

**Geography Program Review
Assessment Section**

Riverside Community College District

**Moreno Valley Campus
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Riverside City Campus**

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E. Student Outcomes Assessment

1. Assessment Vision and Implementation

As teachers, geographers have always been engaged in the process of refining and improving classroom instruction. The contemporary accreditation process has led us to develop an ongoing systematic approach away from simply final grades and grade distributions to student learning outcome assessment. Geography's assessment focus is on enhancing understanding of how our students learn and how to best help them succeed. We have ongoing assessment projects at several stages underway in both GEG 1 and GEG 1L. We have projects in several stages, including stage 5, in which our results have been used to act, enact, and disseminate changes as a direct result of assessment. GEG1 and GEG1L account for 90% of the sections taught by our discipline. As part of the program review process we developed assessment schedules for all of the other Geography classes. We are committed to continuously striving to improve student learning and teaching effectiveness.

The Discipline started its formal assessment project in Fall 2007. We began by agreeing on common exam questions for GEG 1. The assessment process expanded in two directions. First, we incorporated the selection of topics by individual instructors based on student experience. Some instructors focused on elements of the class that they knew most students usually had difficulty with. Others focused on basic scientific information they felt students should master as a result of taking Geography classes. Student learning outcome strategies for GEG 1 were implemented in GEG 1L. These two classes account for almost all Geography sections in the district. Second, the discipline also has a broader focus on overall student engagement and educational success through the use of a survey. The goal of the survey is to receive feedback from students that may be helpful in improving instruction. The end-of-term survey is in stage 4. The survey has been revised by the Discipline and will be used again at the end of Fall 2008. The Discipline offers other courses in addition to GEG1 and GEG1L. We have developed assessment plans for each of them.

The main reason that most students take Geography classes is that they require sciences courses in order to graduate and transfer. Very few students are Geography majors. A main goal of Physical Geography classes is the learning of basic scientific information about our planet. As a result of being part of general education, a central goal of Geography instruction is skill acquisition and enhancement that will serve students academically and professionally.

Three questions are driving our assessment projects:

1. Are Geography students acquiring the knowledge and skills the discipline is promoting?

2. How can we as instructors modify and improve so that our students learn and succeed?
3. Are there other techniques or additional resources that would help our students learn more effectively?

The following GEG 1 SLOs were selected for analysis:

- Utilize geographic tools appropriately, such as maps, graphs, data, and images to develop critical thinking and problem solving skills
- Identify and explain basic facts, rules, principles, and mechanisms of the atmosphere, lithosphere, hydrosphere, and biosphere
- Assess the impact of location on the elements of air, water, land, and the biosphere

The following GEG 1L SLOs were selected for analysis:

- Exhibit competency in the use of maps by determining distance, area, slope, elevation and height
- Demonstrate proper use of instruments for measuring and location
- Follow instructions, rules, and guidelines in the implementation of scientific analysis
- Demonstrate problem-solving skills in individual and group work
- Formulate analyses and critical thinking about the development of landforms.

The Discipline's approach to student learning outcome assessment is to focus on specific skills and concepts. Our assessment strategy is to test students on the selected topics and analyze the results. If less than 80% of students correctly answer a question, a thorough review of the lectures, readings, assignments (including exam review materials), and exam questions is undertaken. Did the test question reflect the ideas in the lecture, reading or assignment? Were students aware of what was expected of them? Was the concept modeled? Did they receive feedback on the topic? What can the instructors do to increase student comprehension? Are some materials or teaching approaches more successful than others? Can material be shared between instructors? Is the lack of learning due to a skills deficit? If so, could existing material be revised or new material created that would enhance student success? Are additional library or Internet resources needed, for example, books, videos, or websites where students could turn to for extra help? Is the lack of learning mainly of issue of motivation? If so, could faculty help by targeting specific students for more contact: face-to-face; email; internet chats, or by phone. Based on the analysis, modifications are planned. The next step is to retest students either in the same semester or a future one. This is followed by additional analysis.

As we cycle through our current assessment projects we will also be expanding our efforts by identifying more topics within the current SLOs being assessed. We will also move to assess additional SLOs. Interestingly, one result of the assessment project is the desire to revisit the course outline of records with the aim of revising and clarifying student learning outcomes. Do the stated SLOs on the course outlines always correspond with current curriculum? Are there SLOs that need to be added or modified to reflect the content of classroom instruction? The Discipline looks forward to discussing these questions and other issues in the continued management of ongoing, systematic and effective assessment.

Below are summaries of the Discipline's assessment inquiries. Several projects in both GEG 1 and GEG 1L are in stage 5, in which our results have been used to act, enact, and disseminate changes as a direct result of assessment. The Discipline has project at other stages. Some projects have initial results and the exam questions are scheduled to be retested and reanalyzed. Some topics will be analyzed for the first time this academic year. Finally, the latest topics we have formulated are in the beginning stages

We have created a schedule for all geography classes. Our goal is that by Spring of 2010 every Geography course will have gone through a complete assessment cycle with multiple topics encompassing most of the student learning outcomes in the course outlines of record. Every adjunct geography instructor will be given a copy of this program review document and will be encouraged to participate in assessment. Supporting material is included in the appendix.

2. Assessment Projects

GEG 1 ASSESSMENT PROJECT 1: MAP SKILLS**Step 1: Assessment Inquiry**

COURSE: GEG 1

SLO: Utilize geographic tools appropriately, such as maps, graphs, data, and images to develop critical thinking and problem solving skills

RATIONALE: General education outcomes: information competency; scientific and quantitative reasoning; logical thinking, problem solving.

Step 2: Method of Assessment

DIRECT ASSESSMENT. Exam questions throughout the term. Students will be expected to correctly plot three coordinate locations on a world map in which alternating lines of latitude and longitude are not labeled. PowerPoint of diagram in the book is used during lecture and explained by the instructor. Reference to important lines of latitude is included in the study guide for the exam.

EXAMPLE:

Mark and label the following locations on the world map:

A) 60 N, 30 W B) 23.5 S, 45 E C) 10 S, 30 E

Step 3: Measurement Criteria

GOAL: 80% of students will be able to correctly map at least 2 coordinates.

Step 4: Summary and Analysis of Data.

FALL 2007, FIRST MIDTERM EXAM:

3 correct: 47%

2 correct: 24%

1 correct: 5%

0 correct: 24%

Expected outcome was not met.

MODIFICATIONS: Develop in-class assignment and homework assignment. Revise existing assignments. Include mapping exercise with the in-class review. Create a homework assignment targeting unsuccessful students.

Step 5: Use of Results and Modifications

FALL 2007, SECOND MIDTERM EXAM:

3 correct: 74%

2 correct: 15%

1 correct: 0%

0 correct: 11%

Expected outcome was met.

MODIFICATIONS: Provide feedback to students on their map skills. Create an additional homework assignment targeting unsuccessful students and provide before every test.

FALL 2008, FIRST MIDTERM EXAM:

3 correct: 44%

2 correct: 37%

1 correct: 17%

0 correct: 2%

Expected outcome was not met.

MODIFICATIONS: Provide feedback to students on their map skills.

FALL 2008, SECOND MIDTERM EXAM:

PENDING: Expected date: October 2008.

Project will continue in 2008-2009.

GEG 1 ASSESSMENT PROJECT 2: MAP SCALE**Step 1: Assessment Inquiry**

COURSE: GEG 1

SLO: Utilize geographic tools appropriately, such as maps, graphs, data, and images to develop critical thinking and problem solving skills

RATIONALE: General education outcomes: information competency; scientific and quantitative reasoning; logical thinking, problem solving.**Step 2: Method of Assessment**

DIRECT ASSESSMENT. Exam questions throughout the term. Students will be expected to set up the equation for determining distance in miles at a specific map scale. Scale is explained in lecture. Working with map scale is practiced in an in-class assignment.

EXAMPLE:

Two cities are 6.5 inches apart on a map at the scale 1:100,000. How far apart in miles are the cities? Set up the equation. Do not determine the final answer.

Answer:
$$\frac{6.5 \times 100,000}{63,360}$$
Step 3: Measurement Criteria

GOAL: 80% of students will be able to correctly set up the equation.

Step 4: Summary and Analysis of Data.

FALL 2007, FIRST MIDTERM EXAM:

Correct: 48%

Incorrect: 52%

Expected outcome was not met.

MODIFICATIONS: Provide feedback to students on their map skills.

Include scale problem with the in-class review. Incorporate scale problem into existing in-class assignments. Create additional in-class assignment and a homework assignment prior to first test.

Step 5: Use of Results and Modifications

SPRING 2008, FIRST MIDTERM EXAM:

Correct: 41%

Incorrect: 59%

Expected outcome was not met.

MODIFICATIONS: Revise in-class assignment.

FALL 2008, FIRST MIDTERM EXAM:

Correct: 51%

Incorrect: 49%

Expected outcome was not met.

MODIFICATIONS: Discuss results at discipline meeting. Is there a correlation between success on this question and overall success on the exam? Is this task too challenging for students? Can it be approached differently? Perhaps a math instructor could offer insights. One issue is that some students know the steps of the operation, but have one element wrong. For example, instead of dividing by 63,360 (the number of inches in a mile), they divide by 12. Does this meet the goal? Should they be given partial credit?

SPRING 2008, FIRST MIDTERM EXAM:

PENDING: Expected date: October 2008.

Project will continue in 2008-2009.

GEG 1 ASSESSMENT PROJECT 3: LATITUDES AND SEASONS

Step 1: Assessment Inquiry

COURSE: GEG 1

SLO: Utilize geographic tools appropriately, such as maps, graphs, data, and images to develop critical thinking and problem solving skills

RATIONALE: General education outcomes: information competency; scientific and quantitative reasoning; logical thinking, problem solving.

Step 2: Method of Assessment

DIRECT ASSESSMENT. Exam questions on first midterm exam. Students will be asked to identify by name lines of latitude that are significant in understanding seasons on Earth. PowerPoint of diagram in the book is used during lecture and explained by the instructor. Reference to latitudes included in the study guide for the exam.

EXAMPLE: Map with five lines of latitude included in the exam. Lines will be labeled by letter. Fill-in-the-blank. Students must identify each.

- A) _____
- B) _____
- C) _____
- D) _____
- E) _____

- ANSWERS:**
- A) Arctic Circle
 - B) Tropic of Cancer
 - C) Equator
 - D) Tropic of Capricorn
 - E) Antarctic Circle

Step 3: Measurement Criteria

GOAL: 80% of students will be able to correctly identify at least six of the seven parallels.

Step 4: Summary and Analysis of Data.

SPRING 2006, FIRST MIDTERM EXAM:

Correct: 73%

Incorrect: 27%

Expected outcome was not met.

MODIFICATIONS: Include problem with the in-class review. Create in-class assignment and a homework assignment

Step 5: Use of Results and Modifications

FALL 2007, FIRST MIDTERM EXAM:

Correct: 84%

Incorrect: 16%

Expected outcome was met.

MODIFICATIONS: None

SPRING 2008, FIRST MIDTERM EXAM:

Correct: 82%

Incorrect: 18%

Expected outcome was met.

MODIFICATIONS: None

FALL 2008, FIRST MIDTERM EXAM:

Correct: 89%

Incorrect: 11%

Expected outcome was met.

MODIFICATIONS: None

Project will be periodically reassessed.

GEG 1 ASSESSMENT PROJECT 4: THE INTERNATIONAL DATE LINE

Step 1: Assessment Inquiry

COURSE: GEG 1

SLO: Utilize geographic tools appropriately, such as maps, graphs, data, and images to develop critical thinking and problem solving skills

RATIONALE: General education outcomes: information competency; scientific and quantitative reasoning; logical thinking, problem solving.

Step 2: Method of Assessment

DIRECT ASSESSMENT. Exam question on one exam. Students will be asked to determine the time change that occurs as the international date line (IDL) is crossed.

EXAMPLE: Flying from Asia to North America, when crossing the IDL you must

- A) adjust time 24 hours forward
- B) Adjust time 7 hours back
- C) Adjust time 7 hours forward
- D) Adjust time 24 hours back

ANSWERS: D)

Step 3: Measurement Criteria

GOAL: 80% of students will be able to correctly identify the correct answer.

Step 4: Summary and Analysis of Data.

SPRING 2008, FIRST MIDTERM EXAM:

Correct: 64%

Incorrect: 36%

Expected outcome was not met.

MODIFICATIONS: Modify in-class assignment. The assignment asks about a flight from Philippines to Los Angeles. Many students do not know that the Republic of the Philippines is located in Asia. A graphic was added to the in-class assignment.

Step 5: Use of Results and Modifications

SUMMER 2008, FIRST MIDTERM EXAM:

Correct: 81%

Incorrect: 19%

Expected outcome was met.

MODIFICATIONS: None

FALL 2008, FIRST MIDTERM EXAM:

Correct: 92%

Incorrect: 8%

Expected outcome was met.

MODIFICATIONS: None

Project will be periodically reassessed.

GEG 1 ASSESSMENT PROJECT 5: RAIN SHADOW**Step 1: Assessment Inquiry**

COURSE: GEG 1

SLOs:

- Identify and explain basic facts, rules, principles, and mechanisms of the atmosphere.

-Assess the impact of location on the elements of air, water, land, and the biosphere

-Ascertain interrelationships between the four spheres and demonstrate a problem solving perspective to interconnections

RATIONALE: General education outcomes: information competency; scientific and quantitative reasoning; logical thinking, problem solving.

Step 2: Method of Assessment

DIRECT ASSESSMENT. Exam question on one midterm. Students will be asked to identify the likely location of a rain shadow based on the position of a mountain and the dominant flow of wind. Concept is explained in lecture. Concept is addressed in in-class review.

Step 3: Measurement Criteria

GOAL: 80% of students will be able to correctly identify the location of a rain shadow on a map showing a hypothetical topographic barrier (mountain), an ocean, and the direction of wind.

Step 4: Summary and Analysis of Data.

FALL 2007, SECOND MIDTERM EXAM:

Correct: 94%

Incorrect: 4%

Expected outcome was met.

MODIFICATIONS: None

Step 5: Use of Results and Modifications

SPRING 2008, SECOND MIDTERM EXAM:

Correct: 88%

Incorrect: 12%

Expected outcome was met.

Project will be periodically reassessed.

GEG 1 ASSESSMENT PROJECT 6: EARTHQUAKE FEATURE IDENTIFICATION

Step 1: Assessment Inquiry

COURSE: GEG 1

SLO: Identify and explain basic facts, rules, principles, and mechanisms of the lithosphere.

RATIONALE: General education outcome: information competency

Step 2: Method of Assessment

DIRECT ASSESSMENT. Exam questions on one midterm. Students will be asked to identify four major elements of earthquakes and their landscape effects. PowerPoint of diagram in the book is used during lecture and explained by the instructor. Reference to earthquake elements is included in the study guide for the exam.

EXAMPLE: Fill-in-the-blank. Identify by name the elements indicated by number on the earthquake diagram.

- A) _____
- B) _____
- C) _____
- D) _____

- ANSWERS:
- A) Fault scarp
 - B) Epicenter
 - C) Fault
 - D) Focus

Step 3: Measurement Criteria

GOAL: 80% of students will be able to correctly identify at least three elements.

Step 4: Summary and Analysis of Data.

FALL 2006, FOURTH MIDTERM EXAM:

- Four Correct: 48%
- Three Correct: 16%
- Two Correct: 13%
- One Correct: 13%

Expected outcome was not met.

MODIFICATIONS: Reproduce diagram as a handout and have students complete it as an in-class assignment. Include with the in-class review.

Step 5: Use of Results and Modifications

FALL 2007, FOURTH MIDTERM EXAM:

- Four Correct: 77%
- Three Correct: 3%
- Two Correct: 11%
- One Correct: 7%

Expected outcome was met.

FALL 2008, FOURTH MIDTERM EXAM:
PENDING: Expected date: November 2008.

Project will continue in 2008-2009.

GEG 1 PROJECT 7: INTERPETING CLIMATE DATA**Step 1: Assessment Inquiry**

COURSE: GEG 1

SLO: Utilize geographic tools appropriately, such as maps, graphs, data, and images to develop critical thinking and problem solving skills

RATIONALE: General education outcomes: information competency; scientific and quantitative reasoning; logical thinking, problem solving.**Step 2: Method of Assessment**

DIRECT ASSESSMENT. Exam question. Students will be expected to identify a climograph as either from the northern hemisphere or the southern. PowerPoint of diagram in the book is used during lecture and explained by the instructor. Reference to hemispheric climograph patterns is included in the study guide for the exam.

EXAMPLE:

Is the climograph in the northern or southern hemisphere? _____

ANSWER

Is the climograph in the northern or southern hemisphere? Southern**Step 3: Measurement Criteria**

GOAL: 80% of students will be able to correctly identify a climograph as representing a southern hemisphere location.

Step 4: Summary and Analysis of Data.

SPRING 2008, THIRD MIDTERM EXAM:

Correct: 59%

Not Correct: 41%

Expected outcome was not met.

MODIFICATIONS: Develop in-class assignment and homework assignment. Include topic with the in-class review.

Step 5: Use of Results and Modifications

FALL 2008, THIRD MIDTERM EXAM

PENDING: Expected date: November 2008.

Project will continue in 2008-2009.

GEG 1 PROJECT 8: MONSOONS

Step 1: Assessment Inquiry

COURSE: GEG 1

SLOs:

--Identify and explain basic facts, rules, principles, and mechanisms of the atmosphere

---Assess the impact of location on the elements of air, water, land, and the biosphere

--Utilize geographic tools appropriately, such as maps, graphs, data, and images to develop critical thinking and problem solving skills

RATIONALE: General education outcomes: information competency; scientific and quantitative reasoning; logical thinking, problem solving.

Step 2: Method of Assessment

DIRECT ASSESSMENT. Exam questions. Students will be asked to correctly identify the seasonal wind patterns associated with monsoons when provided with a map. Students will be asked to explain wind patterns in term of high atmospheric pressure and low atmospheric pressure. Concept is dealt with in the textbook and in lecture, including PowerPoint slides from the text. Concept is noted in the study guide for the exam. In-class assignment is given.

EXAMPLE:

In the summer monsoon, is the wind flowing from the land to the ocean or from the ocean to the land? _____

In the summer monsoon, is the continental surface experiencing high pressure or low pressure compared to the ocean surface? _____

ANSWERS

In the summer monsoon, is the wind flowing from the land to the ocean or from the ocean to the land? Ocean to land

In the summer monsoon, is the continental surface experiencing high pressure or low pressure compared to the ocean surface? Low pressure

Step 3: Measurement Criteria

GOAL: 80% of students will be able to correctly identify the flow of wind. and 80% will be able to associate the summer monsoon with low pressure over continental surfaces.

Step 4: Summary and Analysis of Data.

SPRING 2008, SECOND MIDTERM EXAM:

Flow Question Correct: 68%

Flow Question Incorrect: 32%

Pressure Question Correct: 59%

Pressure Question Not Correct: 41%

Expected outcome was not met.

MODIFATIONS: Revise in-class assignment. Mention topic at the beginning of the next lecture as a quick review before moving forward with new material. Include with the in-class review.

Step 5: Use of Results and Modifications

FALL 2008, SECOND MIDTERM EXAM:

PENDING: Expected date: October 2008.

GEG 1L PROJECT 1: GRAPHIC SCALE**Step 1: Assessment Inquiry**

COURSE: GEG 1L

SLO:

--Exhibit competency in the use of maps by determining distance, area, slope, elevation and height;

--Demonstrate proper use of instruments for measuring and location;

--Interpret and analyze data in a variety of formats;

--Follow instructions, rules, and guidelines in the implementation of scientific analysis;

RATIONALE: General education outcomes: information competency; scientific and quantitative reasoning; logical thinking, problem solving.

Step 2: Method of Assessment

DIRECT ASSESSMENT. Exam question. Graphic Scale.

Students will be asked to determine the distance in miles using a graphic scale. The task is part of a lab assignment.

EXAMPLE: Use a blank sheet of paper and the graphic scale to determine the distance in miles between Point C and Point E on Map T-2. Do not use a ruler or calculator for this problem.

ANSWER: 12 miles

Step 3: Measurement Criteria

GOAL: 80% of students will be able to correctly determine the distance in miles.

Step 4: Summary and Analysis of Data.

FALL 2007, FIRST MIDTERM EXAM:

Correct: 56%

Incorrect: 44%

Expected outcome was not met.

MODIFICATIONS: Re-write the assignment so that the instructor can accurately assess if students are correctly performing the task in a lab session. Re-write the test question in order to increase the validity of the assessment.

Step 5: Use of Results and Modifications

SPRING 2008, FIRST MIDTERM EXAM:

Correct: 66%

Incorrect: 34%

Expected outcome was not met.

MODIFICATIONS: Revise the assignment in order to improve the ability of the instructor to accurately assess if students are correctly performing the task in a lab session. Identify possible continuing problems with the format of the test question and revise in order to increase the validity of the assessment.

Step 5: Use of Results and Modifications

SUMMER 2008, FIRST MIDTERM EXAM:

Correct: 78%

Incorrect: 22%

Expected outcome was not met.

MODIFICATIONS: Monitor and interact with students while they are working on the lab assignment. Highlight graphic scale problem on the in-class review.

FALL 2008, FIRST MIDTERM EXAM:

ANALYSIS PENDING: First midterm exam of Fall 2008. Expected date: October 2008.

Project will continue in 2008-2009.

GEG 1L ASSESSMENT PROJECT 2: MAP SCALE

Step 1: Assessment Inquiry

COURSE: GEG 1L

SLO:

--Exhibit competency in the use of maps by determining distance, area, slope, elevation and height;

--Demonstrate proper use of instruments for measuring and location;

--Interpret and analyze data in a variety of formats;

--Follow instructions, rules, and guidelines in the implementation of scientific analysis;

RATIONALE: General education outcomes: information competency; scientific and quantitative reasoning; logical thinking, problem solving.

Step 2: Method of Assessment

DIRECT ASSESSMENT. Exam questions. Students will be expected to determine distances in feet, miles, and kilometers at specific map scales. Test questions are drawn from lab assignment. Each question is worth three points.

EXAMPLES:

Two buildings are 2 inches apart on a map at the scale 1:24,000. How far apart in feet are the buildings? Show your calculations.

Answer:
$$\frac{2 \times 24,000}{12} = 4,000 \text{ ft.}$$

Two cities are 6.5 inches apart on a map at the scale 1:100,000. How far apart in miles are the cities? Show your calculations.

Answer:
$$\frac{6.5 \times 100,000}{63,360} = 10.3 \text{ miles}$$

Two cities are 9.5 centimeters apart on a map at the scale 1:50,000. How far apart in kilometers are the cities? Set up the equation. Show your calculations.

Answer:
$$\frac{9.5 \times 50,000}{100,000} = 4.8 \text{ kilometers}$$

Step 3: Measurement Criteria

GOAL: 80% of students will be able to determine the correct answers.

Step 4: Summary and Analysis of Data.

FALL 2007, FIRST MIDTERM EXAM

Feet Question Correct: 81%

Miles Question Correct: 79%

Kilometer Question Correct: 43%

Expected outcome was not completely met.

MODIFICATIONS: Provide feedback to students on their map skills. Revise lab assignment.

Step 5: Summary and Analysis of Data.

SPRING 2008, FIRST MIDTERM EXAM

Feet Question Correct: 77%

Miles Question Correct: 83%

Kilometer Question Correct: 49%

Expected outcome was not completely met.

MODIFICATIONS: Provide feedback to students on their map skills.

Reinforce mastery of map scale on the in-class review. Change kilometer problem to an extra credit question.

SUMMER 2008, FIRST MIDTERM EXAM

Feet Question Correct: 86%

Miles Question Correct: 82%

Expected outcome was met.

Kilometer Question was correctly answered by 77% of students. They earned three extra credit points on the exam.

FALL 2008, FIRST MIDTERM EXAM

PENDING: First midterm exam of Fall 2008. Expected date: October 2008.

GEG 1L ASSESSMENT PROJECT 3: DEPRESSION CONTOURS

Step 1: Assessment Inquiry

COURSE: GEG 1L

SLO:

--Exhibit competency in the use of maps by determining distance, area, slope, elevation and height;

--Demonstrate problem-solving skills in individual and group work;

--Formulate analyses and critical thinking about the development of landforms.

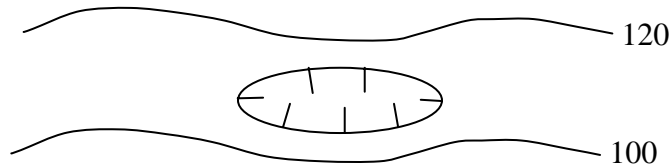
RATIONALE: General education outcomes: information competency; scientific and quantitative reasoning; logical thinking, problem solving.

Step 2: Method of Assessment

DIRECT ASSESSMENT. Exam questions. Students will be asked to determine the values of depression contours on topographic maps. They will also be asked to determine the elevation at the bottom of the depression.

EXAMPLE: What is the value of the depression contour?

To ½ the contour interval, what is the elevation at the bottom of the depression?



ANSWERS: What is the value of the depression contour? 100 ft.

To ½ the contour interval, what is the elevation at the bottom of the depression? 90 ft.

Step 3: Measurement Criteria

GOAL: 80% of students will be able to correctly determine the value of the depression contour and the elevation at the bottom.

Step 4: Summary and Analysis of Data.

FALL 2007, FIRST MIDTERM EXAM

Contour Value Question Correct: 52%

Elevation Question Incorrect: 46%

Expected outcome was not met.

MODIFATIONS: Revise lab assignment. Revise exam question.

Step 5: Use of Results and Modifications

SPRING 2008, FIRST MIDTERM EXAM

Contour Value Question Correct: 68%

Elevation Question Incorrect: 66%

Expected outcome was not met.

MODIFICATIONS: Revise lab assignment. Rework technique for demonstrating competency with interpreting depression contours. Revise exam question.

SUMMER 2008, FIRST MIDTERM EXAM

Contour Value Question Correct: 76%

Elevation Question Incorrect: 72%

Expected outcome was not met.

MODIFICATIONS: Revise lab assignment. Rework technique for demonstrating competency with interpreting depression contours. Revise exam question.

FALL 2008, FIRST MIDTERM EXAM

PENDING: First midterm exam of Fall 2008. Expected date: October 2008.

**GEG 1L ASSESSMENT PROJECT 4: ADIABATIC COOLING AND
THE BOUYANCY OF AIR****Step 1: Assessment Inquiry**

COURSE: GEG 1L

SLO:

--Interpret and analyze data in a variety of formats;

--Follow instructions, rules, and guidelines in the implementation of scientific analysis;

--Demonstrate problem-solving skills in individual and group work;

RATIONALE: General education outcomes: information competency; scientific and quantitative reasoning; logical thinking, problem solving.**Step 2: Method of Assessment**

DIRECT ASSESSMENT. Exam questions. Students are asked to plot the vertical temperature profile and the changing temperature of a parcel of air on a graph and interpret the result.

EXAMPLE: (See appendix)

ANSWER: (See appendix)

Step 3: Measurement Criteria

GOAL: 80% of students will be able to plot the temperature profile and the changes of the parcel.

Step 4: Summary and Analysis of Data.

FALL 2007, SECOND MIDTERM EXAM

Temperature Profile Correct: 42%

Parcel Graphing Incorrect: 32%

Expected outcome was not met.

MODIFICATIONS: Rewrite the lab. Create an example that can be included with the lab assignment.

Step 5: Use of Results and Modifications

SRING 2008, SECOND MIDTERM EXAM

Temperature Profile Correct: 73%

Parcel Graphing Incorrect: 52%

Expected outcome was not met.

MODIFICATIONS: Modify and simplify the exam question.

FALL 2008, SECOND MIDTERM EXAM

PENDING: Second midterm exam of Fall 2008. Expected date: November 2008.

GEG 1L ASSESSMENT PROJECT 5: RELATIVE HUMIDITY**Step 1: Assessment Inquiry**

COURSE: GEG 1L

SLO:

--Interpret and analyze data in a variety of formats;

--Follow instructions, rules, and guidelines in the implementation of scientific analysis;

--Demonstrate problem-solving skills in individual and group work;

RATIONALE: General education outcomes: information competency; scientific and quantitative reasoning; logical thinking, problem solving.**Step 2: Method of Assessment**

DIRECT ASSESSMENT. Exam question. Determine the relative humidity of a parcel of air.

EXAMPLE: The air inside a room is at a temperature of 18.3^o C and has a mixing ratio of 5.2 g/kg. What is the relative humidity?

ANSWER: 39%

Step 3: Measurement Criteria

GOAL: 80% of students will be able to correctly determine the relative humidity of the parcel.

Step 4: Summary and Analysis of Data.

FALL 2007, SECOND MIDTERM EXAM

Correct: 71%

Incorrect: 29%

Expected outcome was not met.

MODIFICATIONS: Revise relative humidity lab assignment. Include in the in-class review.

Step 5: Use of Results and Modifications

SPRING 2008, SECOND MIDTERM EXAM

Correct: 82%

Incorrect: 19%

MODIFICATIONS: Reinforce topic on the day of the lab with student demonstrations. Reinforce topic over several days by asking students questions.

FALL 2008, SECOND MIDTERM EXAM

PENDING: Second midterm exam of Fall 2008. Expected date: November 2008.

GEG 1L ASSESSMENT PROJECT 6: DEW POINT**Step 1: Assessment Inquiry**

COURSE: GEG 1L

SLO:

--Interpret and analyze data in a variety of formats;

--Follow instructions, rules, and guidelines in the implementation of scientific analysis;

--Demonstrate problem-solving skills in individual and group work;

RATIONALE: General education outcomes: information competency; scientific and quantitative reasoning; logical thinking, problem solving.**Step 2: Method of Assessment**

DIRECT ASSESSMENT. Exam question. In the context of solving a relative humidity problem, students are asked to identify the temperature (dew point) at which a given parcel of air will become saturated with water vapor.

EXAMPLE: The air inside a room is at a temperature of 18.3^o C and has a mixing ratio of 5.2 g/kg. What is the dew point?

ANSWER: 4.4^o C.

Step 3: Measurement Criteria

GOAL: 80% of students will be able to correctly determine the dew point by referring to the appropriate table.

Step 4: Summary and Analysis of Data.

FALL 2007, SECOND MIDTERM EXAM

Correct: 62%

Incorrect: 38%

MODIFICATIONS: Revise relative humidity lab assignment.

Step 5: Use of Results and Modifications

SPRING 2008, SECOND MIDTERM EXAM

Correct: 69%

Incorrect: 31%

MODIFICATIONS: Reinforce topic on the day of the lab with student demonstrations. Reinforce topic over several days by asking students questions. Include in the in-class review.

FALL 2008, SECOND MIDTERM EXAM

PENDING: Second midterm exam of Fall 2008. Expected date: November 2008.

GEG 1L ASSESSMENT PROJECT 7: TANGENT RAYS OF THE SUN**Step 1: Assessment Inquiry**

COURSE: GEG 1L

SLO:

--Interpret and analyze data in a variety of formats;

--Follow instructions, rules, and guidelines in the implementation of scientific analysis;

RATIONALE: General education outcomes: information competency; scientific and quantitative reasoning; logical thinking, problem solving.**Step 2: Method of Assessment**

DIRECT ASSESSMENT. Exam question. Draw and label.

Students will be asked to determine the latitudes of the tangent rays of the sun on a specific day. They will be asked to draw the latitudes. This task is part of a lab assignment.

EXAMPLE: See Appendix

ANSWER: See Appendix

Step 3: Measurement Criteria

GOAL: 80% of students will be able to correctly determine the distance in miles.

Step 4: Summary and Analysis of Data.

FALL 2007, FIRST MIDTERM EXAM:

Correct: 32%

Incorrect: 68%

Expected outcome was not met. Students have difficulty grasping that they are being asked to draw line of latitude and that they should be parallel to other lines.

MODIFICATIONS: Re-write the assignment so that the instructor can accurately assess if students are correctly performing the task in a lab session. Split the original lab into two separate assignments. Do not let students proceed until competency on the first part can be demonstrated.

Step 5: Use of Results and Modifications

SPRING 2008, FIRST MIDTERM EXAM:

Correct: 78%

Incorrect: 22%

Expected outcome was not met.

MODIFICATIONS: Highlight in in-class review.

SUMMER 2008, FIRST MIDTERM EXAM:

Correct: 88%

Incorrect: 12%

Expected outcome was met.

MODIFICATIONS: None

FALL 2008, FIRST MIDTERM EXAM:
PENDING: Expected date: October 2008.

Project will continue in 2008-2009.

GEG 1L ASSESSMENT PROJECT 8: LOCAL RELIEF**Step 1: Assessment Inquiry**

COURSE: GEG 1L

SLO:

--Exhibit competency in the use of maps by determining distance, area, slope, elevation and height

--Interpret and analyze data in a variety of formats

--Follow instructions, rules, and guidelines in the implementation of scientific analysis

RATIONALE: General education outcomes: information competency; scientific and quantitative reasoning; logical thinking, problem solving.

Step 2: Method of Assessment

DIRECT ASSESSMENT. Exam question. Students are asked to examine a topographic map and determine the height of a mountain. They need to subtract the elevation of the base of the feature from the elevation of the highest point

EXAMPLE: See Appendix

ANSWER: See Appendix

Step 3: Measurement Criteria

GOAL: 80% of students will be able to correctly determine the distance in miles.

Step 4: Summary and Analysis of Data.

FALL 2007, THIRD MIDTERM EXAM:

Correct: 48%

Incorrect: 52%

Expected outcome was not met. Students have difficulty grasping what is being asked of them. Students also have difficulty identify the correct numbers to use.

MODIFICATIONS: Modify the lab assignment and include additional instructions. Highlight in in-class review.

Step 5: Use of Results and Modifications

SPRING 2008, THIRD MIDTERM EXAM:

Correct: 46%

Incorrect: 54%

Expected outcome was not met. The topographic map in the Lab Manual is notoriously difficult for students to interpret. The map is crowded with information. The text is small and difficult to read.

MODIFICATIONS: Develop new lab assignments that will address the same concept, but do so in a manner that does not frustrate and confuse students.

SUMMER 2008, THIRD MIDTERM EXAM:

Correct: 88%

Incorrect: 12%

Expected outcome was met.

MODIFICATIONS: None

FALL 2008, THIRD MIDTERM EXAM:

PENDING: Expected date: November 2008.

Project will continue in 2008-2009.

GEG 1L ASSESSMENT PROJECT 9: TIME AND LONGITUDE**Step 1: Assessment Inquiry**

COURSE: GEG 1L

SLO:

--Exhibit competency in the use of maps by determining distance, area, slope, elevation and height;

--Interpret and analyze data in a variety of formats;

--Follow instructions, rules, and guidelines in the implementation of scientific analysis;

RATIONALE: General education outcomes: information competency; scientific and quantitative reasoning; logical thinking, problem solving.**Step 2: Method of Assessment**

DIRECT ASSESSMENT. Exam question. Students are asked to determine the degrees of longitude between two places that are five hours apart.

EXAMPLE: If two places are 6 hours apart, how many degrees of longitude separate them?

ANSWER: $15 \times 6 = 90^{\circ}$ **Step 3: Measurement Criteria**

GOAL: 80% of students will be able to correctly determine the distance in miles.

Step 4: Summary and Analysis of Data.

FALL 2007, FIRST MIDTERM EXAM:

Correct: 71%

Incorrect: 29%

Expected outcome was not met.

MODIFICATIONS: Create a new lab assignment that emphasizes latitude and longitude. Create a new lab assignment on the topic of time and longitude.

Step 5: Use of Results and Modifications

SPRING 2008, FIRST MIDTERM EXAM:

Correct: 89%

Incorrect: 11%

Expected outcome was met.

MODIFICATIONS: None.

FALL 2008, FIRST MIDTERM EXAM:

PENDING: Expected date: October 2008.

Project will continue in 2008-2009.

3. Assessment Surveys

In addition to the assessment projects on specific topics, an end-of-term assessment tool has been developed and utilized in GEG 1. The survey asks general questions about students' perceptions of their success. At the end of the class, 96% of students believe that they had increased their knowledge of Earth's physical dimensions. 100% of students indicated that their map skills had improved as a result of taking the class. 91% of students indicated that they found the class intellectually stimulating.

The survey asks about the impact of the in-class assignments and the in-class exam reviews on student success. 91% of students responded that the in-class assignments were helpful in learning the material. 74% of students indicated that the in-class exam reviews were very helpful and 22% stated that they were somewhat helpful.

The survey also asks students about the course's impact on their college level study skills. 63% of students indicated that the class had a small, but positive impact on their study skills. While 29% indicated that the class had a significant positive impact on their study skills.

One of the most interesting findings from the survey are the responses to the questions about the amount of lecturing in the GEG 1 course at Moreno Valley. The instructor at Moreno Valley has incorporated active learning exercises into most class meetings. The results seem to have been positive, although a quantitative analysis of grade distributions has not yet been undertaken. In other words, by cutting back somewhat on lecturing, exams scores have risen. 52% of students indicated they were comfortable with the current balance between lecturing and in-class work. Yet, 35% indicated they wanted more lecturing. To further explore this issue, the question about the structure of the course will be administered separately from the rest of the survey and students will be asked to elaborate.

Below are some of the results. These initial responses are based on one Spring 2008 class at Moreno Valley.

Step 4: Summary and Analysis of Data.

SPRING 2008, END-OF-TERM ASSESSMENT:

MAP SKILLS QUESTION

My map skills have:

RESPONSES	PERCENT
Not increased	0%
Somewhat increased	40%
Significantly increased	60%

ATMOSPHERE QUESTION

My understanding of weather and atmospheric processes has:

RESPONSES	PERCENT
Not increased	4%
Somewhat increased	52%
Significantly increased	43%

Biosphere question: My understanding of life on Earth has

RESPONSES	PERCENT
Not increased	0%
Somewhat increased	54%
Significantly increased	46%

LITHOSPHERE QUESTION

My understanding of Earth's landscape processes has

RESPONSES	PERCENT
Not increased	4%
Somewhat increased	58%
Significantly increased	38%

IN-CLASS EXAM REVIEWS QUESTION

Were the in-class exams reviews helpful in learning the material?

RESPONSES	PERCENT
Not helpful	4%
Somewhat helpful	22%
Very helpful	74%

COLLEGE SKILLS QUESTION

What has been the impact of this class on your college level study skills?

RESPONSES	PERCENT
No impact	8%
A small impact	63%
A large impact	29%

ASSIGNMENT QUESTION

Were the in-class assignments helpful in learning the material?

RESPONSES	PERCENT
Not helpful	9%
Helpful	91%

INTELLECTUAL STIMULATION QUESTION

Was this class intellectually stimulating?

RESPONSES	PERCENT
No	9%
Yes	91%

CLASS STRUCTURE QUESTION

Which of the following do you most agree with?

RESPONSES	PERCENT
I would like more lecturing and less in-class work.	35%
I like the current balance of lecturing and in-class work..	52%
I would like less lecturing and more in-class work.	14%

MODIFICATIONS: Create a separate assessment for the class structure question and ask students to elaborate on their response. Based on responses from other members of the discipline, the survey will be revised by numbering the questions and adjusting the phrasing of the questions.

Step 5: Use of Results and Modifications

FALL 2008, MIDTERM ASSESSMENT AND END-OF-TERM ASSESSMENT

PENDING: Expected dates: November 2008 & December 2008

Project will continue in 2008-2009.

4. Assessment Schedule

By Spring 2011 our goal is to have completed the assessment cycle for every geography course taught in the District. The assessment topics have been selected for every course. Below is a listing of the topics along with the semesters assessment will begin for each topic.

**SLO ASSESSMENT TOPICS & SCHEDULE
GEG2: HUMAN GEOGRAPHY**

Spring 2009

- A: Identify place names of the world.
- B: Spatial analysis. Most European countries are based on what system of organization?
- C: Greenhouse gasses
- D: The geography of population. In which continent are the six most populated countries located?

Spring 2010

- E: What is natural increase?
- F: What is the population of the United States? What is the population of the world?
- G: Patterns of ethnic segregation in the US
- H: Major military conflicts

**SLO ASSESSMENT TOPICS & SCHEDULE
GEG3: WORLD REGIONAL GEOGRAPHY**

Fall 2009

- A: Demographic transition concept
- B: Neoliberalism in Middle and South America
- C: The rise of the European Union
- D: China's population trends

Fall 2010

- E: Southeast Asia and North Africa: Common roots of Judaism, Christianity, and Islam
- F: Russian demography
- G: Orientations of Australian economy
- H: Major world landforms

**SLO ASSESSMENT TOPICS & SCHEDULE
GEG4: GEOGRAPHY OF CALIFORNIA**

Spring 2009

- A: External Migration patterns
- B: Water resources
- C: Major natural hazards
- D: Geographic patterns of economic restructuring

Spring 2010

- E: The agricultural economy
- F: Mexico-US relations
- G: Wildfires as social-physical processes
- H: Growth of the Inland Empire

**SLO ASSESSMENT TOPICS & SCHEDULE
GEG5: WEATHER & CLIMATE**

Fall 2008

- A: Earth's energy budget
- B: Methods of saturation

Spring 2009

- C: Midlatitude Cyclones
- D: Heat waves

Fall 2009

- E: Global warming
- F: The Pineapple Express

Spring 2010

- G: El Nino
- H: Santa Ana winds

SLO ASSESSMENT TOPICS & SCHEDULE
GEG6: GEOGRAPHY OF UNITED STATES AND CANADA

Fall 2009

- A: Major landforms
- B: Migration patterns
- C: Economic linkages between US and Canada
- D: The geography of natural hazards

Fall 2010

- E: Geographic patterns of contemporary urbanization
- F: Geographic patterns of industrialized agriculture
- G: Age Demographic transitions
- H: Ethnic demographic transitions

5. Assessment Conclusion

RCCD students have the desire to learn and succeed, yet most arrive in the classroom with knowledge and skill deficits. College level texts and the traditional focus on lecturing present obstacles to many students taking GEG 1. Every instructor has to make choices as to which topics to focus on. One overriding finding that emerges from the Discipline's ongoing assessment project is that enhancing student success involves the ability of instructors to modify, create, and present material in ways that gives community college students the opportunity to succeed.

The hands-on nature of Physical Geography Laboratory presents a unique set of circumstances. Physical geography lab manuals present challenges for our students. Most students do not have the breadth of basic mathematical and scientific information required by the established texts. Our students can be successful, but often what is required is flexibility and innovation by the instructors. By developing a systematic basic skills approach to course material, Geography instructors are helping students to succeed-- not just in Geography classes, but in other disciplines as well. We do not necessarily want to eliminate every topic students have difficulty with. Part of the learning process is developing the coping skills to struggle through difficult material. Yet, we can continue to align the curriculum so that most students can be successful, while maintaining a rigorous agenda that prepares transfer student to do well at four-year educational institutions.