVIDENCE to collect & maintain at Course and Department levels (Section 11i & Appendix 3)*

Reporting & Utilization of Assessment Results

- Reporting – a section within each year's Annual Report, including:
 - *List of Learning Outcomes in the Program*
 - *Brief description of how Department is ensuring the achievement of outcomes*
 - *Brief description of how Department is assessing these learning outcomes*
 - *Brief report on positive EVIDENCE of what students have learned as result of the assessment*
 - *Brief report on how the Department has used assessment results to improve student learning*
- Utilization of Results - IAW guidelines & suggestions presented throughout this Plan

Responsibility for Enacting and Maintaining the Plan

- Delineates major responsibilities and necessary actions of key personnel:
 - *Department/Program Directors*
 - *Deans of Academic Colleges*
 - *Institutional Leadership*
- Includes details for Annual Report

Timeline

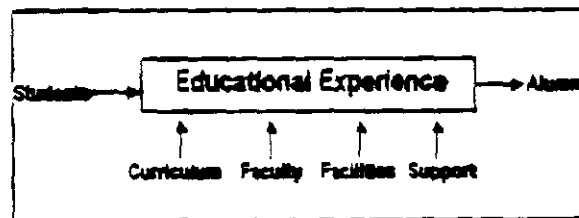
(* Under Construction ***)**

Process for Reviewing the Plan

- 1 During the cyclic review of Assessment Results
- 1 Incorporated into the Assessment Process
- 1 Conducted on a regular basis
- 1 Not complicated nor cumbersome
- 1 Lead to refinement/improvement of Plan
- 1 Lead to elimination of ineffective assessment practices
- 1 Office of CIEE reviews Institutional Plan

Provision for Funding & Support Resources

- 1 Resource Perspective:



- 1 Adequate resources must be available to be successful and have on-going accreditation

Appendices

Assessment Terms Glossary

Principles of Good Practice for the Assessment of Learning

Examples of EVIDENCE of Academic Quality

Examples of Departmental Student Learning Assessment Plans:

*Department of Civil Engineering & Surveying Assessment Plan, UPRM
("Pilot" for UPRM)*

Assessment Plan: Department of Mechanical Engineering, NIU

Assessment Plan Bachelors Degree in Marketing, NIU

Undergraduate Assessment Plan BS in Chemistry, NIU

UPRM's Departmental Plans for the Assessment of Student Learning:

["Under Construction by Academic Departments - to be Appended here"]

Department A

Department B

... and so on ...

In Closing ...

The Plan is:

- **SIMPLE !!!**
- **DOABLE**
- **BROAD**
- **GENERAL**
- **DECENTRALIZED**
- **REFLECTIVE OF CURRENT PRACTICES**
- **OPEN TO DEPARTMENTAL WISHES & CAPABILITIES**

! The Plan complies with Guidance from Accrediting Agencies

Comments ??

Questions ??



Thank You ...

For more information:

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