

INTER AMERICAN UNIVERSITY OF PUERTO RICO

NOTE: This normative document is available in Spanish and English. In the event of a conflict as to its interpretation, the Spanish version shall prevail

*Guide for the Development
of
Assessment*

*Vice Presidency of Academic, Student
Affairs and System Planning*

November 2010

Index

	Page
I. Introduction.....	2
A. Conceptual analysis of the terms: learning, measurement, <i>assessment</i> and evaluation	3
B. Principles of appraisal (<i>assessment</i>)	5
C. Benefits of the appraisal (<i>assessment</i>)	6
II. Levels of Assessment (<i>assessment</i>).....	8
A. Institutional.....	8
B. Programmatic	15
C. Classroom.....	20
III. Appraisal Instrument (<i>Assessment</i>).....	27
IV. Faculty Development	29
V. Work Plan	32
VI. Use of the Results	34
VII. References	36

I. Introduction

The purpose of this guide is to serve as an orientation for the preparation and updating of assessment plans for each academic unit in the Inter-American University of Puerto Rico system. In the last decades, educational institutions have directed their efforts to develop systematic and continuous evaluation strategies that allow them to respond adequately to the demands on the quality of their programs and services. To these demands are added the demands for improving the profile of graduates, the need to be accountable for the productivity of universities, the requirements of accreditation agendas, both state and federal, and the challenges imposed by changes in the student population. Change as a strategic variable in the context of higher education has been a critical element in determining the general guidelines that orient future courses of action in attention to the mission, goals, and objectives of the institution of higher education. The development of the informative bases to document the decision making related to academic planning, services and the allocation of resources is consubstantial with a permanent reflection of the events of university activities for the improvement of the programs.

Our society requires the development of an educated, responsible, self-directed person who is co-owner of the teaching and learning process. This evaluation of the quality of graduates considers the academic and non-academic factors that affect and influence the teaching and learning process. For these reasons, universities require *assessment* models that allow them to develop multidimensional evaluations of the quality of their processes and products. Institutional *assessment* is a tool for evaluating effectiveness with respect to the vision, mission, goals, and strategic guidelines. In this way, not only does it determine how far it is advancing its mission and vision, but also how each of its institutional components contributes to the expected results within a framework of greater control of educational expenses and the implementation of cost-effectiveness measures in the administration of academic management.

Assessment is an essential element in the teaching and learning process in higher education. It is a core component of an educational experience holistic and integrative.

When the assessment is carefully designed, it contributes to provide answers regarding the student's educational experience, which impacts individually, but very powerfully, the quality of learning. The instructional challenge requires taking into consideration contextual variables in which the teaching-learning process is inscribed in order to account for the achievement of the expected results. In other words, the mission, goals and objectives of the campus and the profile of its student population take on particular significance. This congruence imposes on us an analysis of the external environment and the conditioning factors that configure the demands faced by the institution of higher education.

A. Conceptual Analysis: learning, measurement, *assessment* and evaluation

It is essential to understand the relationship between the concepts of learning, measurement, *assessment* and evaluation. A comparative synthesis between them allows us to distinguish the elements they share, as well as those that differentiate them. In this way, the meaning and use of these concepts is made clear.

Learning is the main variable in an educational institution. Verdejo-Carrión & Medina Diaz (2007) p.20, point out "that there are different theories about what learning is. They all agree that it involves relatively permanent changes in the person as a result of experiences, practice or exercise and not to other factors, such as maturation or drug use. Learning is a constructive, internal, cumulative, individual and collective, complex and self-regulated process in every human being.

Measurement, on the other hand, is an inherent element shared by appraisal. (*assessment*) and evaluation. The first step in any measurement is to establish what is to be measured, to determine which of its attributes will be the object of study (Cirino, 1994). The researchers Verdejo & Medina (2007) p. 22, defined the concept of measurement as "the process of obtaining numerical expressions of the attributes or characteristics of objects or people following particular rules. Numerical expressions are not only numerals but also letters or other symbols". The word measurement is used both to describe the process of developing an instrument and to designate the use of the instrument.

The concept of assessment has been defined in the literature in several ways. **Assessment** is defined as the process by which information is collected and organized in an interpretable form for a predetermined use. Verdejo-Carrión & Medina Diaz (2007) p.24, define it as the "process of collecting, organizing and synthesizing diverse information for different purposes among which is to facilitate the evaluation of learning and make related decisions. Palomba & Banta (1999) indicate that it is the systematic collection, review and use of information about an educational program for the purpose of improving student learning and development. These definitions suggest that once information is collected, judgments (evaluation) are made based on the objective evidence obtained.

Evaluation is a continuous and systematic process of collecting data that allows the identification of strengths and weaknesses in order to make a judgment about the merit or value of an object that guides decision making in a particular context.

Measurement	its emphasis is quantitative. is an inherent aspect of the other concepts.
Appraisal (Assessment)	multiple standards quantitative and qualitative methods emphasis on process continuous improvement at different levels
Evaluation	qualification, judgement, process or product decision -making: eliminate, modify, strengthen at different levels

In summary, *assessment* is, therefore, the process of gathering information, a methodology that integrates a variety of instruments and measures to obtain multiple judgments. It can be carried out at different levels: institutional, programme, course and student (Rosa, 2004). It provides the basis for formative and summative assessment in the different instances in which it is carried out, recognizing its multidimensional, longitudinal and systemic nature.

The *assessment* in this guide refers to *the student outcomes* in two dimensions: the expected outcomes versus the actual outcomes. The discrepancy analysis between the two categories allows the gap to be determined from the established standard. In addition, it facilitates the identification of context, input and process variables that influence their behaviour. This look at programmatic and institutional efforts is essential to provide rationality in decision-making regarding improvement at both levels.

B. Principles of Appraisal (*Assessment*)

The appraisal/assessment:

- It is based on the institutional vision and mission, as well as on the particular mission and goals of the academic units.
- The mastery of competencies in the disciplines is intimately associated with a systematic, conscious and deliberate educational process.
- It applies to all components of the Institution: academic programs, services and support programs.
- The *assessment of the learning product* (outcomes) requires examining the demands of the external environment, accrediting and licensing bodies, as well as the profile of the learners.
- Provides for the development of the empirical basis for documenting decision making for institutional improvement.
- It makes use of a variety of strategies, taking into account direct and indirect measures, as well as quantitative and qualitative methods.

- It places fundamental importance on the acquisition of essential knowledge, skills and values through the General Education component.
- It gathers relevant information regarding the achievement of the particular objectives of the academic programs.
- It includes a variety of measures to determine the effectiveness of support services and programs.
- It is used to make decisions about curricular changes and to improve support services and programs.
- It is characterized by the broad participation of all members of the university community.
- It requires the development and implementation of specific plans in the academic units, in coordination with strategic and budgetary planning.
- Disseminates the results and applications of the process to members of the academic community, as appropriate.
- Uses results as a general management tool in planning, development and resource allocation processes for the improvement of the institution, programs and services.

C. Benefits of Appraisal (*Assessment*)

Higher education institutions, as a response to emerging social, demographic, economic, political and technological trends, face the challenges imposed by this new scenario from an avant-garde vision and international projection. The *assessment* of institutional effectiveness is one of the priority areas as a tool for the analysis of the expected results in response to the mission, goals and objectives. Therefore, it requires the development of a systematic, continuous and reflective process of what happens in the different subsystems that make up the institution and their corresponding interactions.

The university institution as a system is inserted in an external environment that demands a renewed process of introspection in order to account for its social responsibility in a globalized society of social and economic inequalities and inequalities.

The socio-historical-cultural context in which the university is installed leads us to enhance internal and external resources and to identify the strategic variables that alter the future courses of action. The *assessment* emerges as one of the strategies that allows us to examine from a systemic vision the pattern of interaction between the internal and external environment from its academic offerings, the diversity of its student population, faculty, support services, funding sources, administrative structure and requirements of accrediting agencies.

Accountability to those responsible for higher education, generally the government and sometimes to private entities, is an unavoidable reality and requires compliance. This fiscal dimension is closely related to programmatic and student *assessment* because it represents a critical variable in the academic and administrative development of the university's work. The assessment of results is a cornerstone not only to satisfy the demands of accrediting and funding agencies, but also as a tool for planning, development and allocation of resources by university management.

The literature related to assessment suggests that the dialogue among faculty regarding teaching and learning generates a permanent reflection on the effectiveness of the educational process. It creates a space for discussion that invites a reading of the mission, goals and objectives and makes decisions that reflect the participation of all constituents, who from their particular tasks contribute to the expected results (Suskie, 2009, Allen, 2004, Walvoord, 2004, Rosa 2004). In this way, assessment is conceptualized as the process that allows the integration of cognitive and affective dimensions during the academic experience of students. It also contributes to legitimize education as an active process to develop a student who is able to continue learning throughout life subject to continuous improvement. It is to recognize that education is a process concurrent with life itself subject to continuous improvement.

Assessment of student learning through the use of multiple instruments is central to reaffirming that learning is dynamic, individual and contextual. Systematic and continuous assessment provides the evidence to inform curricular revision and teaching methodologies that need to be shared with faculty and academic administrators to carefully examine their impact on the outcomes of the educational process.

II. Levels of the Assessment

The *assessment* of student learning takes on particular significance when all constituents of the educational institution are committed to the achievement of the mission, goals and objectives. When senior university management recognizes the importance of *assessment*, it issues clear pronouncements that translate into standards and procedures that legitimize the development of assessment at different levels: institutional, program, classroom, and student. Middaugh (2010) p.11, points out that "the standard of *assessment* of student learning makes it possible to demonstrate that students have the knowledge, skills and competencies congruent with institutional goals; and that students have acquired the educational goals upon graduation". *Assessment* is characterized as a multidimensional, longitudinal, and systemic process.

The structure that supports the *assessment* is the committee integrated by professors from different disciplines at the three levels: program, campus and UIPR systemic level. It responds to the external purposes of accreditation as well as the internal ones of improving the academic achievement of students and programs. In this way, an institutional vision is obtained, assisted by an outstanding administrative and academic leadership.

A. Institutional Level

The institutional level for the purposes of this guide (refers to the UIPR system integrated by academic units articulated and supported by the System's Central Office. Essentially, it is oriented to identify the achievements to be achieved at campus level and its relationship with the central level UIPR through the Appraisal Committee composed of representatives of the sites and VAAEPS.

Assessment is more than data collection, which requires identifying the purpose of collecting the information. The database should be preceded by the following steps:

1. Clarify the goals and objectives of the learning process in relation to the mission of the campus.
2. Ensure that goals and objectives are congruent with the curriculum.
3. Clearly identify the use of the *assessment* results.
4. Formulate guiding questions that orient the meaning to be given to the *assessment*.
 - 4.1 What should the graduates of the programmes and the institution, what will they be able to do and value?
 - 4.2 What is the contribution of the institution and its programs to student development?
 - 4.3 How can student learning be improved?
 - 4.4 What is the contribution made to the development of the discipline and to the country.
 - 4.5 To what extent do the results provide an appreciation of the programmatic and institutional response to emerging social, economic, technological and cultural trends?
 - 4.6 What is the profile of the student who completes his or her educational goal?
 - 4.7 What contribution do the *assessment* results make to determine institutional effectiveness based on its mission, goals and objectives?

Institutional approaches to student assessment along several dimensions should be examined in three main areas: the type of data content to be collected, the methods to be employed, and the types of analysis to be used (Middaugh, 2010).

The first decision regarding the type of content to be collected should take into consideration the following aspects:

a. Student Characteristics

- 1) Profile - pre-entry educational background, socio-economic variables and demographics.
- 2) Type of student - traditional - non-traditional.
- 3) Internationalization
 - Number of exchange students with other higher education institutions.
 - Internships
 - Scholarships granted to participate in forums, congresses, continue studies.

b. Plans, academic program and progress

- Academic Plan or Intent (Student's Educational Goal)
- Student progress measured in:
 1. attempted courses
 2. approved courses
 3. courses withdrawn
 4. courses to be completed
- Academic advising - use of academic advising

c. Cognitive Assessment

- Complex thinking skills (analysis, synthesis, evaluation)
- General Education Competencies
- Competences in the specialty
- Professional skills

d. Affective (Assessment) Appraisal

- Commitment to your educational goal
- Commitment to the institution
- Satisfaction with your academic experience
- Satisfaction with services received

e. Aval(ao (*Assessment*) at graduation

- Cohort Retention - Retained students - not retained (profile)
- Graduation rates

f. *Assessment* after graduation

- Further Education
- Professional exams results
- Satisfaction with the grade conferred in response to job performance
- Contribution to the discipline and the country
- Community leadership and discipline
- Civic and social roles

The aggregate of these six dimensions demands a careful selection of assessment instruments in the interest of obtaining a programmatic and institutional profile that provides the empirical bases that support decision-making regarding institutional effectiveness. This general picture reveals the achievement of the expected results and makes it possible to identify the existing gaps between the general guidelines that orient the academic work and the reality described by the information from the various sources consulted. The data will reflect a clear map that will identify the strengths and limitations in each of the areas that make up the circumstances or factors that contribute to institutional effectiveness from the students' point of view, one of the primary constituents, according to Perlmutter & Crook (2004).

General Education Program

The Vice-Presidency for Academic, Student Affairs and Systemic Planning (VAAEPS) developed a battery of standardized tests in conjunction with the College Board and a group of professors from different academic units. The test battery takes as a reference the curricular structure of the PEG based on the programmatic categories that constitute it.

Basic Skills

Five standardized tests in the following courses: three Spanish, three English, and two math courses (GEMA 1000, GEMA 1200) and computer and information access.

Core Courses

The development of six standardized tests corresponding to the other five categories of the PEG:

- Christian Thought
- Philosophical and Aesthetic Thought
- Historical and Social Context
- Scientific and Technological Context
- Physical Education and Recreation

Virtual Labs

The virtual lab is oriented to strengthen students' deficiencies and support the contents of the PEG basic skills courses (Spanish, English and mathematics).

Diagnostic Tests

The objective of this test is to determine the level of mastery of the minimum basic skills that a student must demonstrate upon entering the University and to provide an educational tool for professors to make good use of the virtual laboratories. The tests are available on the Blackboard - Vista platform for all students enrolled in the basic skills courses of Spanish, English and Mathematics. In summary, these tests are a diagnostic tool to support the virtual labs and strengthen the educational process.

The following steps guide the process of articulating the administration of the PEG test battery from VAAEPS.

- Determine the instances at which tests are administered across the academic continuum: pre-entry, course completion, degree completion, or a combination of these.

- Determine the use of outcomes as a function of formative and summative of student learning.
- Develop an Instruction Manual to systematize the administration process at all academic units.
- Develop a protocol to safeguard the custody of tests evidence.
- Determine the time translated into days that the evidence will be in the enclosures.
- Determine the procedure to be followed in the selection of students: total population, sample by programmatic category and cohort by admission year.
- Evaluate the awarding of a grade as a summative assessment criterion in the course the test is administered.
- Determine the use of the results according to the different audiences: faculty, department directors, deans, rectors, academic administrators, accrediting agencies, among others.
- Produce an individual and aggregate profile of results by PEG programmatic category.
- Convene the VAAEPS Assessment Committee and that of the campuses to examine the results of the tests in relation to the level of mastery established (standard) in the PEG competencies assessed. Identify gaps in order to issue recommendations regarding the instructional and learning process, curriculum, technological resources, faculty development, and student profile, among others. Critically examine the assessment process of the PEG from the construction of the tests, established standards, contextual, programmatic and institutional variables.
- Disseminate among the faculty the competencies that are assessed in each standardized test in order to determine how courses contribute to the development of these competencies. The syllabus should include the competencies for each area.

- Share test results with faculty from the different categories of the PEG to initiate a reflective dialogue regarding the teaching-learning process, pedagogical practices, the use of technology in instruction, curriculum design, assessment of learning in attention to complex levels of thinking (analysis, synthesis, and evaluation). Look at the development of critical thinking across the curriculum rather than as an isolated skill in a course. Examine research skills so that students are critical consumers of the results of diverse studies in their respective fields of study.
- Articulate the results of the PEG tests to the student's academic profile in the concentration in order to make judgments regarding institutional effectiveness based on the mission, goals and objectives.
- Establish as a work agenda of the Appraisal Committee the areas to be improved in order to take corrective actions and achieve the expected results.

Complement the results of the PEG tests with other qualitative and quantitative assessment instruments that make it possible to describe the meaning that students give to their academic experience by recognizing them as the main actor (protagonist) and interpreter of their educational scenario.

B. Campus Level

Each academic unit will have an assessment committee that could be composed of: chairs of the *assessment* committees in each department, program, or professional school, a representative from support services, the Dean of Academic Affairs, a student, and the person in charge of institutional planning and research.

The functions delegated to this committee include:

- Have a thorough understanding of the requirements of external audiences such as accrediting bodies, licensing and certifications.

- Conduct internal audits to determine compliance with the *assessment* plan.
- Develop a work plan that integrates the development of the *assessment* process at the classroom, program, and campus levels.
- Articulate the *assessment* to institutional research to determine the behavior of academic and non-academic variables and their impact on institutional effectiveness.
- Review existing assessment tools to safeguard the systematization of the use of *assessment* results and their validity.
- Identify direct and indirect measures for the *assessment* of program goals and objectives.
- Develop matrix that reflects:

Program	Objectives	Measures Direct	Measures hints

- Advise university management on assessment issues.
- Review *issues* on an annual basis to determine academic priorities for the next year and make recommendations.

C. Program Level

An academic program is composed of four essential elements: the inputs, the processes and the outcomes at two points in time: at the completion of the degree and some time after graduation. The relationships between the elements allow us to appreciate from a systemic vision the contribution of each one of them to the expected result. The first two are generated by the internal efforts of the program, and the third is the programmatic result translated into learning products. Finally, the final results measure the impact social environment of the graduates in society (external environment) regarding the mastery of competencies in their discipline in diverse contexts.

Palomba & Banta (1999) p.5, point out that the purpose of appraisal (*assessment*) is: "to understand how educational programs work and to determine whether they contribute to student development and growth." That is, its primary focus is the *assessment* of the program as a unit of analysis, rather than the individual student through the application of multiple assessment instruments. It is most useful from a programmatic perspective to provide information about students as a group, which allows for aggregation across a course or groups of courses. This global profile provides the informational basis for documenting decision-making about curriculum, teaching methodologies, and internal and external factors that affect learning. It also allows for the examination of the relationship between *outcomes* and institutional and programmatic effectiveness in terms of its mission, goals, and objectives. In addition, it provides the context for formative and summative *assessment* at various levels of the academic continuum.

The steps to follow that guide the development of the *assessment* of the program are:

1. Examine the contextual variables that identify the educational need that gives rise to the programme.
 - a. Why does this educational program exist?
 - b. What social need does it satisfy?
 - c. Are there other educational programs in other academic units or external institutions?
 - d. What particular characteristics distinguish this program from others?
2. When the program was designed, what resources did you have?

Inputs

 - a. Student profile (background characteristics)
 - b. Faculty profile
 - c. Curriculum - mission, goals, objectives and courses

- (1) What is the relationship between these and the educational need?
 - (2) Are goals, objectives and outcomes clearly stated?
 - (3) Are the competencies to be developed in the student clearly articulated with the goals and objectives?
- d. How congruent are the program's mission, goals, and objectives with those of the site?
 - e. How does the program respond to accreditation standards, if applicable, or the Middle States Association (MSA)?
3. Examine the educational process to document expected outcomes (see classroom *assessment*).

Intermediate and Final Results

Intermediate Outcome (Upon graduation)	Final Result (After graduation)
<ul style="list-style-type: none"> • Level of skill and knowledge in the discipline • Contribution to the discipline (thesis) • Level of satisfaction with educational experiences • Opinion regarding the development of competences in your discipline • Retained Student profile- and for not retained • Graduation rate • Proficiency Level PEG tests: Basic Skills, Five main Categories Diagnostic Tests and Virtual Labs 	<ul style="list-style-type: none"> • Scores on revalidation exams or certifications professionals • Graduate's opinion regarding the mastery of their competencies in the job performance • Employers' opinion of graduates' job performance regarding their skills and knowledge • Number of graduates employed in YOUR area of expertise or area related • Alumni leadership in your discipline or community • Congruence between the social need, the graduate's profile and trends in the discipline.

4. Determine instances on the academic continuum to determine longitudinally the assessment of student learning.
5. Identify the expected outcomes at two points in time: at graduation and after graduation.
6. Examine the strengths and limitations of appraisal techniques (*assessment*) as a criterion for their selection.

**Assessment Techniques Checklist
Direct and Indirect**

Direct	Indirect
<ul style="list-style-type: none"> • UIPR and National Standardized Tests, National and UIPR Tests, Tests, PEG • Exams developed by faculty • Portfolio • Thesis (Master's/Doctoral) • Scales (Rubric)/Internships • Essays • Research projects • Service projects 	<p>Polls - Opinion</p> <ul style="list-style-type: none"> • Incoming students (bachelor's, master's, doctoral) • Enrolled • Alumni • Patrons • Faculty <p>Focus groups</p> <ul style="list-style-type: none"> • Preparation in your area of study • Academic Counseling • Formal and informal educational curriculum-experiences <p>Reflective Essays</p> <ul style="list-style-type: none"> • Educational Experience

7. Identify existing *assessment* instruments and their articulation with the goals, objectives and competencies of the program.
 - 7.1 Develop a concordance matrix to assess the contribution of each of them to the achievement of the expected results of the program.

Goal	Competition	Target	Instruments			
						Comments

8. Identify measures of achievement at two points in time: at graduation and after graduation, taking into consideration the direct and indirect measures selected to assess intermediate and final outcomes.
9. Systematically examine retention-related data to derive a profile of those retained and not retained by admission cohort.
10. Determine graduation rates.
11. Establish mechanisms to systematize the procedures to be followed in accordance with the *assessment* plan.
12. Collect ongoing and systematic evidence of student learning to support judgments regarding programmatic and institutional effectiveness based on mission, goals, and objectives.
13. Organize data for analysis and interpretation to identify strengths and weaknesses for program improvement.
14. Delegate the development of the appraisal (*assessment*) to the authority to create spaces for critical reflection on their pedagogical practices, approaches and educational modalities, among others.
15. Develop an overall profile of the results (intermediate and final) of the program to determine the level of achievement of goals and objectives.

C Classroom

Classroom *assessment* is the ongoing, systematic process of collecting data on the evaluation of student learning using a variety of instruments to determine whether the terminal objectives of a particular course were achieved. It provides the context for student and faculty to jointly examine the educational process and identify strengths and weaknesses for the improvement of learning and teaching. The aggregation of the results of the courses that constitute the program is a tool of analysis to provoke a space for discussion and critical reflection regarding the achievement of the expected results in attention to the mission, goals and objectives of the program and the institution. It aims to determine the programmatic and institutional effectiveness from a systemic vision by recognizing that the *assessment* process is multidimensional and longitudinal.

In order to develop the *assessment* in the classroom it is essential to follow the steps below:

1. Examine each of the terminal objectives in the cognitive (knowledge and skills) and affective (values or attitudes) dimensions.
2. Relate the terminal objectives to the course description according to the current undergraduate or graduate catalog.
3. Ensure that there is no repetition in observable behavior (outcome) in each of them.
4. Establish a taxonomy following this format to identify the
Objective level: Knowledge - C1, C2, C3, etc. Skills - D1, 02, 03, etc. and Attitudes - A1, A2, A3.
5. Identify in the syllabus in section III, Terminal Objectives, this taxonomy to identify them in the summary table. In this way, it is not necessary to include in the table the whole objective, only the acronym.

6. Identify the correspondence between the objective and the competency or graduate profile to ensure how the course contributes to the achievement of the competencies that best fit the objective. In addition, it is a tool to initiate a conscious and deliberate process of the instructional process. Remember, reduce the terminal objectives because it is easier to assess learning.

Example:

Competition	Target
	C2
	D3

7. The first column identifies the competency. Include the one(s) that are observed in your objective (See Congruency Analysis Table).
8. Relate the objectives to the thematic content of the course - section IV in the syllabus.
9. Identify in the column of activities those that allow for the achievement of the terminal objectives according to each competency.
10. Identify the assessment instrument that allows formatively to calibrate learning according to the stated objectives.
11. Identify for each case the existing assessment instruments (exams, portfolios, guides, reviews of research articles, research projects, needs studies, oral presentations, expository or argumentative essays, monographs, interviews, etc.). In this way, develop an inventory of those that have been in use. Review the assessment instruments and determine their relevance to the level of measurement of the objectives stated in the summary table. It may be the case that some of those that have been used in the past are combined. If not, new assessment instruments need to be designed. We all have experience in this dimension of the curriculum (assessment of learning). The institutional criterion for passing a graduate level concentration course is 70% or better, equivalent to a C, unless your program has established a different one.

A course requires the accumulation of achievement measures to deduce or conclude how competencies (graduate profile) are developed formatively through the curricular sequence. Remember, a competency is achieved through two or more courses.

12. In the case of internships, it is important to relate the development of the syllabus to the theoretical courses according to the curricular sequence, semester or corresponding trimester. In this way, we ensure that the theory is integrated into the varied contexts of practice.

13. When the course is structured in two parts or more, it is desirable to develop the following table:

Code	Content	Code	Content	Code	Content

This analysis allows you to appreciate the content at different levels and its depth, avoids repetition.

14. Develop a sample syllabus to use as a reference as you begin to review your assigned syllabi. Consult with other faculty who teach or have taught the courses or other related courses.

15. The *Assessment* Committee of the program or department must check that each record complies with the provisions of the congruence table. To do this, it is necessary to use the following format:

Relationship between competences
Objectives, Content, Activities - Methodologies, Instrument, Measurement of
Achievement

Competition	Target	Content	Activities - Activities Methodologies		Instrument	Measure of achieve ment

Checklist - Syllabus Evaluation

Structure	Complies	Complies Partially Complies	Does Not Meet	Comments
I. General Information				
II. Course description according to the current catalog				
III. Competencies				
IV. Terminal Objectives (Knowledge(C), Skills(S, Attitudes (A)				
V. Thematic Content Unit and bibliography				
VI. Relationship between competencies, objectives, content, learning activities, instruments and measures of achievement (Table, Appendix C)				
VII. Activities/Methodology				
VIII. Evaluation Criteria				
IX. Special Notes Reasonable Accommodation Plagiarism				
X. Bibliography				

16. The Committee will proceed to evaluate each syllabus according to the relevance of each part using the following table:

Competences	Course	Course	Course	Course	Course	Course
Apply theoretical frameworks to the analysis of the social situation in Puerto Rico.						

Congruence analysis by competency, terminal objectives, thematic content, learning activities, methodology, instruments, measure of achievement.

Competence	Terminal Objectives	Thematic Content	Activities	Methodology	Instrument	Measure of achievement
Relevance of competition with the course	Relationship between objectives and competencies	Relation targeted content	Congruence activities with the competences and objectives	Adequacy of the methodology with the activity and target level	Designed in focus on competencies and objectives	In accordance with set forth in the catalog, academic standard for the program, or discipline
Comments						

- a. The committee will submit its evaluation to the Program Director who will send it to the professor for correction.
- b. The Committee will finally review the résumé in the light of the observations made.

17. Breakdown of competencies by course.

- a. X-ray of the contribution of each course to the competition.

18. Breakdown of results by course: Overall programme profile

Course	Competition	Instrument	Measure of achievement	Comments

19. Summary of results

- a. Describe the extent to which students achieve the expected behaviors expressed in course and program outcomes. Discrepancy analysis allows to deduce the existing gaps in order to take corrective measures related to curriculum, teaching methodology, time devoted to teaching and learning, and quality of instruments.

III. Instruments of Aval(to (Assessment)

One challenge faced by the educational institution is the credibility and usefulness of the instruments used to collect evidence that documents student learning. The *assessment of learning* is achieved *through* the application of a variety of instruments that allow answers to the questions that guide it at the classroom, program, and institution (campus and UIPR system) levels. Medina & Verdejo (2007) define "the assessment instrument as a specific tool that is applied or used to collect data in a clear and systematic way about what is to be assessed".

The legitimacy of the *assessment* is often associated with the quality of the instruments. The statement of mission, goals and objectives is the conceptual framework that provides the general guidelines for deducing programmatic and institutional effectiveness. However, it is important to note that it is essential to clearly identify the aspects to be assessed in order to establish congruence between the questions and what is being assessed (1a).

Contemporary trends point towards the convenience of combining quantitative and qualitative methodologies. Methodological pluralism leads to broadening the validity of the results from an integrative vision that expands the empirical bases from complementary perspectives of analysis. The literature examined in relation to *assessment* methodology typically focuses its recommendations on ensuring the validity and reliability of its results.

Initially, there are instruments designed and validated by external institutions for the purposes of admission, revalidation, certifications, among others. The results do not necessarily respond to the particular curricula of the disciplines represented. However, they provide information from the external perspective that broadens the information base to examine from a discrepancy analysis the gaps, if any, from the standard established as a minimum point of execution.

The selection of *assessment* methods and tools should be preceded by the following steps:

- Developing explicit criteria is key in classroom *assessment* to minimize bias in making judgments regarding student performance.
- Identify instruments designed by faculty in departments, programs for *assessment* in the classroom and program.
- Identify the standardized instruments developed by VAAEPS.
- Develop an inventory of the instruments developed.
- Develop matrix to produce an x-ray of the aspects that evaluate each instrument at different levels and its usefulness.

Example: Matrix Internal and External Instruments

Types of Instruments	Level				Aspects evaluated
	Classroom discipline	Academic Program	Enclosure	System UIPR	
Interns					
1. Questionnaires student satisfaction	X	X	X	X	1. Educational experience, support services, counseling, faculty, curriculum, competencies professionals
2. Questionnaires to graduates		X	X	X	2. Opinion on the development of professional competences
3. Rubric for discussion	X				3. Oral and written communication, critical thinking (argumentation).
External					
1. Revalidation of psychology		X			1. Ten competencies professionals of the psychologist

- Deduce the relevance and usefulness of the *assessment* instruments identified and their congruence with the mission, goals and objectives of the program and site.
- Determine the use of standardized versus faculty-developed instruments (advantages and disadvantages).
- Identify faculty with expertise in instrument design and development.

- Determine the instance in which the instruments are administered to formatively and healthily evaluate the expected results.
- Determine the level of aggregation of the data to deduce longitudinal trends in order to make comparisons of the pattern of behavior of the variables evaluated.
- Identify the need to revise instruments and develop new ones to fit the goals and objectives of the classroom, program, and campus.
- Coordinate with expert site staff on the design and use of various types of *assessment* measures.
- Articulate this activity with institutional research to connect institutional expertise to the computerized database.

IV. Faculty Development

Faculty are a key element in the development of classroom and program *assessment*. A major concern of academics is often associated with the need to equip faculty with knowledge and skills in the instructional process cycle and assessment of student learning. It is important to develop mechanisms to articulate a range of activities aimed at identifying faculty experiences in this area of higher education and grouping them by levels of need.

A faculty development plan based on the profile of needs, previously determined, recognizes as central the ongoing training of faculty in instructional design and *assessment* of student learning assessment in order to make documented judgments regarding expected outcomes. Faculty have traditionally been exposed to training in a discipline that allows them to conduct research in their particular area of expertise. Rarely in their graduate studies are they prepared to serve as educators in their discipline. In this context, it is necessary to develop a set of academic activities that are part of the faculty development plan.

The following are the steps to follow in formulating a faculty development plan that establishes a specific objective aimed at empowering faculty with the knowledge and skills in instructional process design and assessment of student learning and its relationship to programmatic and institutional effectiveness.

- Examine previously formulated faculty development plans to determine the periodicity of faculty training in both areas and the human resources utilized.
- Identify faculty who can be recruited as teaching resources on campus and in other academic units and outside the institution.
- Develop an inventory of teaching resources by discipline to achieve a continuous and systematic process in faculty training.
- Determine the need for faculty in both dimensions of the educational process by administering a questionnaire designed for this purpose.
- Formulate an objective that allows the design of learning activities that take into consideration the following aspects:
 - a) General conference to contextualize the relevance of *assessment* in view of the trends in higher education, the requirements of accrediting and licensing organizations from various theoretical and practical approaches. The structure of the conference can be organized in a round table to discuss the topic by various resources, experts in the discipline.
 - b) Design a cycle of workshops to train faculty in instructional design and assessment of student learning. This thematic sequence should include the construction of quantitative and qualitative *avah'*.10 instruments and the use of standardized tests as external indicators of student academic performance. Emphasize the use of the results

to identify strengths and weaknesses for instructional, program, and institutional improvement.

- c) Create spaces for discussion so that the faculty can share their experiences and identify their strengths and limitations in the development of the *assessment* and take the corresponding actions.
 - d) Establish a mentoring program composed of experienced *assessment* faculty to share their experiences from a critical-reflective and collective point of view.
 - e) Present successful *assessment* projects to create learning communities on an ongoing basis that can serve as models for other disciplines or programs.
- Create spaces of encounter between the faculties of different campuses of the same discipline to share their achievements, strengths and weaknesses and to reach agreements for the integration of innovative approaches to the approach of the appraisal at different levels of the academic continuum.
 - Encourage the participation of faculty from various disciplines to reflect on their *assessment* practices and approaches to make judgments regarding desired outcomes.
 - Encourage the publication of results in scientific and professional journals.
 - Present assessment projects at conferences and symposium at local and international levels.
 - Assign full-time faculty as mentors to facilitate part-time faculty in meeting academic course requirements and learning assessment.
 - Incorporate as a criterion for promotion in faculty rank the development of *assessment* projects that demonstrate commitment to their teaching work and the institution.

- Take into consideration for faculty recognition the interdisciplinary initiatives for the *assessment* of learning in the courses.
- Bring the faculty together periodically to follow up on the faculty development plan and jointly evaluate what was planned versus what was implemented in order to take timely formative action.

V. **Work Plan**

The assessment plan needs to be translated into a work plan that integrates a set of activities, strategies and procedures aimed at achieving results. It is a planning instrument to project in time the desired courses of action congruent with the established operational objectives. In addition, it is a management tool that provides for direction, organization, coordination and control. It provides the basis for monitoring aimed at examining what was planned versus what was implemented. In this way, strengths and weaknesses are identified in order to take corrective actions in time. This analysis leads to process evaluation to refine the selected courses of action and their relevance to the expected results.

A. Areas to Consider

- Period covered by the plan
- Academic areas to include
- Development of instruments
- Data collection dates
- Faculty Development
- Outreach and coordination mechanisms

B. The steps to be considered in formulating the action plan are detailed below:

1. Review the *assessment* plan and identify priority areas.
2. Formulate operational goals and objectives.
3. Develop activities according to each objective.
4. Identify the resources to whom the development of activities is delegated.
5. Set the time for each activity at specific dates - start and termination.
6. Clearly define the evaluation criteria.
7. Use the outline below to formulate the work plan.

Target	Activities	Resource	Home	Date Termination	Evaluation Criteria	Comments
--------	------------	----------	------	---------------------	------------------------	----------

C. Follow -up and Evaluation

Follow-up requires examining the *assessment* plan vis-à-vis the work plan.

1. Discrepancy analysis between what was planned versus what was implemented.
2. Identify the level of achievement of objectives: those that were met, partially met or not met.
3. Determine areas of strengths and weaknesses to take timely corrective action.
4. Identify priority areas that have not been addressed or have not been completed.

D. Monitor's Report

1. Identify the audiences to whom the results obtained will be communicated.
2. Synthesis of findings to generate a profile of what was achieved and what was not achieved needs to be strengthened or added
3. Specific recommendations to be incorporated in the next fiscal year.

VI. Use of Results

The use of the results by the different audiences should be directed at answering questions according to their level of responsibility. The table below describes to the following audiences what they should know and what for, in order to make informed decisions regarding the improvement of the institution, program, and student learning.

Audience	What you should know	Purpose: what for
Institution/Department/ Program	<ul style="list-style-type: none">• Examine the goals and objectives in terms of: are they clearly The following are not the same as the statements, they need to be refined, expanded or eliminated.	<ul style="list-style-type: none">• For the improvement of institutional effectiveness and programmatic.
Faculty	<ul style="list-style-type: none">• Examine the curriculum in terms of its external structure. (courses) appraisal methodologies, strategies and tools to answer the following questions: What appraisal strategies? How are teaching methodologies and assessment skills articulated to document learning? student?	<ul style="list-style-type: none">• Recommend curricular changes for the improvement of student learning, assessment, and academic programs.• To provoke a reflective dialogue among the faculty concerning the teaching and learning.
Appraisal Committee (Assessment)	<ul style="list-style-type: none">• Review the appraisal plan with regard to the following questions: 1. What appraisal strategies have been developed? 1. How are appraisal strategies articulated at the different levels: institution, department or	<ul style="list-style-type: none">• Recommend actions aimed at improvement of learning assessment, program and institution.• Issue recommendations for the improvement of the appraisal.

	<p>What is needed to design an assessment plan that responds to the results profile? / How do the results of the assessment inform the achievement of goals and objectives? What gaps exist? How can these be addressed?</p>	<ul style="list-style-type: none"> • Determine what information is needed to document the analysis of the standards set by accrediting organizations.
<p>Administrators (President, Chancellor, Deans, School (Department) Directors)</p>	<ul style="list-style-type: none"> • Are the results obtained a source of information for document the allocation of resources and the process of planning and prioritization? • What are the strengths and weaknesses that are identified and in which academic areas? • As the results of the appraisal demonstrate the effectiveness of the institutional in terms of mission, goals and objectives? • Do the results obtained meet the standards of accreditation? 	<ul style="list-style-type: none"> • Make decisions regarding administrative policies, academic and fiscal. • Examine the legitimacy of the appraisal from the framework of the institutional comma central to the university's work. • Determine future and strategic projections for the improvement of student learning and the institution.
<p>Board of Trustees</p>	<ul style="list-style-type: none"> • How do the results of the appraisal make it possible to determine the institutional effectiveness in meeting the mission, goals and objectives of the PIU? • What is needed to strengthen the appraisal? • How well do students perform academically at different levels of the academic continuum? • How does the institution (IAUPR) respond to social trends, economic, cultural, technological and political emergencies? • How does the IAUPR fit into the international scenario of higher education? 	<ul style="list-style-type: none"> • Tamar decisions regarding policies and standards academic. • Review resource allocation methodology fiscal in accordance with the strategic plan. • To critically examine future projections vis-vis the emerging profile of Puerto Rican society. • Determine the national and international projection of the IAUPR. • Determine the priorities for attention to the results

VII. References

- Allen, M.J. (2004). **Assessing Academic Programs in Higher Education**. (1st Ed.). Bolton, MA: Ankor Publishing Company, Inc.
- Banta, T. W. (2002). **Building a Scholarship of Assessment**. San Francisco: CA. Jossey-Bass
- Cirino, G. (1984). **Introduction to test development** . Rio Piedras: Puerto Rico. Editorial Bahía
- Middaugh, M. F. (2010). **Planning and Assessment in Higher Education**. (1st Ed.). San Francisco: CA. Jossey-Bass
- Palomba, C.A. & Banta, W.B. (1999). **Assessment Essentials: Planning, Implementing, and Improving Assessment in Higher Education**. (1st Ed.). San Francisco: John Wiley & Sons
- Perlmutter, F. D. & Crook, W.P. (2004). **Changing Hats While Managing Change**. (2nd Ed.). Washington, DC: National Association of Social Workers.
- Rosa-Soberal, R. (2004). **Planning and evaluation of programs**. San Juan, PR: Isla Negra Editores.
- Suskie, L. (2009). **Assessing Student Learning**. (2nd Ed.). San Francisco: Jossey-Bass
- Verdejo-Carrión, A.L. & Medina-Díaz, M. R. (2007). **Assessment of Student Learning** (1st Ed.). San Juan: Experts Consultants, Inc.
- Walvoord, B.E. (2004). **Assessment Clear and Simple**. (1st Ed.). San Francisco: John Wiley & Sons, Inc.