Georgia State University
Assessment Data by Section
2012-2013 Science Education Online MEd
As of: 3/10/2014 06:39 PM EST
(Includes those Action Plans with Budget Amounts marked One-Time, Recurring, No Request)

Mission / Purpose
The mission of the MEd. Online Program in Science Education is to provide an opportunity for certified teachers to build capacity in science teaching by expanding their content knowledge and pedagogical practices. Candidates develop knowledge, teaching expertise, and dispositions that will enable them to become educators who are: informed by research, knowledge and reflective practice; empowered to serve as change agents; committed to and respectful of all learners; and engaged with learners, their families, schools, and local and global communities.

Goals

G 1: Goal/Purpose Statement
Candidates who are admitted to this program have basic science knowledge; therefore the goals of the program divided into three areas: Planning, effects on P-12 learners and content. 1. Planning: Candidates will expand their content and pedagogical knowledge of the natural sciences by excelling in science courses that will enable them to plan and implement lessons that demonstrate their understanding of science concepts and principles. 2. Effects on P-12 Learners: Candidates will enlarge their content base and pedagogical practices through application where they demonstrate their knowledge and skills of advanced topics in the natural sciences and pedagogical practices that include teaching science as inquiry with emphasis on the nature of science, working with diverse student populations, developing assessment strategies that will target the academic development of the learner in the area of science. Candidates will engage in reflective practice to improve their instructional practices. 3.Content: Candidates will expand their content knowledge of the natural sciences by excelling in science courses that they will enable them to plan and implement lessons that are interdisciplinary in which they teach learners how to show respect for science, each other, the school and the community.

Student Learning Outcomes/Objectives

SLO 1: Planning (Pedagogical Knowledge and Skills) (M: 1)
Candidates will be able to: Utilize their content and pedagogical knowledge of science to develop a variety of teaching actions, strategies, and methodologies including interactions with students that promote learning and achievement in their instructional plans.

SLO 2: Effects on P-12 Student Learning (M: 2)
Candidates will be able to: Use a variety of contemporary and traditional assessment strategies to evaluate the academic, social, and personal development of the learner in all aspects of science, and engage in reflective practice by using outcome data to guide and change instruction.

Other Outcomes/Objectives

O/O 3: Content Knowledge (M: 3)
Candidates will be able to: Develop lessons that utilize concepts and processes in science in order to teach science as an interdisciplinary unit; as inquiry with the inclusion of the nature of science, and in relationship to the personal, historical, and social perspectives of life. Candidates will also incorporate the use of technology in their teaching.

Measures (Key Assessments), Targets, and Findings

M 1: Measure for Planning (Pedagogical Knowledge and Skills) (O: 1)
Candidates will develop lesson plans using a variety of teaching actions, strategies, and methodologies including interactions with students that promote learning and achievement in their instructional plans. Candidates must achieve a rating of at least "3" out of "5" for this measure.

Source of Evidence: Portfolio, showing skill development or best work

Target for O1: Planning (Pedagogical Knowledge and Skills)
Candidates will develop lesson plans using a variety of teaching actions, strategies, and methodologies including interactions with students that promote learning and achievement in their instructional plans. Candidates must achieve a rating of at least "3" out of "5" for this measure.

Findings 2012-2013 - Target: Met
Sixty-six percent of the candidates scored at the "4" out of "5" and 33% scored at the "3" out of "5" on this target indicating that they have knowledge of when to engage students in inquiry projects and how to link these instructional practices to things that are taking place in the lives of their students. In addition, data indicate that students have a good understanding of how to assess their students and use this data to improve instruction. This data indicate that the target was met.

Findings 2011-2012 - Target: Met
All of the candidates scored at the "4" out of "5" on this target indicating that they have knowledge of when to engage students in inquiry projects and how to link these instructional practices to things that are taking place in the lives of their students. In addition, data indicate that students have a good understanding of how to assess their students and use this data to improve
### Findings 2010-2011 - Target: Partially Met
Twenty-five percent of the candidates scored at the meets expectation level, 37.5% scored at the exceeds expectation level and 37.5% scored at the meets expectation level after more than one submission. None of the candidates made an acceptable score on the first submission. The minimum number of submissions was 2 and the maximum was 27. The target was for the students to score at the advanced or proficient levels on the first submission.

### Findings 2009-2010 - Target: Met
Fifty percent of the students scored 100% (3/3 Far Exceeds Expectation Level) on this target and 50% scored 66.66% (2/3 Meets Expectation Level) on this target. Data show that half of the students exceeded the expected level on this target.

### M 2: Measure for Effects on P-12 Student Learning (O: 2)
Candidates are expected to use a variety of contemporary and traditional assessment strategies to evaluate the academic, social, and personal development of the learner in all aspects of science, and engage in reflective practice by using outcome data to guide and change instruction. Students must achieve a rating of at least “2” out of a possible “3” for this measure.
Source of Evidence: Portfolio, showing skill development or best work

### Target for O2: Effects on P-12 Student Learning
Candidates are expected to use a variety of contemporary and traditional assessment strategies to evaluate the academic, social, and personal development of the learner in all aspects of science, and engage in reflective practice by using outcome data to guide and change instruction. Students must achieve a rating of at least “2” out of a possible “3” for this measure.

### Findings 2012-2013 - Target: Met
Sixty-six percent of the candidates scored at the exceeds level (3) and 33.5 scored at the meets level (2) implying that candidates have a good understanding of how to choose assessment instruments, how to use the instruments to evaluate the performance of students, and how to use assessment data to modify their instructional strategies. This data indicate that the target was met.

### Findings 2011-2012 - Target: Met
All of the candidates (100%) received a good rating for this measure. Fifty percent of the students scored a rating of “3” out of “3” and 50 percent scored a rating of “2” out of “3”. This indicates that the candidates have a good understanding of how to develop assessment instruments that are aligned with their teaching goals and objectives in order to determine the impact that their teaching had on students’ performance.

### Findings 2010-2011 - Target: Partially Met
Fifty percent of the students scored at the meets expectation level, 12.5% scored at the exceeds expectation level, and 37.5% scored at the far exceeds expectations level. None of the students met the target on the first submission. The minimum number of submissions was 2 and the maximum was 27. The target was for the students to score at the advanced or proficient levels on the first submission. The target was only partially met.

### Findings 2009-2010 - Target: Met
Fifty percent of the students scored 100% (3/3 Far Exceeds Expectation Level) on this target and 50% scored 66.66% (2/3 Meets Expectation Level) on this target. Data show that 50% of the students exceeded the expected level on this target.

### M 3: Measure for Content Knowledge (O: 3)
Candidates will develop lessons that utilize concepts and processes in science in order to teach science as an interdisciplinary unit; as inquiry with the inclusion of the nature of science, and in relationship to the personal, historical, and social perspectives of life. Candidates will also incorporate the use of technology in their teaching. Candidates must achieve a rating of at least “2” out of a possible “3” for this measure.
Source of Evidence: Portfolio, showing skill development or best work

### Target for O3: Content Knowledge
Candidates will develop lessons that utilize concepts and processes in science in order to teach science as an interdisciplinary unit; as inquiry with the inclusion of the nature of science, and in relationship to the personal, historical, and social perspectives of life. Candidates will also incorporate the use of technology in their teaching. Students must achieve a rating of at least “2” out of a possible “3” for this measure.

### Findings 2012-2013 - Target: Met
Sixty-six percent of the students scored at the exceeds level (3) and 33 percent scored at the meets level (2) implying that the candidates have adequate knowledge to teach science as an interdisciplinary unit. This data indicate that the target was met.

### Findings 2011-2012 - Target: Met
All of the candidates (100%) met by scoring a rating of “2” out of “3”. This implies that the candidates have a good understanding of how teach science content and make it meaningful to real life situations.

### Findings 2010-2011 - Target: Partially Met
All of the students achieved this target with 37.5 percent of the students scoring at the exceeds expectation level and 62.5% scored at the exceeds level. None of the students met the target on the first submission. The minimum number of submissions was 2 and the maximum was 27. The target was for the students to score at the far exceeds, exceeds, or meets expectation levels on the first submission. The target was only partially met.

### Findings 2009-2010 - Target: Met
Thirty-three percent of the students scored 100% (3/3 Far Exceeds Expectation Level), 33% scored 83.33% (2.5/3 Exceeds Expectation Level) on this target, and 33% scored 66.66% (2/3 Meets Expectation Level) on this target. Data show that 66% of the
students exceeded the expected level on this target.

Details of Action Plans for This Cycle (by Established cycle, then alpha)

Clinical Practice
Linked to Clinical Practice (Pedagogical Knowledge) Data show that 33% of the students scored at the far exceeds expectation level, 33% scored at the exceeds expectation level, and 33% scored at the exceeds level. The portfolio standards were not assigned as a part of any course requirement; therefore, the students received feedback for their portfolios after completing course work. Several students had to resubmit their work more than twice to receive an acceptable rating. Portfolio standards will be embedded in the course content for EDSC 7550, EDSC 8600, EDSC 8430, and EDSC 8400.

Established in Cycle: 2009-2010
Implementation Status: Finished
Priority: High

Relationships (Measure [Key Assessment] | Outcome/Objective):
  Measure [Key Assessment]: Measure for Content Knowledge | Outcome/Objective: Content Knowledge

Implementation Description: Plan should be fully implemented at the end of the fall semester 2010.
Projected Completion Date: 11/2010
Responsible Person/Group: All faculty teaching in the MEd. Online Program in Science.
Additional Resources: No additional resources needed.
Budget Amount Requested: $0.00 (no request)

Effects on P-12 Learning
Linked to the Effects on P-12 Learning Data show that 50% of the students scored at the far exceeds expectation level and 50% scored at the meets level. The portfolio standards were not assigned as a part of any course requirement; therefore, the students received feedback for their portfolios after completing course work. Several students had to resubmit their work more than twice to receive an acceptable rating. Portfolio standards will be embedded in the course content for EDSC 7550, EDSC 8600, and EDSC 8400.

Established in Cycle: 2009-2010
Implementation Status: Finished
Priority: High

Relationships (Measure [Key Assessment] | Outcome/Objective):
  Measure [Key Assessment]: Measure for Effects on P-12 Student Learning | Outcome/Objective: Effects on P-12 Student Learning

Implementation Description: Plan should be fully implemented at the end of the fall semester 2010.
Projected Completion Date: 11/2010
Responsible Person/Group: All faculty teaching in the MEd. Online Program in Science.
Additional Resources: No additional resources needed.
Budget Amount Requested: $0.00 (no request)

Planning - Pedagogical Knowledge and Skills
Linked to Planning (Pedagogical Knowledge and Skills) Data show that 50% of the students scored at the far exceeds expectation level and 50% scored at the meets expectation level. The portfolio standards were not assigned as a part of any course requirement; therefore, the students received feedback for their portfolios after completing course work. Several students had to resubmit their work more than twice to receive an acceptable rating. Portfolio standards will be embedded in the course content for EDSC 7550 and EDSC 8400.

Established in Cycle: 2009-2010
Implementation Status: Finished
Priority: High

Relationships (Measure [Key Assessment] | Outcome/Objective):
  Measure [Key Assessment]: Measure for Planning (Pedagogical Knowledge and Skills) | Outcome/Objective: Planning (Pedagogical Knowledge and Skills)

Implementation Description: Plan should be fully implemented at the end of the fall semester 2010.
Projected Completion Date: 11/2010
Responsible Person/Group: All faculty teaching in the MEd. Online Program in Science.
Additional Resources: None
Budget Amount Requested: $0.00 (no request)

Content Knowledge
Linked to Content Knowledge: Data show that 37.5% of the students scored at the far exceeds expectation level and 62.5% scored at the exceeds expectation level. The portfolio standards were assigned as a part of course requirements for EDSC 7550, EDSC 8600, EDSC 8430, and EDSC 8400. Several students had to resubmit their work more than twice to receive an acceptable rating. The minimum number of submissions was two and the maximum was 27. In addition to support in the classes, special virtual tutoring sessions will be offered to students to help them with the development of the exit portfolio.

Established in Cycle: 2010-2011
Implementation Status: In-Progress
Priority: High

Relationships (Measure [Key Assessment] | Outcome/Objective):
  Measure [Key Assessment]: Measure for Content Knowledge | Outcome/Objective: Content Knowledge

Implementation Description: In addition to support in the classes, special virtual tutoring sessions will be offered to students to help them with the development of the exit portfolio. Students will be notified of the sessions through email.
Projected Completion Date: 12/2011
Responsible Person/Group: All Science Education Faculty.
Additional Resources: No additional resources are needed.
Budget Amount Requested: $0.00 (no request)
Effects on P-12 Learning
Linked to the Effects on P-12 Learning Data show that 37.5 % of the students scored at the far exceeds expectation level, 12.5% at the exceeds level, and 50% scored at the meets expectation level. The portfolio standards were assigned as a part of the course requirements for EDSC 7550, EDSC 8600, and EDSC 8400. Several students had to resubmit their work more than once to receive an acceptable rating. The minimum number of submissions was 2 and the maximum was 27. In addition to support in the classes, special virtual tutoring sessions will be offered to students to help them with the development of the exit portfolio.

Established in Cycle: 2010-2011
Implementation Status: In-Progress
Priority: High
Relationships (Measure (Key Assessment) | Outcome/Objective):
Measure (Key Assessment): Measure for Effects on P-12 Student Learning | Outcome/Objective: Effects on P-12 Student Learning
Project Completed Date: 12/2011
Responsible Person/Group: All Science Education Faculty
Additional Resources: No additional resources are needed.
Budget Amount Requested: $0.00 (no request)

Planning (Pedagogical Knowledge and Skills)
Linked to Planning (Pedagogical Knowledge and Skills) Data show that 37.5 % of the students scored at the far exceeds and exceeds expectation levels and 25 % scored at the meets expectation level. The portfolio standards were assigned as a part of the course requirement for EDSC 7550 and EDSC 8400 which meant that the students completed the portfolio requirement while enrolled in a methods course. Several students had to resubmit their work more than once to receive an acceptable rating. The minimum number of submissions was two and the maximum was 27. In addition to support in the classes, special virtual tutoring sessions will be offered to students to help them with the development of the exit portfolio.

Established in Cycle: 2010-2011
Implementation Status: In-Progress
Priority: High
Relationships (Measure (Key Assessment) | Outcome/Objective):
Measure (Key Assessment): Measure for Planning (Pedagogical Knowledge and Skills) | Outcome/Objective: Planning (Pedagogical Knowledge and Skills)
Project Completed Date: 12/2011
Responsible Person/Group: All Science Education Faculty
Additional Resources: None
Budget Amount Requested: $0.00 (no request)

Analysis Questions and Analysis Answers
CTW Reflection 1: Achievements - What were the major CTW accomplishments in your program for this academic year? How do these relate to the Action Plans that you specified last year?
N/A

CTW Reflection 2: Assessment - What, if any, improvement in critical thinking among students have you been able to discern in a given class and/or over time from the entry level to the exit class?
N/A

CTW Reflection 3: Needs - What areas of CTW in your program still need development? What aspects of the implementation of CTW have been problematic? What assistance might you need to address those areas?
N/A

CTW Reflection 4: Overall Reflection - What have been the primary changes or impact of CTW on your academic program, and on the students and faculty involved in this initiative? What changes has your department made to the CTW initiative since last year’s CTW Assessment Report?
N/A

ACADEMIC PROGRAM QUESTION 1:
What changes in the assessment process has your degree program made since last year's assessment report? (e.g. revised learning outcomes, measures, targets, etc.) Why were these changes made? What changes and improvements in the assessment process will you make in the coming academic year?

Changes are occurring in the teacher preparation process at the state and national levels. The National Science Education Standards are being replaced by the Next Generation Science Standards This means that modifications in the curriculum for the M.Ed. Online Program in Science Education must be made. The Next Generation Science Standards focus on eight components: Asking questions, developing and using models, planning and carrying out investigations, analyzing and interpreting data, using mathematics and computational thinking, and constructing explanations. Assignments and assessments must be modified to make sure that the candidates meet these standards; therefore, faculty are adjusting course objectives and requirements for successful completion of courses to make sure that they are aligned with the Next Generation Science Standards. In addition, the exit portfolio and key assessment requirements for graduation will be modified and piloted this year.

ACADEMIC PROGRAM QUESTION 2: What is the impact of the data obtained from assessment findings on your educational degree program? What changes and improvements to your educational program will be made based on this year’s assessment data? (e.g., revised curriculum, courses, sequence, etc.) If changes to curriculum or courses are made for other reasons, please explain.

1. Content Knowledge: The principal findings from the data show that M.Ed. candidates are well prepared in the content, since they
have a teaching certificate and they continue to take science coursework at the graduate level while in the program. The faculty has worked with the science departments to design science courses that meet both graduate level content and pedagogical considerations. We would like for the M.Ed. candidates to experience science taught through inquiry based methods. We continue to look for science professors with whom to collaborate and who are willing to teach in an online format. We have made several changes in the program as a result of the assessments. Most changes have been in the sequence in which courses are offered. 2. Professional and pedagogical knowledge, skills, and dispositions: The principal findings from the data show that M.Ed. candidates do possess good pedagogical skills and knowledge of their profession in that they are already certified and are able to expand their professional and pedagogical knowledge while enrolled in the program. The program now includes a video observation so that faculty can assess students in a classroom setting. The instrument for measuring candidates’ dispositions has been changed and now a unit wide instrument is used. 3. Effects on student learning and on creating environments that support learning. The impact on student learning is assessed using an assessment plan that is developed by the candidates in which they teach a lesson from a Nine Week Curriculum Project. Candidates teach one of the lessons from the curriculum which allows them to analyze data and reflect on the impact that they had on students’ performance. At one time the students were required to analyze 5 research articles for this assessment, but the faculty worked together to develop a more suitable way of measuring the candidates’ performance and its effectiveness. The candidates through this assignment explore selected strategies and develop a deep understanding of issues that affect student learning in the classroom.