



Conceptual Framework

University of Puerto Rico at Mayagüez

Revised March 2010

Precondition 4 for First NCATE Accreditation

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Precondition 4.1 Vision and Mission of the Institution and Unit

INTRODUCTION

The University of Puerto Rico at Mayagüez (UPRM) was established as a land grant college in 1911. Previously, the University of Puerto Rico was created by an act of the Legislative Assembly on March 12, 1903. Following the extension of the benefits of the second Morrill-Nelson Act to Puerto Rico in 1908, what is now the University of Puerto Rico, Mayagüez Campus (UPRM) began with the establishment in Mayagüez of a College of Agricultural Sciences in 1911 and a College of Engineering in 1913, together known as the College of Agriculture and Mechanical Arts (CAAM).

In 1942 the campus was reorganized and given partial autonomy under the direction of a vice chancellor. In 1966, the Legislative Assembly reorganized the University of Puerto Rico into a system of semi-autonomous campuses, each under the direction of a chancellor. At that time CAAM became UPRM. A division of science, which eventually became the College of Arts and Sciences, was created in 1943, and the College of Business Administration was added in 1970. As recognized in the Middle States Commission in Higher Education UPRM continues its development in the best tradition of a Land Grant institution as a coeducational, bilingual, and nonsectarian institution. The campus has one of the most selective student admission criteria in Puerto Rico. Its graduates are recruited by over one hundred companies and government agencies every year. For the past five years the total enrollment has been stable averaging 12,200 students with roughly 40% enrolled in the College of Engineering. In the fall semester of 2006, UPRM had an enrollment of 12,338 students, of which 6,098 (49.4 %) were female, and 1,080 (8.75 %) were graduate students (Figures 1 & 2). Among the four colleges, the largest enrollment is in the College of Engineering with 4,899 (39.7%) students (as stated in the Registered Students Report of August 2006, <http://oiip.uprm.edu/informes/>)

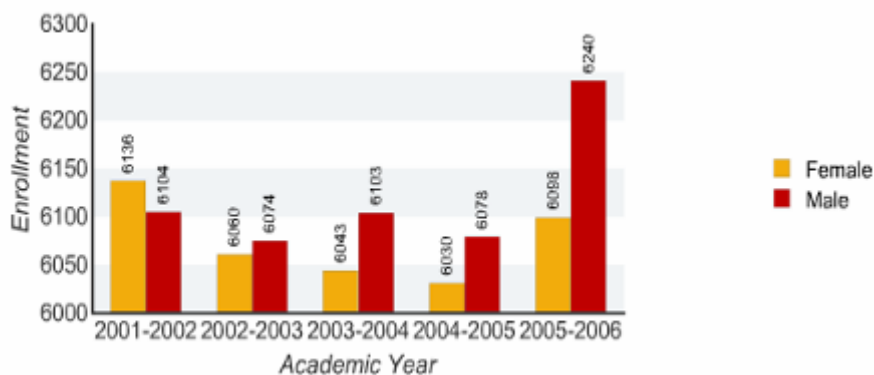


Figure 1. Enrollment by gender, fall 2006 -2007 session

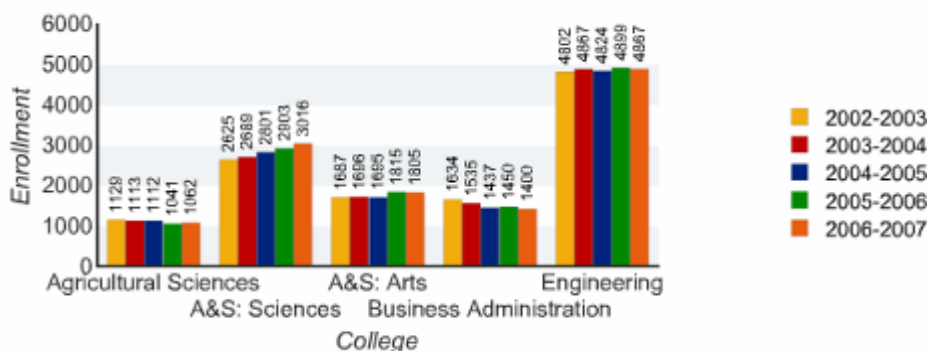


Figure 2. Enrollment by college, fall 2006 -2007 session

See dynamic up-to-date charts of student enrollment in http://oiip.uprm.edu/charts_menu.php

Description of the Teacher Preparation Programs

The unit with the primary authority and responsibility for teacher preparation programs at the University of Puerto Rico, Mayagüez Campus is the dean of academic affairs office. The Teacher Preparation Program of Secondary Education, housed in the Division of Continued Education and Professional Studies and the Department of Agricultural Education under the College of Agricultural Sciences, respond to the Dean of Academic Affairs for its overall administration and operation.

The Teacher Preparation Program of Secondary Education offers a curricular sequence of courses in education required by the Puerto Rico Department of Education for certification as a secondary education teacher. The Teacher Preparation Program of Secondary Education (in Spanish PPMES) does not offer a bachelor's degree, so students must either have already completed a bachelor's degree or be enrolled in a bachelor's program in the College of Arts & Sciences, the College of Business Administration, or the College of Engineering. The Teacher Preparation Program in Secondary Education offers an intensive multidisciplinary curricular sequence designed for students who are completing or have completed a bachelor's degree in the College of Arts and Sciences or in the College of Business Administration. Candidates who satisfactorily complete the program requirements and approve the state licensing exam (in Spanish PCMAS) are certified by the Puerto Rico Department of Education as secondary school teachers.

The Department of Agricultural Education offers both a bachelor's degree and a curricular sequence of courses for students who wish to become certified agriculture teachers. These programs prepare candidates to teach agriculture in secondary schools.

A distinctive aspect of UPRM has been its commitment to a combination of high quality programs in agricultural sciences, engineering, arts and sciences, and business administration. UPRM has effectively integrated the curricular sequence of the teacher preparation into the bachelors' programs of the disciplines taught in secondary schools. Teacher Certification Tests has placed UPRM in the top quartile among all institutions preparing teachers in Puerto Rico for at least the past eight years. School districts from Texas, Connecticut, Pennsylvania, New York, the Virgin Islands, and Aruba recruit graduates from the UPRM teacher preparation programs.

UPRM Commitment to Excellence

Recognizing success of an academic institution in today's changing environment requires processes aimed at continuous improvement, UPRM requires every program and organization to develop a strategic plan for improvement which includes professional accreditation when available as mandated in Institutional policy Certification #138 (2003-2004). For example, the Accreditation Board for Engineering and Technology (ABET) is a top priority for the College of Engineering and currently all engineering programs are accredited under the new ABET EC 2000 Criteria. ABET 2000 is based on outcomes, rather than simply input, and requires the implementation of a continuous quality improvement (CQI) process in each accredited program, as well as within the College itself. Recently, the UPRM General Library along with the UPR library system attained its first certification through the Association of College & Research Libraries (ACRL) after complying with their twelve standards. Also the Orientation Department received its accreditation by the International Association of Counseling Services (IACS). Currently, efforts are underway at UPRM to accredit all its programs and organizations by 2010; these include the teacher preparation program, the business administration program, the museum, (Middle States Commission on Higher Education UPRM Report [MSCHE-UPRM], 2005).

Another distinguishing element has been the campus effort to institutionalize the Continuous Improvement Educational Initiative (CIEI). This is a campus wide three-year effort initiated in 2003 to envision the development of new outcome-based academic environment to help ensure students will receive the best education possible. The initiative recognizes learning is a complex process and student learning is the responsibility of all academic stakeholders. This long-term effort entails assessing not only what students know but what they can do with what they know; it involves not only knowledge and abilities but values, attitudes, dispositions and habits of mind that affect both academic success and professional performance. It entails comparing educational performance with educational purposes and expectations, those derived from the institution's vision and mission, from faculty intentions in programs and course design, and from students' own goals. Thus, CIEI is not a task for a small group of experts but a

collaborative activity; its aim is wider, better-informed attention to student learning by all parties with a stake in its improvement. An important result of this process is to create consistent and parallel processes in order to prepare for program or institutional accreditations (MSCHE-UPRM, 2005).

The profile of an UPRM student includes the following characteristics: one who is a self learner (hundreds of students participate annually in student competitions presenting their research projects in the US and obtaining top positions), interested in multidisciplinary activities, talented (the student athlete grade point average is significantly higher than the general population of students grade point average and UPRM has also been successful in the graduation rate of student-athletes as measured by the National Collegiate Athletic Association (NCAA), hard working, and one who values a total educational experience (thousands of students participate in over 175 student organizations). More than one hundred and fifty students participate every semester in service learning projects in over forty projects in communities throughout PR sponsored by the University Institute to Support Communities and the EPICS program. Wide-ranging student services (including, for example, internships, mentoring, undergraduate research, professional opportunities, community service learning, and student leadership services such as student government) also expanded since the last Middle States Commission on Higher Education (MSCHE) accreditation visit to match the educational offer to the student profile. Strong student involvement and awareness supports a highly successful broad athletics program while adhering to the student-athlete model (our athletes rank in the first or second positions in the overall intercollegiate athletic competitions in PR). UPRM was accepted in 2004 as a full member of Division II of NCAA.

Vision and Mission of UPRM Institution

The **vision** of the University of Puerto Rico at Mayagüez (UPRM) is to become a leading institution of higher education in Puerto Rico and throughout the entire American hemisphere while responding to the needs of a modern society within dynamic and diverse surroundings, constantly searching for truth, knowledge, justice and peace.

Its **mission**, encompassing its eight strategic goals, is to:

Develop educated and cultured citizens, able to think critically and professionally, competent in the fields of agricultural sciences, engineering, sciences, arts and business administration, who can contribute to the cultural, social, technological and economic development of Puerto Rico and collaborate internationally in an environment of solidarity and democracy. Perform research and creative activities to serve the local, regional and international needs of society.

Provide an exemplary service to the local, regional and international community to contribute to a sustainable and balanced development of our society and disseminate knowledge making it available to all those concerned.

The updated Institutional Strategic Plan, which evolved as a result of extensive collaboration with the offices of the seven deans and other divisions of UPRM, comprises the eight strategic goals of (1) Leadership, (2) Students and Alumni, (3) Academic Affairs, (4) Research, Creative Work and Graduate Studies, (5) Community and Social Service, (6) Human Resources, (7) Effective and Efficient Administration, and (8) Infrastructure.

To improve performance as its main purpose, the Institutional Strategic Plan is based on a system of accountability. The structure and scope of this plan flows directly from its mission and goals in which the assessment of institutional effectiveness is conceived as part of strategic planning, thus ensuring that assessment activities reflect the mission and goals of the institution and its individual units. At the core of the Institutional Assessment Plan is the Plan for the Assessment of Student Learning Outcomes, whose primary focus is to improve academic programs and to meet accreditation requirements. Together these plans, as shown in Figure 3, range from being fully implemented to being in various stages of implementation.

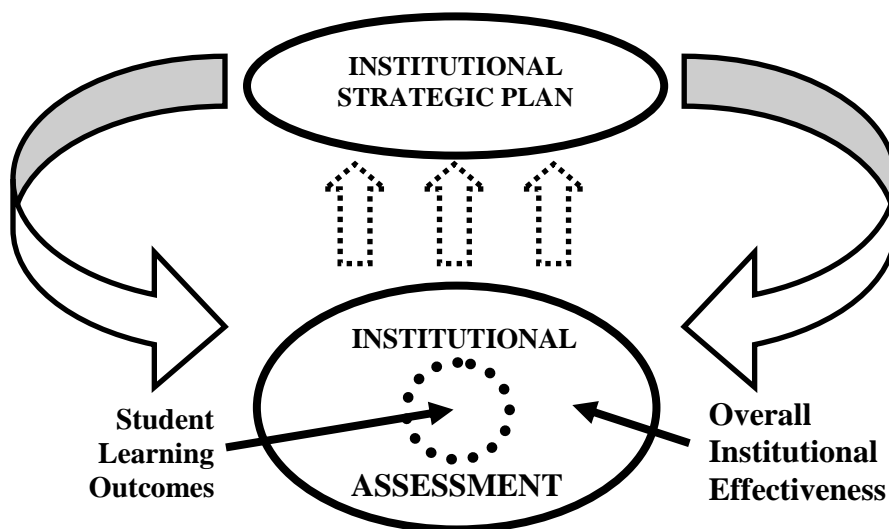


Figure 3. Conceptual Diagram of Strategic Planning and Assessment at UPRM

The Plan for the Assessment of Student Learning Outcomes stipulates that 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.**

While accreditations serve as external mechanisms to provide quality assurance in education, the larger goal is to move toward internalization of continuous improvement processes across the institution. As part of its 2002 Accreditation Board for Engineering and Technology (ABET) re-accreditation process, the College of Engineering established a permanent System for the Evaluation of Education (SEED) Office. The success of this “pilot project” (all six programs were re-accredited) served as a model in the Chancellor’s subsequent creation of an institution-wide Continuous Improvement Educational Initiative (CIEI) Office. The CIEI Office, under the guidance of the Office of Institutional Research and Planning (OIIP in Spanish for Oficina de Investigación Institucional y Planificación) has a larger responsibility of conducting regular assessments to bring about data-driven change. As further evidence of its long-term commitment, UPRM recently entered an agreement to participate in the Building Engagement and Attainment of Minority Students (BEAMS) Project, which is offered jointly by the American Association for Higher Education (AAHE) and the National Survey of Student Engagement (NSSE). With this, UPRM aspires to complement internal efforts to enhance student engagement, learning, and success (MSCHE-UPRM, 2005).

Vision of the Unit

In the context of the vision and mission of the University of Puerto Rico at Mayagüez, the unit aspires to develop subject matter specialists who are active teachers and lifelong learners who are highly capable, effective, dedicated educators in their fields.

Mission of the Unit

The mission of the Mayaguez Campus Unit reflects the mission of the University of Puerto Rico. The unit’s mission is to serve society by preparing professional educators who are subject matter specialists with dispositions of social, cultural, humanistic sensibilities and ethical values, who also possess competence, skills and general knowledge, all of which will allow them to be highly effective teachers. The unit

prepares subject matter specialists as professional educators, committed to vanguard educational paradigms, with an inquisitive attitude, capable of creative and critical thinking, and with mastery of pedagogical and conceptual knowledge in their discipline.

Precondition 4.2 Unit Philosophy, Purposes, and Goals

Unit Philosophy

This unit's philosophy is expressed in the core beliefs and dispositions which drive the conceptual framework, and the delivery of courses within our programs. Framed in the mission and vision of UPRM, the teacher preparation program directs its actions and reflections toward the development of an efficient professional with the required conceptual and pedagogical knowledge for their discipline. The search for excellence in teaching is our ultimate goal and begins with the examination of established national, state, and unit standards for teaching and learning and the review of curriculum experiences and expectations in all programs. Unit constituents hold these beliefs and dispositions to be central to the accomplishment of national and Puerto Rican standards for teaching excellence leading to teacher candidates who are prepared to make a significant contribution to student learning. These tenets are intended to influence teacher candidates beyond the program and throughout their professional development. The unit's core beliefs direct the development and revision of programs, courses, design of instruction, research, service, and assessment. They influence the unit's organization and design of what teacher candidates should know, the dispositions they should reflect, the skills they should be able to exhibit, and the kinds of assessment and evaluation used to gauge candidate's performance.

Core Beliefs

The faculty of the Teacher Preparation Program at Mayagüez recognizes:

- An educated society should be made up of free individuals who think, critically and creatively.
- The education programs should foster the integral formation of candidates by developing their intellectual, psychomotor, emotional and communication skills along with ethical, esthetic, civic and moral values.
- Each teacher has the right and responsibility to contribute to the solution of social, cultural, ecological and scientific problems –both local and global– in the quest for a culture of justice and peace.
- Education programs should be developed within the framework of cutting-edge sociological, psychological, philosophical, scientific and technological fundamentals.
- Educational excellence is achieved through the integration of knowledge in all disciplines.

- Every student has the right to have a competent effective teacher who actively collaborates in his/her personal development.
- Diversity, in all its manifestations, should be recognized, accepted, and respected.
- The effectiveness of the teaching-learning process requires constant assessment and development of self-evaluation skills which sustain lifelong learning and continuous growth.
- The effectiveness of the teaching-learning process requires the use of diverse active methodologies with a constructive, practical focus.
- Teachers can improve their effectiveness by examining carefully what students learn, reflecting on how to respond to their needs, and using instructional strategies demonstrated to be effective by educational research.

Purpose and Goal of the Educational Unit

The principal purpose of the Education Unit, as stated in Certifications [No. 27 2003-04](#) and [No. 47 2004-05](#) of the Board of Trustees of the University of Puerto Rico, is to offer the curricular sequence for teacher certification in secondary education in accordance with the norms and regulations of the Department of Education of Puerto Rico. Consistent with the University's vision and mission, the program offers a sequence designed to update and strengthen knowledge, skills, and dispositions of professional educators, Certification [No. 190 2000-01](#) of the Board of Trustees of the University of Puerto Rico.

The goal of the Teacher Preparation Program of the Mayagüez Campus of the University of Puerto Rico is to prepare professional educators committed to new educational paradigms, leaders in education with an inquisitive attitude, creative and critical thinkers, with a mastery of pedagogical and conceptual content in their discipline. The program seeks to foster that candidates develop cognitive, affective, psychomotor, research, technological and communication skills. The intention is that candidates become lifelong learners in order to be competent, effective teachers.

Precondition 4.3 Knowledge Bases Theories, Research, and the Wisdom of Practice

There are ten candidate competencies guiding the Teacher Preparation Program. These competencies were articulated to meet established constructivist theoretical frameworks, to incorporate the results of current educational research, and to take into account what has been shown to be effective teaching practice in Puerto Rico. To attain these competencies the Teacher Preparation Program requires candidates to obtain a bachelor's program in the discipline they propose to teach. Top scores on State Licensing Exams consistent with strong career performances by former graduates have shown this to be effective.

The goal of the Teacher Preparation Program at UPR Mayaguez is to prepare candidates with the following competences:

1. Possess content knowledge - Prepare teachers who understand central concepts, tools of inquiry, and structure of their discipline in a way they can provide learning experiences which make these aspects of the subject matter meaningful to students. Encourage teachers to seek to deepen their knowledge in their discipline, be it natural sciences, social sciences, mathematics, physical education, Spanish, English, health, humanities, business, agriculture, technology or others.

To have a rational, flexible and conceptual understanding of the material is indispensable for a teacher to be effective (Borko & Putnam, 1997). This understanding of the material must include knowledge of the organization of the main ideas, the connections between concepts, the patterns of change in the discipline, unifying themes and fundamental ideas and the ability to transfer ideas to and from the discipline. The University of Puerto Rico at Mayagüez is noted for offering intensive, multi-disciplinary programs designed for students who have finished or are finishing a bachelor's degree in the Colleges of Arts and Sciences, Business Administration, and Agriculture. By design, these programs provide candidates with a strong content knowledge base.

While candidates in some disciplines such as social sciences, humanities, physics, history, Spanish, and English must meet all of the requirements for a bachelor's degree in that discipline, candidates in other disciplines such as mathematics and chemistry complete bachelor's programs in the discipline that are designed to meet teacher preparation needs. These specialized programs require substantial course work in the discipline. For example, the Bachelor of Science program in Mathematics Education includes 34 credit hours in mathematics including Differential Equations and Linear Algebra. The Bachelor of Science program in Chemical Education approved by the Academic Senate on January 24, 2006 requires 33 credit hours of chemistry including Organic and Physical Chemistry.

2. Possess pedagogical content knowledge - Develop pedagogical content knowledge and an understanding of a broad variety of active methodologies of teaching-learning that allows planning instruction that reflects professional standards and curriculum goals.

Effective teachers command a repertoire of teaching practices known to stimulate student motivation, to enhance student achievement, to develop higher-level thinking, and to produce self-regulated learners (Arends, 2004). These teachers understand the cognitive processes associated with various kinds of learning, set high goals for the students, and organize learning activities to help them reach those goals (Pintrich and Schunk, 2002). The goals are set with specific criteria for measuring student success in a way which reflects professional and curricular state standards. As they plan, effective teachers reflect and think on how to make learning challenging, interesting, and feasible using constructivist and pragmatist principles. Miller (1996) advocates pragmatism and constructivism must be the dominant philosophical and theoretical underpinnings of the teacher preparation for work-based education programs. The pragmatist-constructivist teacher sees his or her role as one of providing opportunities which will enable students to build upon their experiences, make connections, and construct new meanings (Lynch, 1996). In particular, the constructivist approach to learning emphasizes individuals construct their own knowledge and develop deep conceptual understanding through reflection. A teacher with an active and constructivist approach to teaching plans and uses strategies to propitiate a learning experience characterized by the following:

1. Learners construct relationships among ideas to

- a. explain concepts in multiple ways
- b. identify examples and non-examples
- c. make hypotheses and develop procedures for testing the hypotheses
- d. build explanatory models, revise the models in order to explain anomalies, and to defend and critique the models
- e. construct relationships among ideas
- f. fit new knowledge into an already existing, complex network of interrelated ideas
- g. build upon current knowledge and understanding
- h. consciously examine an idea and its ramifications

2. Learners extend and apply their knowledge to new situations in order to

- a. identify where an idea applies or does not apply
- b. develop different strategies to approach a problem or situation
- c. relate ideas to areas outside of their field of origin
- d. work on real-world problems encountered in daily life

3. *Learners reflect on their own and others' experiences to*
 - a. work efficiently and progress towards a solution
 - b. make ongoing improvements and verify progress towards a goal
 - c. check reasonableness of results
 - d. verify solutions
 - e. adapt and assimilate new learning
 - f. critique peers constructively
 - g. ask thoughtful, meaningful, and constructive questions
 - h. examine and improve their learning skills

4. *Learners communicate what they know*
 - a. in diverse manners as needed for the situation
 - b. while listening carefully to others
 - c. using sound reasoning and facts to present and defend a point of view
 - d. framing arguments in the appropriate conceptual structure

5. *Learners actively seek to acquire knowledge by*
 - a. identifying and locating important knowledge sources
 - b. asking probing questions
 - c. using multiple means to seek answers to questions raised

6. *Learners show understanding of the fundamental ideas described in the state standards by identifying the central ideas in different disciplines and explaining why these ideas are important.*

In short, teachers know and apply the best available pedagogy in the discipline to stimulate learning with understanding.

3. Possess knowledge of human development and learning. Prepare teachers who understand how children learn and develop so they can provide opportunities to support their intellectual, social, and personal development promoting the integration of knowledge in all its manifestations. Prepare teachers to be consumers of sound research with the purpose of identifying fundamental strategies to encourage academic proficiency.

The educational research of the past three decades has propelled a paradigm shift in the education process changing the focus from teaching to learning. Accumulated research knowledge on how students learn serves as the center and foundation framework to model best teaching practices. As stated in How People Learn: Brain, Mind, Experience and School (2000), the classroom environment must be designed taking in to consideration the following fundamental guides to optimize learning:

1. **Learner centered.** Schools and classrooms must be learner centered. In order to promote a learner-centered classroom and school, teachers must determine (assess) and take into account the knowledge, skills, and interests learners bring to the classroom.
2. **Knowledge centered.** In order to create a knowledge-centered classroom environment, teachers must consider carefully what is taught (information, subject matter), why it is taught (understanding) and what competence or mastery means. The knowledge-centered environment provides depth of study meaningful to the student, assesses student understanding rather than memorization of dead facts, and incorporates the development of metacognitive strategies to facilitate future learning. Knowledge is constructed in the mind of the student by integrating new concepts to old, confronting misconceptions, and making connections with the day to day life of the student.
3. **Assessment centered.** Formative assessments – ongoing assessments designed to make student thinking visible to both teacher and student – are essential. They permit the teacher to grasp students’ preconceptions, understand where students are in the “developmental corridor” from informal to formal thinking, and design learning activities accordingly. In the assessment-center classroom environment, formative assessments help students recognize, appreciate, and contribute to their own progress.
4. **Community centered.** Learning is influenced in fundamental ways by the context in which it takes place. A community – centered approach requires the development of norms for the classroom and school, as well as connections to the outside world, which support core learning values. The school environment that values and respects knowledge and participation of all learners offers the best opportunity for all students to become highly proficient and fosters the development of long-lasting social skills.

Teachers have to be savvy consumers of evidence-based research, particularly research concerning human growth, development, and learning with the intention of adopting new learning-teaching strategies to advance academic proficiency at any developmental stage. Learning about educational research and its methodology increases the opportunity for candidates to become involved in action-research (Gay & Airasian, 2000).

4. Demonstrate creative critical thinking - Contribute to the formation of free human beings who are reflexive, creative, critical thinking individuals to whom these attributes are important in their professional, social, and personal lives.

Our teacher preparation programs aspire to promote the integral development of each candidate in a way which not only develops a specialist in the material he or she will

teach, but an educator with a solid grasp of socio-humanistic fundamentals and a strong sense of civic responsibility. This aspiration was originally expressed by José Ortega y Gasset in The Book of Missions (9th edition printed in 1976), where he stated "the mission of the university should be this. The proposed dual formation will prepare the candidate to participate in the community incorporating a commitment to change in his or her professional, social and personal life. This condition is satisfied in that classic educator's view on teaching and learning as "... a continuing reconstruction of experience; that the process and the goal of education are one and the same thing" (John Dewey, 1897; quoted as recently as 2006 by Null & Ravitch in *Forgotten Heroes of American Education: The Great Tradition of Teaching Teachers*). In this reconstruction process, the candidate should be a leader whose actions for social reconstruction are directed by free, reflective thinking and a critical conscience capable of Freire's questioning, discovering, impacting, and provoking. "For apart from inquiry, apart from the practice, individuals cannot be truly human. Knowledge emerges only through invention and reinvention, through the restless, impatient, continuing, hopeful inquiry human beings pursue in the world, with the world, and with each other" (Paolo Freire, 1979). In summary, and consistent with Lev Vygotsky (reprinted 1978), given the inevitable "reciprocal relation between the individual and the historical, socio-cultural in which he lives," it becomes imperative to take advantage of the individual-society link, to prepare men and women capable of diagnosing and intervening in their society to improve it in a critical thinking way.

5. Exhibit comprehensive formation – communication leadership skills -

Contribute to the comprehensive formation of a human being by developing his or her intellectual, emotional, and psychological abilities and his or her communication and leadership skills, as well as esthetical and ethical values. Prepare teachers to use effective verbal, nonverbal, and the use of technology to foster active inquiry, collaborations, and supportive interaction.

"The emerging science of learning underscores the importance of rethinking what is taught, how it is taught, and how learning is assessed" (National Research Council, 2000, p.13). Learning is a process of exploring and interpreting the world in a way which makes sense to the learner. In order to facilitate this process, the teacher needs to consider the cognitive, physical, social, emotional, aesthetic and ethical aspects needed to support learning with understanding. The quality of learning in a classroom is dependent on many factors. Knowledge of the material is an essential factor, but to persuade learners to engage intellectually with the material requires genuine enthusiasm supported by practical and esthetic appreciation. Intellectual engagement requires a broad palette of communication skills: verbal interaction skills that begin with listening to the learner, non-verbal skills that convey interest in the material and concern for the learner, and media communication skills to compete with the many visual and auditory distractions that surround the learner. Preparing candidates to make clear

expositions or capture the learner's attention is secondary to preparing them to communicate in terms the learner can understand and use. Candidates take one course specifically on the use of technology in the classroom and technology is integrated into their learning experiences. The primary purpose of using technology is to stimulate learning, cultivate social interaction, promote inquiry, and increase communication.

Understanding how people learn is an important factor in effective teaching and therefore in preparing candidates to be effective teachers. Research shows that asking good questions which lead the learner to reconstruct his or her naive knowledge is superior to explaining the teacher's own understanding. Fostering attitudes of inquiry in learners is more effective than inundating them with facts and explanations. In the process of helping learners to develop their understanding, the teacher must deal with many learning styles. In order to do this the candidate, must first recognize his or her own learning preferences. Finally, to interact successfully with learners, parents or guardians, colleagues, community organizations, the many individuals and groups who affect learning require considerable leadership and social interaction skills. The social interactions essential for effective teaching require candidates to develop psychological skills, as well as communication skills and emotional stability.

In summary, as stated in the National Research Council's landmark publication *How People Learn*, "Teachers are key to enhancing learning in schools. In order to teach in a manner consistent with new theories of learning, extensive learning opportunities for teachers are required" (National Research Council, 2000, p.192).

6. Demonstrate community building skills - Prepare candidates to foster relationships with school colleagues, parents, and educational partners in the larger community to support student learning and well-being thereby encouraging the development of ethical, civic, moral and esthetic values in harmony with individual and collective necessities for achieving a culture of peace and justice.

Effective teachers understand the importance and propitiate establishment of strong good relationship with parents and tutors of their students because take into consideration how factors in the student environment outside of school (e.g. family circumstances, community environments, health and economic conditions) may influence student life and learning. They have to invite and motivate parents and caretakers to participate as colleagues in their children's education. Teachers should foster excellent relations with school colleagues and administrators to set up the foundation of learning communities as support systems that benefit the learning environment (Santrock, 2002). They understand schools as organizations within the larger community context and understand the operations of the relevant aspects of the system within which she or he works. They examine and use available resources in the school and the larger community to enrich classes. The teacher understands and

implements laws related to students' rights and teacher responsibilities (e.g. for equal education, appropriate education for handicapped students, confidentiality, privacy, appropriate treatment of students, reporting in situations related to possible child abuse).

7. Assessment of student learning - Prepare teachers to use formal and informal assessment strategies to provide experiences that contribute to the continuous intellectual, social and physical development of each learner. Use the evaluation process to improve the quality and effectiveness of the teaching-learning process.

Competent teachers evaluate students in relation to learning goals and adapt their instruction accordingly (McMillan, 2004). Classroom assessment helps teachers find out what students are learning and how well they are learning it (Angelo & Cross, 1993). When teachers understand the characteristics, uses, advantages, and limitations of different types of assessments, they have the tools to figure out what students know, what they are able to do, and what kinds of experiences will support their further growth and development. Properly designed and used, assessment can help students monitor their own learning progress, give them greater control over their own development, and in so doing stimulate internal motivation for learning.

Assessment plays an essential role in evaluating students' effort, engagement, and performance, but the power of assessment to enhance learning only comes when it is integrated with instruction and not left an isolated outcome done only after instruction. This means that effective teachers must integrate instruction and assessment into current views on learning and motivation. That is, they view students as active learners who construct meaning, and in accordance with this view they select, construct, and use assessment strategies and instruments appropriate to the learning objectives (Santrock, 2002). Finally, teachers committed to their own learning and development; utilize assessment as an integral tool to reflect on the effectiveness of their teaching practices.

8. Demonstrate caring dispositions - Prepare teachers to confront new challenges, social as well as educational, and to contribute to the improvement of Puerto Rico and the world. Further, prepare teachers that can promote worthwhile personal relationships that provide stability, trust, and caring in order to increase learners' sense of belonging, self-respect and self-acceptance, and generate a positive climate for learning.

Every candidate should develop awareness that society is dynamic and is constantly changing and new social challenges are extremely relevant to the teacher's success in the school. The school is a mirror of society that reflects and manifests everything that follows from social interactions. A myriad of social problems can be viewed as educational challenges. Problems, such as use and abuse of alcohol, tobacco and

drugs; sexual precocity with the undesired effects of rising teenage pregnancy and sexually transmitted diseases; domestic violence and child abuse in all its forms; the growing number of single parent families in low socioeconomic and low education levels and the surrounding social circumstances that turn them into serious educational challenges because education is no longer seen as a means to attain personal goals and school desertion appears to be a desirable option. As problems grow in scale and impact, so does the need for sophisticated socio-cultural understanding. By surrounding every student with a caring atmosphere to nourish the mind in a safe environment and help them make and meet high expectations, education can be personally empowering, intellectually challenging and socially beneficial (Humphreys, 2006)

As stated by the American Psychological Association in the Learner-Centered Psychological Principles (1997), the learning settings that the teacher creates can foster circumstances that “allow for social interactions, and that respect diversity, encourage flexible thinking and social competence. In interactive and collaborative instructional contexts, individuals have an opportunity for perspective taking and reflective thinking that may lead to higher levels of cognitive, social, and moral development, as well as self-esteem.” Family influences, positive interpersonal support, and instruction in self-motivation strategies can offset factors that interfere with optimal learning such as negative beliefs about competence in a particular subject, high levels of test anxiety, negative sex role expectations, and undue pressure to perform well. Positive learning climates can also help establish the context for healthier levels of thinking, feeling, and behaving. Such contexts help learners feel safe to share ideas, actively participate in the learning process, and create a learning community inside and outside the classroom.

9. Demonstrate sensitivity to diversity Prepare teachers to recognize, understand, and value a diversity of learning styles, intelligences, and talents as well as diversity related to social, economic, and cultural experiences. Furthermore, prepare teachers to value all students regardless of their race, color, religion, gender or sexual orientation, linguistic ability, ethnic origin or geographical area and to respond to this diversity of learners with the variety of instructional opportunities that promote the development of critical thinking, problem solving, and performance skills of each individual.

Effective teachers can identify, understand, and value different learning styles, multiple intelligences, and performance mode preferences, and design instruction that responds to these differences in a way that helps students use their strengths to grow academically and personally. Cross cultural contact is increasing in the present day world challenging the teacher to create a climate of tolerance and respect for these multiple social and cultural differences, ideally in a way that all learn to celebrate diversity in the classroom and in the community. Teachers must be sensible to the diversity of needs of the students (Sadker & Sadker, 2000). The number of students

with identifiable exceptional learning needs is growing, so it has become essential that teachers know about areas of exceptionality in learning, including learning disabilities, visual and perceptual difficulties and special physical or mental challenges and or abilities. Teachers need to understand how learning is influenced not only by students' individual experiences, talents, and prior learning, but by their native language, culture, family, community values as well, in order to facilitate learning. Teachers must create a safe learning environment in which all students regardless of their race, color, religion, gender or sexual orientation, linguistic ability, ethnic origin or geographical area are valued and respected. The principle that all children can attain high levels of understanding is vital to teacher persistence in helping all children succeed and making them feel valued for their potential as people of diverse skills, talents and interests.

10. Demonstrate reflective practice - Empower teachers to keep abreast of educational innovations and promote the commitment to continual learning in order to meet the technological, educational, scientific, social, and cultural demands of the working world. Develop the reflective habits of continual evaluation of the effectiveness of classroom practices that lead to continuous professional development.

Being an effective teacher requires a deep commitment and internal motivation that are distinguished by a positive attitude, genuine concern for the students, and a continual enthusiasm for teaching. This enthusiasm is sustained by the teacher's commitment to his or her own academic, pedagogical, social, cultural, and technological learning. Effective teachers develop their technology skills to integrate computers, the Internet, and other readily available information technology into their classrooms because such technology and the skills to use it are essential to their students. They continually assess the effectiveness of technology use for learning with an emphasis on the student as an active, constructive learner (International Society for Technology in Education, 2001). Teachers need to develop a thorough understanding of the inquiry method, because it offers them self-evaluation and problem-solving strategies to encourage them to reflect on their own practice even as it increases the effectiveness of their interactions with students.

Since being an effective teacher involves directing student conduct in a way that keeps all students working on challenging and interesting learning tasks, the ability to monitor and the habit of evaluating the efficacy of instructional and motivational strategies utilized is an important part of successfully managing a classroom (Charles 2005, Alderman 2004). The teacher who is committed to reflection, self-directed learning, and self-assessment values and pursues professional development as an ongoing and life long endeavor (Fried, 2001).

Precondition 4.4 UPRM teacher candidate's proficiencies profile

UPRM's conceptual framework is consistent with institutional UPRM standards, Council of Higher Education of Puerto Rico (CES) state standards, National Council for Accreditation of Teacher Education (NCATE) standards, Specialized Professional Association (SPA) standards and with Interstate New Teacher Assessment and Support Consortium (INTASC) performance standards. UPRM has identified a set of ten core outcomes which represent expectations for all UPRM candidates in professional education programs. The profile of UPRM teacher candidate's proficiencies is based on the previously described educational theory, research, and wisdom of practice assures the development of the knowledge, skills, and dispositions to become an effective teacher in Puerto Rico school systems. The ten proficiencies are the measured knowledge, skills, and dispositions of the unit candidates.

Knowledge

1. Possess content knowledge - Prepare teachers who understand the central concepts, tools of inquiry, and structure of their discipline in a way they can provide learning experiences which make these aspects of the subject matter meaningful to students. Encourage teachers to seek to deepen their knowledge in their discipline, be it natural sciences, social sciences, mathematics, physical education, Spanish, English, health, humanities, business, agriculture, technology or other.
2. Possess pedagogical content knowledge - Develop pedagogical content knowledge and an understanding of a broad variety of active methodologies of teaching-learning which allows planning instruction that reflects professional standards and curriculum goals.
3. Possess knowledge of human development and learning. Prepare teachers who understand how children learn and develop so they can provide opportunities to support their intellectual, social, and personal development promoting integration of knowledge in all its manifestations. Prepare teachers to be consumers of sound research with the purpose of identifying fundamental strategies to encourage academic proficiency.

Skills

4. Demonstrate creative critical thinking - Contribute to the formation of free human beings who are reflexive, creative, critical thinking individuals to whom these attributes are important in their professional, social, and personal lives.
5. Exhibit comprehensive formation – communication leadership skills - Contribute to the comprehensive formation of a human being by developing his or her intellectual, emotional, and psychological abilities and his or her communication and leadership skills, as well as esthetical and ethical values. Prepare teachers to use effective verbal, nonverbal, and the use of technology to foster active inquiry, collaborations, and supportive interaction.

6. Demonstrate community building skills - Prepare teachers to foster relationships with school colleagues, parents, and educational partners in the larger community to support student learning and well-being thereby encouraging the development of ethical, civic, moral and esthetic values in harmony with individual and collective necessities for achieving a culture of peace and justice.

7. Assessment of student learning - Prepare teachers to use formal and informal assessment strategies to provide experiences which contribute to continuous intellectual, social and physical development of each learner. Use the evaluation process to improve the quality and effectiveness of the teaching-learning process.

Dispositions

8. Demonstrate caring dispositions - Prepare teachers to confront new challenges, social as well as educational, and to contribute to the improvement of Puerto Rico and the world. Further, prepare teachers who can promote worthwhile personal relationships which provide stability, trust, and caring in order to increase learners' sense of belonging, self-respect and self-acceptance, and generate a positive climate for learning.

9. Demonstrate sensitivity to diversity - Prepare teachers to recognize, understand, and value a diversity of learning styles, intelligences, and talents as well as diversity related to social, economic, and cultural experiences. Furthermore, prepare teachers to value all students regardless of their race, color, religion, gender or sexual orientation, linguistic ability, ethnic origin or geographical area and to respond to this diversity of learners with the variety of instructional opportunities which promote the development of critical thinking, problem solving, and performance skills of each individual.

10. Demonstrate reflective practice - Empower teachers to keep abreast of educational innovations and promote the commitment to continual learning in order to meet the technological, educational, scientific, social, and cultural demands of the working world. Develop the reflective habits of continual evaluation of the effectiveness of classroom practices that lead to continuous professional development.

The theoretical and philosophical backgrounds of these competencies were discussed in the previous section.

Candidate Proficiencies-Standards Alignment Matrix

Candidate proficiencies aligned with expectations in professional, state, and institutional standards. For candidates to demonstrate each of the listed competencies, they must meet the applicable institutional learning standard. As we understand it, meeting the applicable institutional learning standard fulfills the corresponding state Puerto Rico Council for Higher Education standards (CES). The following matrix shows how state standards align with professional NCATE standards and Interstate New Teacher Assessment and Support Consortium (INTASC) principles.

Candidate Proficiencies at UPRM	Alignment with Applicable Professional Standards INTASC Principles	Alignment with Applicable Professional NCATE Standard	Alignment with applicable State Standards (PR Council on Higher Education)	Alignment with Applicable Institutional Learning Standard By the time of graduation UPRM students will:
<p>1. Possess content knowledge Contribute to the formation of free human beings who are reflexive, creative, critical thinking individuals to whom these attributes are important in their professional, social, and personal lives.</p>	<p>INTASC 1: Knowledge of Subject Matter The teacher understands the central concepts, tools of inquiry, and structure of the disciplines he or she teaches and can create learning experiences that make these aspects of subject matter meaningful to students.</p>	<p>Content Knowledge for Teacher Candidates: Initial and Continuing Teacher candidates have in-depth knowledge of the subject matter that they plan to teach as described in professional, state, and institutional standards. They demonstrate their knowledge through inquiry, critical analysis and synthesis of the subject.</p>	<p>Section 2.1.1: The teacher candidate understands the central concepts, tools of inquiry and structures of the discipline(s) within the context of a global society and creates learning experiences that make these aspects of subject matter meaningful for students.</p>	<p>Identify and solve problems, think critically, and synthesize knowledge appropriate to their discipline.</p>
<p>2. Possess Pedagogical Content Knowledge Develop pedagogical content knowledge and an understanding of a broad variety of active methodologies of teaching-learning which allow planning instruction that reflects professional standards and curriculum goals.</p>	<p>INTASC 7: Instructional Planning Skills The teacher plans instruction based upon knowledge of subject matter, students, the community, and curriculum goals.</p>	<p>Pedagogical content knowledge for teacher candidates: Initial and continuing Teacher candidates reflect a thorough understanding of pedagogical content knowledge delineated in professional state and institutional standards. They have in-depth understanding of the subject matter that they plan to teach, allowing them to</p>	<p>Section 2.1.4: The teacher candidate recognizes the importance of long-range planning and curriculum development and develops, implements, and evaluates curriculum based upon student, district, and state performance standards.</p>	<p>Identify and solve problems, think critically, and synthesize knowledge appropriate to their discipline.</p> <p>Apply mathematical reasoning skills, scientific inquiry methods, and tools of information technology.</p> <p>Develop an appreciation for the arts and humanities.</p>

Candidate Proficiencies at UPRM	Alignment with Applicable Professional Standards INTASC Principles	Alignment with Applicable Professional NCATE Standard	Alignment with applicable State Standards (PR Council on Higher Education)	Alignment with Applicable Institutional Learning Standard By the time of graduation UPRM students will:
<p>3. Possess knowledge of human development and learning Prepare teachers who understand how children learn and develop so that they can provide opportunities that support their intellectual, social, and personal development promoting the integration of knowledge in all its manifestations. Prepare teachers to be consumers of sound research with the purpose of identifying fundamental strategies to encourage academic proficiency.</p>	<p>INTASC 5: Classroom Motivation and Management The teacher uses an understanding of individual and group motivation to create a learning environment that encourages positive social interactions, active engagement in learning and self motivation</p>	<p>Professional and pedagogical knowledge and skills for teacher candidates Teacher candidates reflect a thorough understanding of professional and pedagogical knowledge and skills delineated in professional, state and institutional standards. They develop meaningful learning experiences to facilitate learning for all students.</p>	<p>Section 2.1.6: The teacher candidate uses an understanding of individual and group motivation and behavior to create a learning environment that encourages positive social interaction, active engagement in learning, and self-motivation.</p>	<p>Identify and solve problems, think critically, and synthesize knowledge appropriate to their discipline.</p>
<p>4. Demonstrate creative critical thinking Contribute to the formation of free human beings who are reflexive, creative, critical thinking individuals to whom these attributes are important in their professional, social, and personal lives.</p>	<p>INTASC 1: Knowledge of Subject Matter The teacher understands the central concepts, tools of inquiry, and structure of the disciplines he or she teaches and can create learning experiences that make these aspects of subject matter meaningful to students.</p>	<p>Content Knowledge for Teacher Candidates: Initial and Continuing Teacher candidates have in-depth knowledge of the subject matter that they plan to teach as described in professional, state, and institutional standards. They demonstrate their knowledge through inquiry, critical analysis and synthesis of the subject.</p>	<p>Section 2.1.1: The teacher candidate understands the central concepts, tools of inquiry and structures of the discipline(s) within the context of a global society and creates learning experiences that make these aspects of subject matter meaningful for students.</p>	<p>Identify and solve problems, think critically, and synthesize knowledge appropriate to their discipline.</p>

Candidate Proficiencies at UPRM	Alignment with Applicable Professional Standards INTASC Principles	Alignment with Applicable Professional NCATE Standard	Alignment with applicable State Standards (PR Council on Higher Education)	Alignment with Applicable Institutional Learning Standard By the time of graduation UPRM students will:
<p>5. Exhibit comprehensive formation – communication leadership skills Contribute to the comprehensive formation of a human being by developing his or her intellectual, emotional, and psychological abilities and his or her communication and leadership skills, as well as esthetical and ethical values. Prepare teachers to use effective verbal, nonverbal, and the use of technology to foster active inquiry, collaborations, and supportive interaction.</p>	<p>INTASC 6: Communication Skills The teacher uses knowledge of effective verbal, nonverbal, and media communication techniques to foster active inquiry, collaboration, and supportive interaction.</p>	<p>Professional and pedagogical knowledge and skills for teacher candidates Teacher candidates reflect a thorough understanding of professional and pedagogical knowledge and skills delineated in professional, state, and institutional standards.</p> <p>They know how students learn and how to make ideas accessible to them.</p>	<p>Section 2.1.7: The teacher candidate models effective verbal, nonverbal, and media communication techniques to foster active inquiry, collaboration, and supportive interaction in the classroom.</p>	<p>Communicate effectively.</p>
<p>6. Demonstrate Community Building Skills Prepare teachers to foster relationships with school colleagues, parents, and educational partners in the larger community to support student learning and well-being thereby encouraging the development of ethical, civic, moral and esthetic values in harmony with individual and collective necessities for achieving a culture of peace and justice.</p>	<p>INTASC 10: Partnerships The teacher fosters relationships with school colleagues, parents and agencies in the larger community to support student’s learning and well being.</p>	<p>Dispositions for all Candidates Candidates work with students, families, and communities in ways that reflect the dispositions expected of professional educators as delineated in professional, state, and institutional standards. Candidates recognize when their own dispositions may need to be adjusted and are able to develop plans to do so.</p>	<p>Section 2.1.10: The teacher candidate fosters relationships with school colleagues, parents, and educational partners in the larger community to support student learning and well being.</p>	<p>Recognize the Puerto Rican heritage and interpret contemporary issues.</p> <p>Appraise the essential values of a democratic society.</p>

Candidate Proficiencies at UPRM	Alignment with Applicable Professional Standards INTASC Principles	Alignment with Applicable Professional NCATE Standard	Alignment with applicable State Standards (PR Council on Higher Education)	Alignment with Applicable Institutional Learning Standard By the time of graduation UPRM students will:
<p>7. Demonstrate Skills for Assessment of Student Learning Prepare teachers to use formal and informal assessment strategies to provide experiences that contribute to the continuous intellectual, social and physical development of each learner. Use the evaluation process to improve the quality and effectiveness of the teaching-learning process.</p>	<p>INTASC 8: Assessment of Student Learning The teacher understands and uses formal and informal assessment strategies to evaluate and ensure the continuous intellectual, social, and physical development of the learner.</p>	<p>Student Learning for Teacher Candidates Teacher candidates accurately assess and analyze student learning, make appropriate adjustments to instruction, monitor student learning, and have a positive effect on learning for all students.</p>	<p>Section 2.1.8: The teacher candidate understands and uses formal and informal assessment strategies to evaluate and ensure the continuous intellectual, social, and physical development of the learner</p>	<p>Identify and solve problems, think critically, and synthesize knowledge appropriate to their discipline.</p>
<p>8. Demonstrate Caring Dispositions Prepare teachers to confront new challenges, social as well as educational, and to contribute to the improvement of Puerto Rico and the world. Further, prepare teachers that can promote worthwhile personal relationships that provide stability, trust, and caring in order to increase learners' sense of belonging, self-respect and self-acceptance, and generate a positive climate for learning.</p>	<p>INTASC 10: Partnerships The teacher fosters relationships with school colleagues, parents and agencies in the larger community to support student's learning and well being.</p>	<p>Dispositions for all Candidates They reflect on their practice and make necessary adjustments to enhance student learning. They know how students learn and how to make ideas accessible to them. They consider school, family, and community contexts in connecting concepts to students' prior experience and applying the ideas to real-world problems.</p>	<p>Section 2.1.10: The teacher candidate fosters relationships with school colleagues, parents, and educational partners in the larger community to support student learning and well being.</p>	<p>Operate in a global context, relate to a societal context, and demonstrate respect for other cultures.</p>

Candidate Proficiencies at UPRM	Alignment with Applicable Professional Standards INTASC Principles	Alignment with Applicable Professional NCATE Standard	Alignment with applicable State Standards (PR Council on Higher Education)	Alignment with Applicable Institutional Learning Standard By the time of graduation UPRM students will:
9. Demonstrate Sensitivity to Diversity Prepare teachers to recognize, understand, and value a diversity of learning styles, intelligences, and talents as well as diversity related to social, economic, and cultural experiences. Furthermore, prepare teachers to value all students regardless of their race, color, religion, gender or sexual orientation, linguistic ability, ethnic origin or geographical area and to respond to this diversity of learners with the variety of instructional opportunities that promote the development of critical thinking, problem solving, and performance skills of each individual.	INTASC 3: Adapting Instruction to Individual Needs The teacher understands how students differ in their approaches to learning and creates instructional opportunities that are adapted to diverse learners.	Dispositions for all Candidates They reflect on their practice and make necessary adjustments to enhance student learning. They know how students learn and how to make ideas accessible to them. They consider school, family, and community contexts in connecting concepts to students' prior experience and applying the ideas to real-world problems.	Section 2.1.3: The teacher candidate understands how students differ in their approaches to learning and creates instructional opportunities that are adapted to diverse learners.	Identify and solve problems, think critically, and synthesize knowledge appropriate to their discipline.

Candidate Proficiencies at UPRM	Alignment with Applicable Professional Standards INTASC Principles	Alignment with Applicable Professional NCATE Standard	Alignment with applicable State Standards (PR Council on Higher Education)	Alignment with Applicable Institutional Learning Standard By the time of graduation UPRM students will:
<p>10. Demonstrate Reflective Practice Empower teachers to keep abreast of educational innovations and promote the commitment to continual learning in order to meet the technological, educational, scientific, social, and cultural demands of the working world. Develop the reflective habits of continual evaluation of the effectiveness of classroom practices that lead to continuous professional development.</p>	<p>INTASC 9: Professional Commitment and Responsibility The teacher is a reflective practitioner who continually evaluates the effects of his/her choices and actions on others (students, parents, and other professionals in the learning community) and who actively seeks out opportunities to grow professionally.</p>	<p>Dispositions for all Candidates They reflect on their practice and make necessary adjustments to enhance student learning. They know how students learn and how to make ideas accessible to them. They consider school, family, and community contexts in connecting concepts to students' prior experience and applying the ideas to real-world problems.</p>	<p>Section 2.1.9: The teacher candidate is a reflective practitioner who continually assesses the effects of choices and actions on others. This reflective practitioner actively seeks out opportunities to grow professionally and utilizes the assessment and professional growth to generate more learning for more students.</p>	<p>Recognize the need to engage in life-long learning</p>

Precondition 4.5: Unit Assessment System Description

A description of the unit system for evaluating its operations, the quality of its offerings, the performance of candidates on proficiencies described in 4.4 and the effectiveness of its graduates follows.

The unit with the primary authority and responsibility for teacher preparation programs at the University of Puerto Rico at Mayagüez (UPRM) is the dean of academic affairs office. Both the Teacher Preparation Program of Secondary Education housed in the Division of Continued Education and Professional Studies (DECEP) and the Agriculture Teacher Preparation Program housed in the Department of Agricultural Education under the College of Agricultural Sciences respond to the Dean of Academic Affairs for their overall administration and operation.

UPRM has two initial level Teacher Preparation Programs: the Teacher Preparation Program in Secondary Education (in Spanish PPMES) assigned directly to the Office of Academic Affairs and the Agricultural Education Program (in Spanish EDAG) assigned directly to the College of Agricultural Sciences. The Teacher Preparation Program in Secondary Education is an intensive, multidisciplinary program, designed for students that are completing or have completed a bachelor's degree in the College of Arts and Sciences, College of Business Administration, or College of Engineering. Candidates practice teaching for one semester under the supervision of content and education faculty in the classroom of a cooperating teacher. Note: A cooperating teacher is an experienced teacher who has met Department of Education of Puerto Rico (DEPR) requirements for receiving teacher candidates. Candidates who satisfactorily complete the program requirements and pass the state licensing exam (in Spanish PCMAS) are certified by the Department of Education of Puerto Rico as Secondary Teachers. An important goal of the assessment system is to demonstrate candidates meet the proficiencies of the program and the standards of the Department of Education of Puerto Rico, NCATE, INTASC Principles and the Specialized Professional Associations (SPAs).

The Agricultural Education Department offers a program leading to the degree of Bachelor of Science in Agriculture with majors in Agricultural Education or Extension Education. These programs prepare candidates to teach agriculture. Employment in these positions require agricultural experience, preparation in basic sciences and technical agriculture, and an understanding of the principles and techniques of the teaching learning process, as well as the ability to work with people

The following describes how candidate proficiencies are evaluated in each of these programs.

Unit candidate assessment occurs on a continual basis. Through coursework, field experiences, self-evaluations, interviews, and other methods described below, candidate's progress is reviewed regularly and candidates are advised accordingly.

The unit program created a standards-based curriculum and assessment system for candidates. The standards-based curricula reflect the integration of content, pedagogy, and professional development. The unit conceptual framework links course work to the assessment system which includes portfolio evaluation to systematically monitor candidate progression through the program. When candidates apply to any teacher preparation program at UPRM, they are required to go through a screening process. Candidates who meet screening criteria successfully must subsequently go through a series of assessment points.

Admission to the UPRM Institution

Admission to the University of Puerto Rico system is to a specific degree program at a specific campus. Admission to an undergraduate program offered at UPRM is determined by the General Admission Index (in Spanish IGS) established for that particular program; this IGS is a weighted average (50%) of the high school grade point average and 50% of mathematical aptitude and verbal aptitude scores on the College Entrance Examination Board (CEEB). The IGS required for admission to each program is set according to the capacity of that program to meet the demand; consequently, it is different for each program and may vary from year to year.

Teacher Preparation Program - Division of Continuing Education and Professional Studies

Transition Point #1

Prospective candidates may enroll in the Teacher Preparation Program of the Division of Continuing Education and Professional Studies (in Spanish DECEP) after completing a bachelor's program or while pursuing a bachelor's degree at UPR-Mayagüez. The DECEP Teacher Preparation Program is not a traditional university program. It is a curricular sequence specifically defined and authorized by [Certification #47](#) of the Board of Trustees of the University of Puerto Rico to complement a bachelor's program to prepare candidates to meet the teacher certification requirements established by the Department of Education of Puerto Rico. Prospective candidates who have completed a bachelor's degree from any of the university, colleges or from another institution can apply for admission or re-admission to UPRM through the Professional Development option in the DECEP to complete a curricular sequence in the Teacher Preparation Program. Prospective candidates who are pursuing a bachelor's program at UPRM in the College of Arts and Sciences, College of Business Administration or College of Engineering can apply for the curricular sequence for the Teacher Preparation Program. To be admitted to the program, applicants must have an overall grade point average of 2.5, a grade point average of 2.5 in their major, completed 6 credits from the foundations of education courses (Human Growth and Development I, Human Growth and Development II, Social Foundations of Education, and Philosophical Foundations of Education) with a grade point average of 2.5 or better, passed a written essay and teaching disposition exam (previously known as *SEDeRe* in Spanish for *Sistema de Evaluación de las Destrezas de Redacción*, now titled Writing Skills and Dispositions Test), and have successfully completed a group interview with the program director.

Prospective candidates who receive unsatisfactory ratings on the Writing Skills test are advised to take a writing course or use the tutoring services offered by the Centro Bilingüe de Redacción. Those who receive unsatisfactory ratings on the Dispositions test are directed to career counseling.

Transition Point #2: Enrollment in Theory and Methodology Course

To enroll in the Theory and Methodology course candidates must have completed the four foundations of education courses (Human Growth and Development I, Human Growth and Development II, Social Foundations of Education, and Philosophical Foundations of Education) with a grade point average of 2.5 or better, scored 80% or higher on the course rubrics for Philosophical Foundations of Education, and have at least 18 credits in their major with grade point averages of 2.5 or better both overall and in their major.

Transition Point #3: Entrance to Student Teaching

To enroll in the student teaching practice course, candidates must have completed the theory and methodology course with a grade of B or better. They have to score 80% or higher on the Electronic Portfolio (E-Portfolio) with the Teacher Candidate Work Sample (TCWS). They should also have at least 21 credits towards their major with grade point averages of 2.5 or better overall and in their major.

Transition Point #4: Program Completion

In the Student Teaching course there are two key assessments: Classroom Observations and an E-Portfolio with TCWS. In the Student Teaching course, university supervisors and cooperating teachers evaluate each candidate on six or more occasions utilizing the Classroom Observation Instrument. The benchmark is a score above 80 percent: a candidate must be rated excellent on at least 40 percent of the instrument items across the six or more formative evaluations. Candidates also are required to develop a satisfactory E-Portfolio with TCWS which demonstrates content knowledge, applied knowledge of human development and learning, sensitivity to diversity, pedagogical content knowledge skills, and reflective habits on the effectiveness of their practice. In the TCWS the candidate has to include artifacts such as lesson or unit plans, exams with their analysis, and classroom management techniques with sensitivity to diversity. A systemic assessment process database that addresses the candidate proficiencies is being designed by the unit.

Teacher Candidates seeking certification from the Department of Education of Puerto Rico (DEPR) in Secondary or Middle School must complete the following requirements:

Foundations of Education Courses:

EDFU 3001 Human Growth and Development I

EDFU 3002 Human Growth and Development II

EDFU 3007 Social Foundations of Education

EDFU 4019 Philosophical Foundations of Education

Education Courses:

EDES 4006 Nature and Needs of Exceptional Learners

EDPE 3129 Use of Microcomputers in the Classrooms

EDPE 4059 Theory and Methodology in the Teaching of Business Education

EDPE 4135 Theory and Methodology in the Teaching of Science

EDPE 4145 Theory and Methodology in the Teaching of Mathematics

EDPE 4155 Theory and Methodology in the Teaching of History and Social Studies

EDPE 4165 Theory and Methodology in the Teaching of Arts

EDPE 4185 Theory and Methodology in the Teaching of Theater

EDPE 4215 Theory and Methodology in the Teaching of Physical Education

EDPE 4235 Theory and Methodology in the Teaching of Spanish

EDPE 4245 Theory and Methodology in the Teaching of English

EDPE 4136 Student Teaching of General Science of Secondary School

EDPE 4137 Student Teaching of Biology of Secondary School

EDPE 4138 Student Teaching of Physics of Secondary School

EDPE 4139 Student Teaching of Chemistry of Secondary School

EDPE 4146 Student Teaching of Mathematics of Secondary School

EDPE 4156 Student Teaching of Social Studies of Secondary School

EDPE 4157 Student Teaching of History of Secondary School

EDPE 4166 Student Teaching of Arts of Secondary School

EDPE 4186 Student Teaching of Theatre of Secondary School

EDPE 4187 Student Teaching of Business Education of Secondary School

EDPE 4216 Student Teaching of Physical Education of Secondary School

EDPE 4227 Student Teaching of Health of Secondary School

EDPE 4236 Student Teaching of Spanish of Secondary School

EDPE 4246 Student Teaching of English of Secondary School

History Courses:

HIST 3111 or HIST 3112 – History of the United States

HIST 3241 or HIST 3242 – History of Puerto Rico

Content Courses:

Candidates must complete a minimum of 21 credit hours in the area they plan to be certified by the Department of Education of Puerto Rico to teach in secondary or intermediate school.

PPMES Transition Points

Transition Point #1: Entrance to the Teacher Preparation Program of Secondary Education			
Candidate Proficiencies (k=knowledge, s=skill, d=disposition)	Assessment Tools	Benchmarks	Person in charge
#1 Possess content knowledge of the discipline that the candidates aspires to teach (k)	Transcript	2.5 GPA in major 2.5 GPA overall	Registrar's Office
#2 Possess pedagogical content knowledge (k) #3 Possess knowledge of human development and learning (k)	Completion of 6 credits in any of the following courses: <ul style="list-style-type: none"> • EDFU 3001- Human Growth and Development I • EDFU 3002 - Human Growth and Development II • EDFU 3007 - Social Foundations of Education • EDFU 4019 Philosophical Foundations of Education 	Approval of 6 credits in courses of Foundations of Education with a 2.50 GPA or better	Registrar's Office
#4 Demonstrate creative critical thinking (s) #5 Exhibit comprehensive formation – communication skills (s) #8 Demonstrate caring dispositions toward professional and personal development (d)	Writing Skills and Disposition Test	Satisfactory completion of Essay (College Board)	College Board
<p>Use of the results: GPA is used to monitor Program enrollment and to provide immediate feedback from the Registrar's Office regarding admission to the Program. Academic progress in Foundations of Education courses and in content courses is monitored as well. The academic advisor makes program and course recommendations to candidates based on this and other information. Results from the essay are the basis for recommending specific actions to candidates in a group interview. Candidates who receive unsatisfactory ratings on the Writing Skills test are advised to take a writing course or use the tutoring services offered by the Centro Bilingüe de Redacción. Those who receive unsatisfactory ratings on the Dispositions test are directed to career counseling. Candidates not presenting satisfactory dispositions to teach are directed to career counseling.</p>			

Transition Point #2: Enrollment in Theory and Methodology Course			
Candidate Proficiencies (k=knowledge, s=skill, d=disposition)	Assessment Tools	Benchmarks	Person in charge
#1 Possess content knowledge of the discipline that the candidates aspires to teach (k)	Completion of 18 credit hours in the area of specialization (major) Transcript	2.5 GPA in major 2.5 GPA overall	Registrar's Office
#2 Possess pedagogical content knowledge (k) #3 Possess knowledge of human development and learning (k) #3 Possess knowledge of human development and learning (k) #4 Demonstrate creative critical thinking (s) #5 Exhibit comprehensive formation – communication skills (s) #8 Demonstrate caring dispositions toward professional and personal development (d)	Completion of all the Foundations of Education courses: EDFU 3001- Human Growth and Development I EDFU 3002 - Human Growth and Development II EDFU 4019 Philosophical Foundations of Education	Approval of all the Foundations of Education courses with a 2.50 GPA or better 80% or higher on Course Rubric	Registrar's Office Professors of EDFU 4019
Use of Results: GPA is used to monitor candidate's proficiencies in content and pedagogical knowledge. Academic advisors use GPA and other measures of academic progress to help candidates make informed decisions about their programs of study. Candidates not presenting a satisfactory level of performance are advised to take or repeat the appropriate courses.			

Transition Point #3 : Admission to Student Teaching

Candidate Proficiencies (k=knowledge, s=skill, d=disposition)	Assessment Tools	Benchmarks	Person in charge
#1 Possess content knowledge of the discipline that the candidates aspires to teach (k)	Completion of 21 credit hours in the area of specialization (major) Transcript	2.5 GPA in major 2.5 GPA overall	Registrar's Office
#2 Possess pedagogical content knowledge (k) #3 Possess knowledge of human development and learning (k) #4 Demonstrate creative critical thinking (s) #5 Exhibit comprehensive formation – communication leadership skills (s) #7 Assessment of student learning (s) #9 Demonstrate sensitivities to diversity (d) #10 Demonstrate reflective practice (d)	EDPE 41** or 42** Theory and Methodology in the Teaching of ...(area of specialization) <ul style="list-style-type: none"> • Educational Philosophy Essay/ Rubric • E-Portfolio with candidate work (i.e. lesson plans, integration of assessments for diverse students) 	Approval of the course with a B or better 80% or higher on the Educational Philosophy Essay Rubric 80% or higher on the E-Portfolio Rubric	Registrar's Office Professors of Theory and Methodology courses
<p>Use of Results: GPA is used to monitor candidate proficiencies in content and pedagogical knowledge. Academic advisors use GPA and other measures of progress to help candidates make informed decisions about their academic program. Candidates not presenting a satisfactory level of performance are advised to take or repeat the appropriate courses. Candidates are required to keep an E-Portfolio with TCWS through the Methodology and Student Teaching course that is part of the formative assessment of the candidate.</p>			

Transition Point #4 : Program Completion			
Candidate Proficiencies (k=knowledge, s=skill, d=disposition)	Assessment Tools	Benchmarks	Person in charge
#2 Possess pedagogical content knowledge (k) #3 Possess knowledge of human development and learning (k) #4 Demonstrate creative critical thinking (s) #5 Exhibit comprehensive formation – communication leadership skills (s) #6 Demonstrate community building skills (s) #7 Assessment of student learning (s) #8 Demonstrate caring dispositions #9 Demonstrate sensitivities to diversity (d) #10 Demonstrate reflective practice (d)	EDPE 41** or 42** Student Teaching of (the area of specialization) <ul style="list-style-type: none"> • Classroom Observation Instrument • E-Portfolio with Teacher Candidate Work Sample (i.e. lesson plans, integration of assessments for diverse students, involvement in school activities) 	Approval of the course with a B or better 80% or higher on the Classroom Observation Instrument 80% or higher on the E-Portfolio with Teacher Candidate Work Samples Rubrics	Registrar's Office Supervising Professors of Student Teaching
#2 Possess pedagogical content knowledge (k) #3 Possess knowledge of human development and learning (k) #9 Demonstrate sensitivities to diversity (d) #5 Exhibit comprehensive formation – communication leadership skills (s)	Completion of: EDDES 4006 –Nature and Needs of Exceptional Learners EDPE3129 -The use of microcomputers in the classroom HIST 3111 or HIST 3112 – History of United States HIST 3241 or HIST 3242 – History of Puerto Rico	Approval of the course	EDES 4006 Professor Registrar's Office
<p>Use of Results: GPA is used to monitor candidate proficiencies in content and pedagogical knowledge. Academic advisors use GPA and other measures of progress to help candidates make informed decisions about their academic program. Candidates not presenting a satisfactory level of performance are advised to take or repeat the appropriate courses. Candidates are required to keep an E-Portfolio with TCWS through the Methodology and Student Teaching course that is part of the formative assessment of the candidate.</p>			

Teacher Preparation Program - Department of Agricultural Education

Transition Point #1 - Admission to the Agriculture Teacher Preparation

The Department of Agricultural Education offers a Teacher Preparation Program to prepare candidates to teach agriculture. Admission to this degree program is based on the current General Admission Index set for the program.

Students from other Agricultural Science Programs can apply for the Agriculture Teacher Preparation Curricular Sequence. Admission require students have a 2.50 grade point average or higher, both overall and in their major, complete either Methods in Teaching Vocational Agriculture (EDAG 4005), Audiovisual Media in Teaching Vocational Agriculture (EDAG 4016) or Youth Organizations and Programs (EDAG 4015), pass the Writing Skills and Dispositions Test, and receive a favorable recommendation from EDAG director and coordinator.

Prospective candidates who receive unsatisfactory ratings on the Writing Skills test are advised to take a writing course or use the tutoring services offered by the Centro Bilingüe de Redacción. Those who receive unsatisfactory ratings on the Dispositions test are directed to career counseling.

Transition Point #2: Completion of Organization and Administration in Vocational Agriculture course

In the Organization and Administration in Vocational Agriculture course (EDAG 4007) the candidate presents a portfolio which includes a reflective essay, a curricular guide, a microteaching activity, an area of the state agriculture exam, and audiovisual materials such as video, posters, webpage, and radio programs. In the portfolio they demonstrate and provide evidence of candidate proficiencies such as: applied pedagogical content knowledge, human development and learning knowledge skills, exhibit comprehensive formation- communication leadership skills, demonstrate caring disposition toward professional and personal development, reflective habits, and sensitivity to diversity.

The reflective essay is based on a one-time field observation of an agricultural education class at a school with an agricultural education program.

The curricular guide with instructional materials is designed to be used later during candidate teaching practice, and has at least five units with five lesson plans, prologue, artifacts, and formative and summative evaluations. The prologue includes the results of a needs assessment for the topic and the candidate's educational philosophy.

The microteaching peer activity consists of a video recorded lesson in which two candidates collaborate with each other to auto evaluate their performance, provide peer feedback, and assess their teaching.

Students in secondary schools participate in the State Agricultural Competition which includes an exam of agricultural content. This exam is developed and coordinated by candidates in EDAG 4007 under direct supervision of the course professor. Each candidate develops test items for one of the 16 areas of agricultural science. After the competitions, candidates assess the results and determine the winners for each district.

Candidates in the Organization and Administration in Vocational Agriculture course (EDAG 4007) take a pre and post diagnostic test to evaluate their pedagogical knowledge. Candidates who score less than 70% on the post diagnostic test must participate in career counseling, or a tutoring program. Since this course is key for transition point #2, the course uses a number of instruments to assess candidates' proficiencies to evaluate their pedagogical knowledge and analyze what knowledge they are lacking before they move to Practice II (EDAG 4019).

Candidates in the Audiovisual Media in Teaching Vocational Agriculture course (EDAG 4016) design instructional materials to be used later during candidate teaching practice or by those teachers without the resources to develop them.

Transition Point #3: Admission to Student Teaching Practice Courses

Candidates must have completed 9 credits in education courses before they register in the teaching practice courses. Students participate in group orientation and individual interview previous to course enrollment which in turn will determine their qualifications and interest for placement in different school practice sites.

Agricultural Education Prerequisite Courses to Teaching Practice I

- 1) EDAG 4005 - Methods in Teaching Vocational Agriculture
- 2) EDAG 4006 - Curriculum Development
- 3) EDAG 4007- Organization and Administration in Vocational Agriculture

Agricultural Education Recommended Electives before Teaching Practice I

- 4) EDES 4006 - Nature and Needs of Exceptional Learners
- 5) EDAG 4008 – Supervised Occupational Experience Program
- 6) EDAG 4025 – Evaluation of Student in Vocational Agriculture

Agricultural Education Professional Electives before Teaching Practice I

- 7) EDAG 4015 - Youth Organizations and Programs
- 8) EDAG 4016 - Audiovisual Media in Teaching Vocational Agriculture

Transition Point #4: Exit from the Second Teaching Practice Course

In this transition point, candidates will exit the student-teaching experience with 315 hours of field and clinical experiences with students in a classroom under the supervision of qualified academic supervisor and a certified cooperative teacher. Candidates are recommended for program completion if they have satisfactorily met all program requirements. At this point, candidates complete an End of Program Survey in which they assess unit operation and quality of course offerings, among others. A systemic assessment process database that addresses the candidate proficiencies is being designed by the unit.

Teacher Candidates seeking certification from the Department of Education of Puerto Rico (DEPR) in Secondary or Middle School must complete the transition points mentioned above and take two history courses:

HIST 3111 or HIST 3112 – History of the United States
HIST 3241 or HIST 3242 – History of Puerto Rico

Candidates will have at least 142 credits upon completion of the Agricultural Education Department which is distributed as follows:

- General education courses (60 credits)
- Faculty requirements (33 credits)
- Departmental requirements (19 credits)
- Professional electives (18 credits)
- Free electives (12 credits)

Transition Points in the Agriculture Teacher Preparation Program

Transition Point #1: Admission to the Agriculture Teacher Preparation			
Candidate Proficiencies (k=knowledge, s=skill, d=disposition)	Assessment Tools	Benchmarks	In Charge of Data Collection
<p>#1 Possess content knowledge of discipline candidates aspire to teach (k)</p> <p>#2 Possess pedagogical content knowledge (k)</p> <p>#3 Possess knowledge of human development and learning (k)</p> <p>#4 Demonstrate creative critical thinking (s)</p>	<p>*General Admission Index (IGS in Spanish) and College Board Entrance Examination Score Transcript</p> <p>Completion of 3 credits in courses of Agricultural Education either:</p> <p>-EDAG 4005 Method in Teaching Vocational Agriculture, Or</p> <p>-EDAG 4016 Audiovisual Media in Teaching Vocational Agriculture, Or</p> <p>-EDAG 401 Youth Organization and Programs</p> <p>Candidates must submit the application form for the Agricultural Education Program.</p> <p>Writing Skills and Dispositions Test</p>	<p>2.55 IGS 2.5 GPA in major 2.5 GPA overall</p> <p>Approval 3 credits in courses of Agricultural Education with a 2.50 GPA or better.</p> <p>Approval admission to the program</p> <p>Satisfactory completion of Essay (College Board).</p>	<p>Registrar's Office</p> <p>Program Coordinator Previously done by College Board Currently by Unit</p>
<p>#5 Exhibit comprehensive formation – communication skills (s)</p>	<p>Candidate Interviews</p>	<p>Satisfactory completion of Interview</p>	<p>Program Coordinator</p>
<p>#8 Demonstrate caring dispositions toward professional and personal development (d)</p>	<p>Candidate Interviews</p>	<p>Satisfactory completion of Interview</p>	<p>Program Coordinator</p>
<p>Use of the results: Direct Admission to the Department of Agricultural Education is based on student's General Admission Index and College Entrance Examination Board scores. GPA is used to monitor Program enrollment and to provide immediate feedback from the Registrar's Office regarding admission to the Program. Academic progress in Education courses and in content courses is monitored as well. The academic advisor makes program and course recommendations to candidates based on this and other information. Results from the essay are the basis for recommending specific actions to candidates in a group interview. Candidates who receive unsatisfactory ratings on the Writing Skills test are advised to take a writing course or use the tutoring services offered by the Centro Bilingüe de Redacción. Those who receive unsatisfactory ratings on the Dispositions test are directed to career counseling. Candidates not presenting satisfactory dispositions to teach are directed to career counseling.</p>			

Transition point #3: Admission to Teaching Practice I

Candidates Proficiencies (k=knowledge, s=skill, d=disposition)	Assessment Tools	Benchmarks	Person in charge
<p>#1 Possess content knowledge of the discipline candidates aspires to teach (k)</p> <p>#2 Possess pedagogical content knowledge (k)</p> <p>#3 Possess knowledge of human development and learning (k)</p> <p>#4 Demonstrate creative critical thinking (s)</p> <p>#5 Exhibit comprehensive formation-communication skills (s)</p> <p>#6 Demonstrate community building skills (s)</p> <p>#7 Assessment of student learning.</p> <p>#8 Demonstrate caring disposition.</p> <p>#9 Demonstrate sensitivity to diversity.</p> <p>#10 Demonstrate reflective practice.</p>	<p>Completion of at least 9 credits in education courses: -EDAG 4005 Method in Teaching Vocational Agriculture. -EDAG 4006 Curriculum Development. -EDAG 4007 Organization and Administration in Vocational Agriculture.</p> <p>Group and individual orientation rubric</p> <p>Coursework Portfolio</p>	<p>Approval of at least 9 credits in Agricultural Education courses</p> <p>Satisfactory completion of orientation</p> <p>80% Coursework Portfolio Rubric</p>	<p>Registrar's Office</p> <p>Program coordinator</p>
<p>Use of the results: GPA is used to monitor candidate proficiencies in content and pedagogical knowledge. Academic advisors use GPA in courses taken to help candidates make informed decisions about their academic program. Candidates not presenting a satisfactory level of performance are advised to take or repeat the appropriate courses. Candidates are required to keep a Portfolio through the Teaching Practice I and II courses which is part of the formative assessment of the candidate.</p>			

Transition point #4: Exit from the Second Teaching Practice Course

Candidates Proficiencies (k=knowledge, s=skill, d=disposition)	Assessment Tools	Benchmarks	In Charge of Data Collection
#1 Possess content knowledge of the discipline candidates aspires to teach (k) #2 Possess pedagogical content knowledge (k) #3 Possess knowledge of human development and learning (k) #4 Demonstrate creative critical thinking (s) #5 Exhibit comprehensive formation-communication skills (s) #6 Demonstrate community building skills (s) #7 Assessment of student learning. #8 Demonstrate caring disposition. #9 Demonstrate sensitivity to diversity. #10 Demonstrate reflective practice.	UPRM Report Transcript Student teaching evaluation rubrics for EDAG 4018 and EDAG 4019 Teaching Practice Portfolio with candidate work (i.e. lesson plans, integration of assessments for diverse students, reflective essays, self-evaluation report, cooperative teacher evaluations, attendance records and research papers.) Field Observation and Clinical Experiences Completion of: EDES 4006 –Nature and Needs of Exceptional Learners EDAG 4016 – Audiovisual Media in Teaching Vocational Agriculture HIST 3111 or HIST 3112 – History of United States HIST 3241 or HIST 3242 – History of Puerto Rico UPRM- Transcript	2.5 GPA in major 2.5 GPA overall 80% on Student Teaching Evaluation rubric 80% Teaching Practice Portfolio rubric Completion of 315 hours Approval of the course Agricultural Education Program Candidates- -General education courses 60 -Agricultural Sciences requirements 33 -Departmental requirements 19 -Professional electives 18 -Free electives 12 Total 142 credits	Registrar's Office Cooperating teacher and University supervisor Professor of EDAG 4018 & EDAG 4019 Professor of EDAG 4018 & EDAG 4019 Registrar's Office

Use of the results: GPA is collected with the purpose of monitoring candidate's proficiencies in content knowledge, and to provide feedback to the Registrar's and Admission's Offices regarding future admissions to the Program. All data from the assessment instruments and the transcript are reviewed by the academic advisor and the student-teaching coordinator. The data are used to modify or improve program based on need.

Unit Operation Assessment

The principal places where the unit operation data is collected and used: the Agricultural Education Program Department (EDAG Program), the Secondary Education Teacher Preparation Program (PPMES) office, the Division of Extension and Professional Studies (DECEP), the Office of Institutional Research and Planning (OIIP) and the Information Technologies Center (ITC). The directors of the EDAG and PPMES collect operational data to plan course offerings, assign teaching duties, and coordinate clinical practice. The directors and their academic advisors use candidate performance data to guide candidates through their teacher preparation program or sequence. The director of DECEP handles faculty evaluations and follow-up surveys. The Teacher Education Assessment Board reviews all of the available data relevant to the quality of the unit operation. The Dean of Academic Affairs (unit head) coordinates the discussion of the assessment board's findings with the corresponding departments and personnel.

Unit Operation Assessment		
Assessment Tools	Data collected by: 1) Data aggregated by: 2) Data analyzed & used by: 3)	When
General Admission Index to the Education Program Content and Education Courses and Grades GPA (Transcript)	1) Registrar's Office 2) OIIP 3) PPMES & EDAG Program	Enrollment in curricular sequence
Program and course demand, offerings, and enrollment	1) PPMES, Ag Ed Program Director & Registrar's Office 2), 3) PPMES Director & EDAG Program Director	Every semester
Faculty evaluations: - University faculty - Clinical school faculty	1) DECEP & Ag Ed Program 2) ITC 3) Faculty & departments	At the end of every semester
Certification Test Results (PCMAS)	1) College Board 2) College Board, Assessment Board 3) DECEP	End of Program

Use of the results

The unit regularly and systematically uses data to evaluate program efficacy and initiate changes, as follows.

- 1) GPA and course grades are used to monitor program enrollment and to provide immediate feedback to the Registrar's Office regarding admission to the program. The agricultural education, mathematics, physical education, and physics departments restrict the number of applicants admitted to their teacher preparation programs by setting minimum admission indices. The minimum admission indices were 255, 280, 245, and 290 respectively for the 2008-09 academic year. The admission index (IGS, Índice General de Solicitud) is a combination of College Board Entrance Examination scores and high school GPA.
- 2) The PPMES office and the EDAG department use candidate transcript information, content and education courses previously taken and grades obtained as well as the general and course GPAs, during student enrollment in the curricular sequences. The number and status of candidates is taken into consideration for planning course offerings. Since UPRM encourages students to take initial education courses as free or recommended electives as a means of recruiting teacher candidates, it is important to identify course offerings needed to attend candidates. Course demand is then taken into account for faculty recruitment and allocation of teaching resources. It is particularly important to identify the number of candidates who will enroll in methodology and student teaching practice to recruit adjunct university faculty and school faculty.
- 3) University and clinical school faculty demographics and faculty evaluations by students are used by the departments and the faculty. Faculty use their student evaluations to monitor and improve their teaching and classroom performance. The information provided by the Student Opinion Survey (in Spanish COE or faculty evaluations) is individually reviewed each semester by each instructor with the DECEP director and discussed in a personal goal-setting conference.
- 4) Departments use aggregated evaluation data to plan faculty (university and school) professional development every semester. At UPRM, student evaluations are considered an important factor for teaching assignments, tenure, and promotion. When the evaluations denote a need for improvement and directors have spotted repeated areas for improvement, they arrange for special themed professional development activities with the *Centro de Enriquecimiento Profesional (CEP)* (see <http://uprm.edu/cep>). Faculty evaluations are also used for tenure decisions and faculty promotion. Candidate evaluations of cooperating teachers are a major factor in subsequent Practice Center placements.
- 5) Both PPMES and EDAG use Teacher Certification Test Results (PCMAS) annually to evaluate how well their respective programs are preparing candidates for these tests and meeting UPRM candidate content and pedagogical knowledge goals. The Teacher Certification Test results are submitted in Title II reports on teacher preparation program. The results are used by UPRM and the Puerto Rico Department of Education to evaluate the quality of the teacher preparation program. The Teacher Education Assessment Board uses these results to identify strengths

and weaknesses in the existing curricula and to make data driven decisions about course content and program requirements.

- 6) Candidate statistics and demographics such as content programs, year of curricular sequence enrollment, status, and others are used to complete annual institutional reports which affect funding allocation. In the fall semester of the 2009-2010 academic year, there were approximately 700 teacher candidates from 39 UPRM undergraduate programs, 10 graduate programs, and 2 non-degree programs.
- 7) The office of PPMS and the office of EDAG use field and clinical experience supervisory data such as teaching center attendance hours, unit seminars, and workshops attendance to assure candidates and clinical faculty meet their responsibilities. This information is taken into account for both candidate's grades and faculty clinical assignments.
- 8) A series of surveys have proven to be very informative in the establishment of initiatives to innovate and improve the quality of the programs and unit operations. Candidates complete an End of Program Survey at the end of their teaching practice. In the survey, candidates express their level of satisfaction with the program and make suggestions for improvements. There was 100% response rate for the first semester 2009-10. The program worked with responses of the 2006-07 survey; PPMS invested in its physical facilities and in technology resources (added a computer center, "smart boards," and data displays in the classrooms). The facilities are currently being remodeled. CRUISE (in Spanish Centro de Recursos Universitarios Investigación y Servicios Educativos) was originally created to address candidate concerns about resources for planning and preparing their student teaching classes. In fall 2009, CRUISE received a significant addition to its resources in donations from the AIACiMa project.
- 9) DECEP collects external data and information annually from alumni, cooperating teachers, and school principals by means of surveys. This information has brought about programmatic changes, such as an increase in the number of clinical experience hours required of candidates.

Program Quality Assessment

The unit uses a number of assessments and evaluations which allow for feedback and suggestions to manage and improve the operations and programs of the unit. The university-wide course evaluation process with the Student Opinion Survey (*Cuestionario de Opinión Estudiantil* – COE) allows candidates to give regular feedback each semester on instructor ability in the areas of general academia, teaching, service, research and creative work to facilitate student learning.

Program Quality Assessment		
Assessment Tools	Data collected by: 1) Data aggregated by: 2) Data analyzed & used by: 3)	When
Faculty evaluations: - University faculty - Clinical school faculty	1) DECEP & EDAG Program 2) ITC 3) Faculty, PPMES & EDAG Program	Every semester
Candidate statistics and demographics	1) Registrar's Office 2) OIIP & ITC 3) PPMES	Every semester
Field and Clinical Experiences – Supervisory data (Hours, attendance to schools, seminars and workshops)	1), 2), and 3) PPMES & EDAG Program	Every month
Faculty demographic and evaluation data : -University Faculty -Clinical School Faculty	1) Registrar's Office 2) OIIP (for university faculty), PPMES & EDAG Program (for clinical school faculty) 3) PPMES	Every semester
End of Program Surveys	1), 2) DECEP 3) DECEP, PPMES & EDAG Program	End of Program (every semester)
Alumni surveys Employer surveys	1), 2), and 3) DECEP & EDAG Program	Annually
Certification Test Results (PCMAS)	1) College Board 2) College Board 3) PPMES & EDAG Program	End of Program (annually)

Use of the results

Both the DECEP and the EDAG directors receive and review evaluation results from COE each semester. The information is individually reviewed and discussed in a personal goal setting conference with each faculty. This is done particularly if the results denote a need for improvement. When the directors have spotted repeated areas for

improvement, they arrange special themed professional development activities with the CEP.

An end-of-program evaluation is given to each candidate at the end of the student teaching practice course. The form requires candidate to answer questions about the quality of the program, advising, field experiences, and connection to the conceptual framework, as well as open-ended questions about the program and suggestions for improvements. Results of these evaluations are aggregated by the program and discussed in program meetings to improve courses, faculty's performance, administrative process and physical facilities.

Assessment and evaluation used across the unit to manage and improve its operations are alumni surveys, admission and retention data, and the Teacher Certification Test scores (PCMAS) and PCMAS survey results.

Insuring Consistency, Accuracy, and Fairness of Assessment

Institutional Assessment Guiding Principles

A commitment to the assessment of institutional effectiveness requires a parallel commitment to ensure its use in the improvement of programs and services. The following five principles serve to unify the assessment practices at UPRM, while allowing for flexibility in approach for each unit. The principles emulate the five fundamental criteria of assessment planning identified by Middle States Commission in Higher Education (MSCHE, 2005).

1. The mission, goals, and objectives of the institution (and the unit) serve as the foundation for assessment planning.
2. Assessment tasks are shared – plans are developed and implemented with the support and collaboration of both faculty and administration.
3. Assessment plans and processes utilize multiple measures, taking existing practices and requirements into consideration (e.g., external accreditation agencies) to avoid duplication of effort.
4. Assessment is not an event or an outcome, but a process of continuous improvement where findings are used to inform planning and allocate resources.
5. Assessment plans identify realistic (rather than idealistic) goals, timetables, and resources.

Assessment of institutional effectiveness at UPRM occurs on both the institutional and unit levels. The Office of Institutional Research and Planning (OIRP) and the Continuous Improvement Education Initiative (CIEI) serve to develop and monitor efforts at the institutional level. In addition, several campus units collect data on key institutional indicators of interest. At the unit level, the assessment plan is part of the strategic plan.

With regards to fairness, PPMES and EDAG take extensive measures to be certain candidates know what is expected of them, how to meet these expectations, and how they will be evaluated. Both PPMES and EDAG maintain web sites where program requirements, forms, and manuals are available (see <http://www.uprm.edu/educon/ppmes/formularios.html> and <http://agricultura.uprm.edu/edag/>). In addition, the program requires candidates to attend a week-long orientation sessions about expectations especially with regard to student teaching practice. PPMES uses a series of manuals which cover expectations and requirements. These manuals cover the student teaching practice, theory and methodology, and the E-Portfolio which includes the Teacher Candidate Work Sample (TCWS). Candidates develop their E-Portfolio over three courses (computer applied to education, methodology, and student teaching) and in EDAG candidates receive a manual for coursework portfolio required in practice I and practice II. The TCWS was developed from pioneering efforts of the Renaissance Group and aligned with state standards. The conceptual framework was aligned with institutional standards, state standards, professional standards, and INTASC performance standards. All candidate assessment must be aligned with the conceptual framework. The same criteria established under the broader categories of knowledge, skills, and dispositions expressed in the Conceptual Framework appear in the unit-wide key assessments (such as educational philosophy project, E-Portfolio, TCWS and practice observation instrument and EDAG coursework portfolio). This way the unit ensures assessments are congruent with the complexity, cognitive demands, and skill requirements described in the standards.

To ensure consistency and accuracy, the Associate Director of PPMES plans semester workshops and orientations for teacher candidates, cooperating teachers, and school principals or directors, university supervisors and methodology professors in an effort to guarantee everybody involved in the process understands the expectations, forms, and assessments geared to effectively work to achieve the objectives. Representatives in each content area were asked to revise the alignment of the program assessment system with NCATE, state education, and professional organization standards. Each assessment instrument, revised or created, is subjected to a continuous improvement review to verify consistency, fairness, accuracy and that is free of bias by all the stakeholders involved. The school and university faculty discuss changes to instruments among themselves and with candidates. All rubrics currently used for assessment of knowledge, skills, and dispositions have been constructed using raters feedback, paying attention that they are fair, accurate and free of bias.

Technology Used to Maintain the System

The Institutional Research and Planning Office, which is under the direct supervision of the chancellor maintains a database for collecting and maintaining assessment

information related to academic progress of all students. The Registrar's Office, in collaboration with the Technology Information Center, provides the Teacher Preparation Program with a database system with College Entrance Examination Board (CEEB) scores, high school grade point average, UPR General Admission Index (IGS), university course grades and other academic information stored in the Registrar's Office. Data from measures directly related to the course work and areas of specialization are obtained from faculty, collected by the Teacher Preparation Program, and provided to the Program Assessment Committee.

Data are summarized in narratives, tables, and charts. UPRM uses in house programs (Centro de Tecnologías de Información y la Oficina de Investigación Institucional y Planificación) to aggregate demographic data and transcript information. In addition, the unit presently use MicroSoft Excel and Access to analyze and store candidate and unit data. UPRM recently acquired CWReporter and is in the process of moving the data and the analysis process. MicroSoft Word and PowerPoint are used to prepare, disseminate, and store data reports.

Implementation of the Assessment System

The directors of the Teacher Preparation Programs together with the Program Assessment Committees oversee the implementation of the assessment system. They work hand in hand with the faculty to guarantee the successful development and validation of the techniques needed to assess candidates' progress and to assure the proper administration of the assessment measures as candidate's progress from one transition point to another. The Program Assessment Committee is responsible for the collection of data, data entry, statistical analysis, and studies required to assess the effectiveness of the Teacher Preparation Program. The Program Assessment Committee, the program coordinators, and the program directors, share the responsibility for the interpretation of the assessment results.

Dissemination of the Results

Data and analysis of results appropriate for public distribution is made available through the UPRM website: <http://educon.uprm.edu>.

The Assessment Board and the Advisory Board working documents are stored on line at: <https://sites.google.com/site/ppmesuprm/home>.

The Specialized Professional Association reports, other official reports, and related information are available to interested parties at:

<http://sites.google.com/site/cannybellido/ncate-sparum>.

The Institutional Research and Planning Office, in collaboration with the Program Assessment Committee, is responsible for the dissemination of institutional assessment data. Aggregated data on Teacher Preparation Candidates is posted on the Institutional Research and Planning Office Web page (<http://oiip.uprm.edu/>). The assessment results are subject to discussion in diverse forums with concerned UPRM constituents, school personnel and alumni. The ideas and opinions of the university community are taken into consideration for overall program improvement. The discussion of the results is a periodic agenda item in Department meetings and in meetings with the Dean of Academic Affairs. These discussions lead to corrective actions when necessary.

The institution's Office of Continuous Improvement and Assessment considers the results of the program assessment when assigning priorities for budget allocation. The Office of Continuous Improvement and Assessment uses the assessment information to better target its evaluation and professional development activities. Teacher Preparation Program candidates participate in annual forums and workshops to help them understand the implications of the results of these assessments and to give them the opportunity to participate in the development of action plans.

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