Luna Community College

Improving Student Learning

Spring 2011 Report

Forward

In 2009, Luna Community College took a progressive approach to student learning with a reorganization of learning goals for all programs of study and implementation of an institutional assessment plan. In addition, LCC recognized a need for a standard syllabi with a focus on student learning outcomes and methods to measure those outcomes.

In the Spring of 2010, LCC identified a further commitment to assessment by requiring academic departments to be integrated into the assessment process; therefore, it was determined that all departments participate in semester assessment reporting. The department director along with the faculty conduct the process. The purpose is to provide a baseline for future improvements, not only for improving student learning but for program quality, curriculum improvements and instructional delivery.

This spring 2011 report on Improving Student Learning is a testimony to LCC's commitment to assessment.

Vidal Martinez, Ed.D.
Vice President for Instruction
Luna Community College

May 20, 2011

LCC's Principles of Assessment

- Assessment must continuously improve student learning at Luna Community College.
- Assessment is an extension to the needs and attention of students at Luna Community College.
- Assessment is ongoing at Luna Community College.
- Assessment activities must be useful to the individuals that conduct them, to programs, and to Luna Community College.

LCC's Assessment Plan

All course offerings, including degree and certificate programs, at Luna Community College are required to follow the four step assessment process. They include:

- A list of expected learning outcomes
- Assessment tools that directly measure those learning outcomes
- The results of the data, and
- How the data will be used to improve student learning

Luna Community College: Improving Student Learning – Spring 2011 Report

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Department of Mass Media Communications
Summary Assessment Report
MMC 130: Introduction to Media Arts

Prepared by Amalinda Arguello, Adjunct Faculty

PURPOSE

The purpose of this report is to assess student learning in Introduction to Media Arts course based on student performance throughout the semester. The focus of the report is on how the outcomes of the assessments conducted during the delivery of the course are and can be used to inform decisions on modifications to course content, emphasis, assessment and teaching methodologies.

BACKGROUND

The Mass Media Communications Associate of Arts Degree Program is new at Luna Community College (LCC), beginning in September 2009, and this is the second semester that the Introduction to Media Arts course has been taught.

As described in the LCC 2009-2012 Catalog: The introduction to Media Arts course offers a brief introduction the basic fundamentals of media arts. Starting with digital still graphics, students will learn hands on approaches to understanding and creating graphic art and the basic effect processes used in graphic art layout and print work. This will include both vector and raster graphic mediums. It is strongly recommended that the student have a good understanding of computer functions and operation.

LEARNING OUTCOMES

Upon successful completion the student will be able to:

1. Demonstrate proper file management practices
2. Develop a basic understanding of file formats for print
3. Recognize the importance of proper layer management
4. Show ability to follow project specifications
5. Display effective use of several Adobe Photoshop tools including layer adjustments, paths, masks, filters, brushes, and correction tools.
6. Illustrate a basic understanding of design principles in terms of composition, color theory, and typography
7. Clearly communicate constructive analysis during project critiques

ASSESSMENT METHODS

1) Completion of 4 class projects
2) Performance during 30 class work sessions

3) Participation during the 4 class critiques

SUMMARY OF RESULTS

The following table displays the class outcomes for the stated learning competencies.

	Mastered	Exceeded	Met	Somewhat Met	Did Not Meet
Competency 1	2	4	3	2	1
Competency 2	2	1	5	3	1
Competency 3	3	2	2	4	1
Competency 4	2	1	6	2	1
Competency 5	4	4	2	2	0
Competency 6	4	1	4	2	1
Competency 7	2	4	3	2	1

The following table displays the learning outcomes per student for the stated competencies.

	Mastered	Exceeded	Met	Somewhat Met	Did Not Meet
Student 1	1	4	2	0	0
Student 2	0	0	0	1	6
Student 3	0	2	3	2	0
Student 4	0	0	1	6	0
Student 5	0	0	0	7	0
Student 6	0	1	5	1	0
Student 7	0	4	3	0	0
Student 8	7	0	0	0	0
Student 9	3	1	3	0	0

Student 10	1	4	2	0	0
Student 11	0	1	6	0	0
Student 12	7	0	0	0	0

SUMMARY CONCULSIONS

Students with the highest level of attendance and participation on average scored higher in terms of mastery for each competency. Also, students who dedicated more time to their projects generally did better than those who did not. Overall, mastery of each competency is directly related to student attendance and commitment to the Mass Media Communication program. Also, the computer deficiencies of some students had a hindering impact on the good majority of the rest of the class as we were slowed down and unable to achieve goals on a daily basis.

EXAMPLES OF THE USE OF ASSESSMENT DATA FOR COURSE DELIVERY IMPROVEMENTS

The following describe the proposed changes to the course teachings based on the assessment:

- Require quizzes that test comprehension of topics and techniques discussed
- Require students to pass a fundamentals of computers course with high marks before approving registration for course
- Designate lab time throughout the day so that students can have time to work and experiment with programs and tools outside of class
- Require maximum attendance and participation
- Incorporate an incentive into the program in which the students show their best work at an end of the year department exhibition and awards may be received
- Overall, the success heavily weighs on the commitment and behavior of the student as those who attended class less often and spent less time on projects generally scored lower overall

Department of Mass Media Communications
Summary Assessment Report
MMC135: Introduction to Digital Filmmaking

Prepared by Kenneth Bachicha, Adjunct Faculty

PURPOSE

The purpose of this report is to assess the execution of the training of introductory level digital filmmaking production in Mass Media Course 135 based on student accomplishment of the course competencies and learning outcomes. The focus of the report is on how the outcomes of the assessments conducted during the delivery of the course are and can be used to inform decisions on modifications to course subject matter, emphasis, assessment, and teaching methodologies. The student sample size is 10 students. Even with the limited numbers, the assessment information can be useful to improving the course.

BACKGROUND

The Mass Media Communications MMC 135 Intro to Digital Filmmaking course is relatively new at Luna Community College (LCC). This is the second semester that the course has been taught, with the below format. The course description is as follows:

> In this course, students are introduced to the use of basic digital film production equipment, concepts and techniques, providing a theoretical and practical foundation for more advanced film production courses. Topics will include: understanding the digital camera, shooting techniques, sound gathering techniques, microphone placement and selection, non-liner sound editing, lighting techniques for studio and location, time-code, non-linear editing, and TV studio production. Filmmaking techniques and current industry topics will also be explored.

Temporary adjunct faculty taught the course assessed for this report during the Spring 2011 semester.

LEARNING OUTCOMES

Upon completion the student will be able to:

The student learning outcomes for the course are as follows:

1. Demonstrate basic proficiency with digital filmmaking hardware and software
2. Demonstrate knowledge and understanding of digital film production terminology.
3. Describe the various phases of the filmmaking process from script development and pre-visualization to post production and digital distribution.

4. Describe methods and processes related to each phase of digital production.
5. Demonstrate knowledge of digital film editing.
6. Demonstrate ability to put pre-production requirements into a viable project.

ASSESSMENT METHODS

The methods used to assess student progress toward and achievement of the learning outcome included:

- Intro to script and storyboard assignments (4)
- Midterm and Final Videos
- Project Critique Sessions (4)
- Supplemental Editing Projects (2)
- Class Sessions: usage of terms, software, and equipment (30)

SUMMARY OF RESULTS

The following tables display the results of student achievement of the learning outcomes. The results are shown for each section.

	excellent	good	average	poor	failing
Competency 1	5	3		2	
Competency 2	1	7		2	
Competency 3	5	3	2		
Competency 4	4	3	2	1	
Competency 5	4	3	1	1	1
Competency 6	5	1	3	1	

As the tables illustrates, the students were generally ranked as either good or excellent in achieving the course competencies. Some students ranked average requiring some need for improvement.

SUMMARY CONCLUSIONS

Students with average or above average attendance ranked high in a majority of competencies retaining or understanding a wider range of the terms and production steps.

These students were able to use the course terms, software, and equipment more frequently resulting in retention through repetition.

While overall the achievement of learning outcomes was rated good to excellent, students were in need of improvement in the pre-visualization portion of production. The lack of a full understanding of pre-visualization resulted in the inability of half of the students to receive higher marks on competencies 3, 4, and 6.

EXAMPLES OF THE USE OF ASSESSMENT DATA FOR COURSE IMPROVEMENTS

The following describe the proposed changes to the course teachings based on the assessment:

- Even greater emphasis of class attendance and participation
- Requirement of more group projects so that more terms and editing techniques can be reviewed more frequently
- Additional time spent on pre-visualization exercises

Department of Sports Performance
HPS 245: Sports Leadership
Spring Semester 2011

Prepared by Antonio Siqueiros, Sports Performance Adjunct Faculty
May 13, 2011

PURPOSE

The purpose of this report is to assess student performance in the Sports Leadership course during the Spring Semester, 2011. The focus of the report is on how the outcomes of the assessment conducted during the delivery of the course are and can be used to inform decision on modification to course content, emphasis, assessment and teaching mythology.

COURSE DESCRIPTION AND BACKGROUND

As described in the LCC 2009-2012 Catalog:

> This course is intended to improve leadership skills and develop sports team leadership. The students will learn motivational and leadership practices, growth and development, mentoring techniques, and team culture. Student also develops a leadership lesson plan.

The course began with 15 students and ended with 13, two of which stopped attending class before mid-terms. During their time in class they both produced good course competency rates.

LEARNING OUTCOMES

Upon completion the student will be able to:

1. Demonstrate the ability to teach athletes how to deal with conflict, engage in problem solving, and seek positive resolution.
2. Effectively engage athletes with opportunities that nurture leadership and teamwork that can be learned on the field and exhibited in life.
3. Outline the goals for the season in collaboration with athletes and staff.
4. Demonstrate the ability to assess the performance of the sport sports program staff and readjust team goals as necessary.
5. Use a variety of instructional strategies to meet the needs of all athletes.
6. Demonstrate the ability to provide specific progression for learning and practicing skills from simple motor patterns to more difficult and complex skills.

ASSESSMENT METHODS

The methods used to assess students progress toward and achievement of the learning outcome included:

- Mid-term and final exam.
- Critical thinking questions and discussion (3).
- Assignment (5).
- Discussion (5).
- Classroom presentations (2)
- Participation.

SUMMARY OF RESULTS

The following table displays the result of student achievement of the learning outcomes.

	Excellent	Good	Average	Poor	Failing
Competency 1	8	4	1		
Competency 2	7	4	2		
Competency 3	8	2		1	
Competency 4	6	5	1	1	
Competency 5	9	4			
Competency 6	8	4	1		

SUMMARY CONCLUSION

The class can be considered effective because of the teacher ranking of student's achievement of learning outcomes, with the exception of the two students who stopped attending, were generally excellent or good. The class started with a high enthusiasm and high quality production rate. Before mid-term the class enthusiasm and quality production rate dropped, possibly due to the focus on knowledge based content, which may not have presented enough challenge.

The instructor responded by issuing the students critical thinking questions. The answers to the questions could not be found in the book. The answers are composed by applying the information that was grasped from: lectures, notes, assignments, and in class discussions. The purpose of the critical thinking question was to allow students to apply the knowledge gained in class to real life situations and become more engaged in the subject matter.

EXAMPLES OF THE USE OF ASSESSMENT DATA FOR COURSE DELIVERY IMPROVEMENT

The following describe the proposed modifications to the course delivery based on the preliminary assessment.

- Continue to use critical thinking questions throughout the semester. This will allow student to think outside the box and develop critical thinking skills. Students will learn to use the knowledge gained in class and apply it to solve problems.
- Develop criteria for ranking the critical thinking assignment.
- .Combine Subjective (Essay) and objective (T/F, Multiple Choice) tests and assessment to better asses students learning outcome and competency progression.
- Develop more critical thinking questions and short answers to allow students to demonstrate depth of knowledge. Be cautious of subjective evaluations of critical thinking answer, especially the "Halo Affect" that can come into play (tend to give "good" students good "grades").
- Reduce the number of multiple choice questions that do not accurately assess student knowledge and progression toward competencies.
- Focus more on class participation. The students who answered most of the questions in class and participated in class discussions, appear to be the ones who have a better understanding on the material covered in class.

Education and Public Safety
FS230: Firefighter Officer I Assessment Report

Prepared by Vidal Martinez, Fire Science Adjunct Faculty

PURPOSE

The purpose of this report is to assess student performance of the Firefighter Officer I course based on student achievement of the course learning objectives (competencies). The focus of the report is on how the outcomes of an assessment conducted during the delivery of the course are and can be used to inform decisions on modifications to course content, improve student learning and/or teaching methodologies.

BACKGROUND

The Fire Science Program is relatively new at Luna Community College (LCC), beginning in 2009, and this was the first time the Firefighter Officer I (FS230) course has been taught with revised goals, objectives and testing instrument.

The purpose of the course is designed to address the development of a first line (entry level) firefighter officer. This course addresses specific Job Performance Requirements (JPRs) of the National Fire Protection Association (NFPA) 1021, Standard for Fire Officer Professional Qualifications – Fire Officer Level I.

LEARNING OBJECTIVES

The learning objectives for the course are based on the U.S. Fire Administration –Fire and Emergency Services Higher Education (FESHE) Model Curriculum.

Learning Objective A:	Acknowledge career development opportunities and strategies for success
Learning Objective B:	Recognize the need for effective communication skills both written and verbal
Learning Objective C:	Identify and explain the concepts of span of control, effective delegation, and division of labor
Learning Objective D:	Select and implement the appropriate disciplinary action based upon an Employee's conduct
Learning Objective E:	Explain the history of management and supervision methods and procedures
Learning Objective F:	Discuss the various levels of leadership, roles, and responsibilities within the organization
Learning Objective G:	Describe the traits of effective versus ineffective management styles

Learning Objective H: Identify the importance of ethics as it relates to the fire and emergency services

Learning Objective I: Identify the roles of the National Incident Management Systems (NIMS) and Incident Management System (ICS)

ASSESSMENT METHODS AND TOOLS

A summative test was used to assess student achievement of the learning objectives. The test was given at the end of the course to evaluate success of both teaching and learning. The objective test consisted of 50 multiple choice questions. Test items were selected from a test bank developed by the International Fire Service Training Association (IFSTA) – Fire Protection Publications – Fire and Emergency Services Company Officer Curriculum, Fourth Edition (2007).

The following table is a distribution of test items based on Bloom's Taxonomy of Learning Domains: knowledge, comprehension and application. Six learning objectives were assigned 5 test questions, learning objective B was assigned 15 test questions, and learning objectives E and G were assigned a combination of 5 test questions.

Table 1

Table of Specifications

Multiple Choice Test (50 Questions)

Learning Objectives	Knowledge	Comprehension	Application	Total Test Questions
A	X	X		5 test items
B	X	X		15 test items
C	X	X		5 test items
D	X	X		5 test items
E,G	X	X	X	5 test items
F		X		5 test items
H	X	X		5 test items
I	X	X		5 test items

Total Test Questions = 50 items

SUMMARY OF DATA

Eight students were given one hour to complete the 50-question multiple choice test. Validity was determined by the extent to which the test measured each specific learning objective, and reliability is ongoing, based on future consistency and accuracy of the test instrument. The criterion-referenced grading system measured the student's test results against the criteria: nine learning objectives, and minimum of 70-percent mastery level.

The testing instrument determined whether learning had occurred, but testing was only part of the process. Scoring and analyzing the results included: 1) statistical test result analysis, 2) difficulty index, and 3) discrimination index.

1) Statistical Test Result Analysis

Raw scores consisted of the points received on the test. Table 2 illustrates the total number of correct answers. For example, student 1 (S1) answered 22 out of 50 test questions correct, thus receiving a 44% score.

Table 2

Statistical Test Result Analysis

Student 1	22/50	= 44% grade score
Student 2	41/50	= 82% grade score
Student 3	31/50	= 62% grade score
Student 4	24/50	= 48% grade score
Student 5	14/50	= 28% grade score
Student 6	36/50	= 72% grade score
Student 7	28/50	= 56% grade score
Student 8	24/50	= 48% grade score

Test result analysis concluded the following:

- Ranked scores from lowest to highest: 28%, 44%, 48%, 48%, 56%, 62%, 72% & 82%
- Range of scores: 28% to 82%
- The mean or average score: 27.5 (55%)
- The middle score of the 8 scores was 26 (52%)
- The mode or most common score was 24 (48%)

2) Difficulty Index

Difficulty index was used to measure the student's minimal competency based on the nine learning objectives. Any number less than 0.5 was considered too difficult. Likewise, any number above 0.9 was too easy, with the best result at 0.7. Table 3 illustrates how many students selected the wrong answers based on each specific learning objective. Difficulty index was determined based on students receiving 50% or more of the test questions correct for each learning objective; therefore, the difficulty index for learning objective "A" was .63 or 63%.

Table 3

Difficulty Index

Learning Objective	Questions	S1	S2	S3	S4	S5	S6	S7	S8	Difficulty Index
		Number of incorrect answers								
A	1-5	4	2	2	2	3	1	4	2	.63
F	6-10	2	1	2	2	3	2	1	2	.88
E,G	11-15	4	3	3	5	4	2	4	5	.18
H	16-20	1	0	3	0	3	0	1	2	.75
B	21-35	7	2	6	7	12	4	5	8	.75
C	36-40	4	0	2	4	3	2	3	3	.38
D	41-45	2	0	1	3	4	1	2	3	.63
I	46-50	4	1	0	3	4	2	2	1	.63

3) Discrimination Index

Discrimination index was used to measure the validity of test items. The goal was to determine discrimination between students who scored high on the test and those who scored low. Table 4 compares the high group (S2, S6, S3 & S7) with the low group (S8, S4, S1 & S5) with the following discrimination index criteria:

- When the discrimination index is a negative number, the items do not discriminate in a meaningful manner.
- Test items with a score of 0.40 and above may not need revisions.
- Test items with a score of 0.21 to 0.39 may need some revisions.
- Test items with a score of 0.00 to 0.20 may need substantial revisions.

Table 4

Discrimination Index

Learning Objective	Questions	S2	S6	S3	S7 /	S8	S4	S1	S5	Discrimination
		82%	72%	62%	56%	48%	48%	44%	28%	Index
		High Group				Low Group				
A	1-5	3	4	3	1	3	3	1	2	.25
F	6-10	4	3	3	4	3	3	3	2	.65
E,G	11-15	2	3	2	1	0	0	1	1	.25
H	16-20	5	5	2	4	3	5	4	2	.00
B	21-35	13	11	9	10	7	8	8	3	.65
C	36-40	5	3	3	2	2	1	1	2	.75
D	41-45	5	4	4	3	2	2	3	1	.15
I	46-50	4	3	5	3	4	2	1	1	.15

HOW THE DATA IS USED TO IMPROVE STUDENT LEARNING

The following describe the proposed changes based on the assessment results:

- For Table 1, test items were not evenly distributed per learning objective. Learning objective "B" had 15 test items (questions) assigned, and learning objective E and G had a combined 5 test items (questions) assigned.

  -After careful review, additional instructional time will be spent addressing learning objective B. Furthermore, additional test items will be added for learning objective E and G.

- For Table 2, the test results appear skewed, distributed mostly toward one end of the scale -28%, 44%, 48%, 48%, 56% and 62%. Student 1 and 6 were the only students who meet the minimum of 70-percent mastery level.

  -After careful review, lesson plans will be revised and the National Fire Academy – Fire Service Supervisor Curriculum will be added.

- Table 3 indicated test items for learning objectives E, G, and C were too difficult.

  -Test items will be revised.

- Table 4 indicated test items for learning objectives A, E, G, H, I, and D may need some or substantial revisions.

  -For fall 2012, additional data will be collected to determine test item revisions for learning objective A, D, H and I.

Department of Science, Mathematics and Engineering Technology
Summary Assessment Report
SMET101: Introduction to Science, Math and Engineering

Prepared by Jeff Garcia, SMET Adjunct Faculty
May 18, 2011

PURPOSE

The purpose of this report is to assess Introduction to Science Mathematics and Engineering Technology course. This report focuses on assessment conducted during the semester which can be used to inform decisions regarding modifications of the course content and teaching methodologies. The course is graded on a point system and does not include a midterm or final; the assessment is taken from the in class work provided by the instructor and the Packets provided by New Mexico Alliance for Minority Participation (AMP).

BACKGROUND

The course is conducted using copyrighted material from New Mexico AMP. Each packet is designed to familiarize students with their career goals and introduce them to a scientific way of thinking. In addition to the SMET 101 class AMP has programs and activities that are designed to guide qualified students into leadership positions in industry, academia, and entrepreneurial pursuits upon completion of their baccalaureate degree and to help them prepare for graduate school. The AMP headquarters is located at NMSU and instructors seeking to teach the class are required to attend a training seminar. The material provided for the class includes four packets. Along with the packets provided the instructor may include additional assignments.

Packet 1: Familiarizes the students with their strengths and weaknesses, work preferences, and the potential academic and career paths available to them. When they complete this packet they will:

- Understand their personal academic and career profile
- Know the options available to them within their academic major
- Choose between several potential career paths
- Identify what people are already doing in their field of study

Packet 2: Expands on the work completed in packet 1. It gives the student the opportunity to learn more about the academic major they have selected and about the professional world that they will enter following graduation. When they complete this packet they will:

- Define the professional organization associated with their discipline.
- Evaluate the goals, values, and challenges of their discipline.

- Understand the role of professional ethics within their discipline.
- Give examples of opportunities for them to obtain financial and work-related support as they complete college.

Packet 3: Helps the student apply what they have learned in Packet 1 and 2 in the context of a research project. When they complete this packet they will:

- Specify examples of disciplinary research.
- Demonstrate how technology is developed and introduced by scientists and engineers.
- Discover some of the implications of research as an academic and a professional activity.
- State teaming and presentation skills needed by science and engineering professionals.

Packet 4: Reflects on what the student learned during the semester. When they complete this packet they will:

- Reflect on how they will apply what they learned
- Define their strengths and challenges as a leaner and student
- Determine what steps they will take over the next few years to help them reach their academic goals

SMET 101 Learning Objectives: By the end of the course, the student will:

1. Select from a variety of problem solving strategies and use them to design potential problem solutions.
2. Apply collaborative learning and teamwork skills in class assignments and team projects.
3. Identify majors and career opportunities in engineering disciplines and be able to explain academic decisions.
4. Identify and describe personal and professional strengths, abilities, and goals.
5. Develop and initiate an individualized Academic Achievement Plan (AAP).
6. Identify and effectively use LCC campus resources and services.

ASSESSMENT METHODS

The methods used to assess student progress toward and achievement of the learning outcome included:

- Packets (4) 80 points: Faculty Interview, Career Assessment, Code of Ethics, Financial Aide, Group Presentations
- In Class Assignments (6) 5-15% extra: Global Warming, Advancements in Science and Electronics…
- Attitude, Attendance, & Participation 20 points

SUMMARY OF RESULTS

The following tables display the results of student achievement of the learning objectives. The results are shown for each section.

	excellent	good	average	poor	failing
L.O. 1	8	4		5	1
L.O. 2	5	5	2	6	
L.O. 3	5	2	4	7	
L.O. 4	5	1	5	7	
L.O. 5	5	1	4	7	1
L.O. 6	1	1	7	6	3

FINAL GRADE REPORT

A total of 16 students

Student	Grade	Final Grade
A	100	A
B	70	C
C	60	D
D	100	A
E	85	B
F	60	D
G	84	B
H	11	F
I	88	B
J	10	F
K	70	C
L	91	A
M	88	B
N	67	D
O	0	F
P	10	F

A's = 18.8%
B's = 25%
C's = 12.5%
D's = 18.8%
F's = 25%

SUMMARY OF CONCLUSIONS

SMET 101 students have demonstrated a lack of motivation when it comes to school work in general. In class work on current scientific breakthroughs and events entices them into questions and concerns.

Team work has proven to motivate students to effectively share knowledge. Packet 3's team project gets them thinking about how their field of study relates to others by having them mesh their majors into one project. To do this they look at all the unique aspects of their major, thus learning how complex. The students do an assignment on the Space Shuttle Challenger Explosion and how the NASA engineers and management dealt with the situation during and after the event. The unprofessionalism of NASA got them thinking about teamwork and how important it is to work cohesively in a group. To further improve team working skills attendance needs to be evaluated since groups are broken up due to lost members. Most students have jobs and miss a lot of class as a result. Helping the students schedule group meetings is important to improving team work.

Most students have a very general idea of where they will be in the next 10 years in their careers. Packet 1's career assessment is an online survey which chooses careers for students based on their likes and dislikes. In my opinion their strengths lie in the career that they like or enjoy. By comparing the jobs chosen for them on the survey to other careers, they can get a lot of information about their strengths and weakness.

Overall the students showed a general weakness in long-term Academic Achievement Planning and the use of the LUNA resources such as the library. To improve the usefulness of the library the students may benefit from attending a tour within the first couple of weeks of class. Having events around the library such as bake sales and presentations within the lecture hall and demonstrations of its usefulness may be helpful. To improve Academic Achievement Planning focus should be on the students' interests within their major. Some students choose their majors for reasons besides their interests and they can use guidance as far as what their major offers.

To improve student learning:

- Emphasize teamwork
- Attendance – increase portion of grade based attendance
- Other exercises to assess student strengths & weaknesses
- Academic Achievement Planning – Focus on interests within majors
- LCC resources –emphasize in reinstated college success course

Department of Science, Math and Engineering Technology
MATH 105/02: General Mathematics – Spring 2011

Prepared by: Ms. Gwendolynne Mares, Developmental Studies Adjunct Faculty
May 18, 2011

PURPOSE

The purpose of this report to assess student learning in Math105 General Mathematics courses. Students will be able to demonstrate his/her ability and prior knowledge in; addition, subtraction, multiplying, and dividing of whole numbers, fractions, and decimals.

BACKGROUND

Many of our students require developmental courses prior to college algebra. Math 105 is the second course in the sequence of developmental classes; and part of the foundation of the skills required to progress in the math sequence. Math 105 is also the terminal requirement for some trades certification.

LEARNING OUTCOMES

Upon successful completion of Math 105 the student will:

1. Be familiar with the basic concepts of formulating math operations, addition, subtraction, multiplication and division.
2. Adopt new math skills, access prior knowledge and learning techniques.
3. Develop skills in using study tools, paper, pencil, and adopted, learning theories.
4. Add, subtract, multiply and divide whole, numbers, integers, rational and irrational numbers.
5. Demonstrate a knowledge of the orders of operation, and able to identify basic conceptual language and procedures.

ASSESSMENT METHODS

The methods used to assess student progress toward achievement of the learning outcomes include:

- Homework assignments and in-class participation
- Quick quizzes periodically (1 – 5) questions
- Pre/Post tests, Chapter tests, Mid-term and Final
- Portfolio and daily attendance

SUMMARY OF RESULTS

The following tables will display the student achievement of the learning outcomes.

COMPETENCY RATING FORMS (Math 105: General Mathematics)

The number of students performing at the various levels for each Learning Outcome point (or Competency).

COMPENTENCY RATING FORM 1 (Math 105: Basic Mathematics)

	Excellent	**Good**	**Average**	**Poor**	**Failing**
Competency 1	**1**	**1**	**6**	**4**	**4**
Competency 2	**1**	**1**	**6**	**6**	**3**
Competency 3	**1**	**1**	**8**	**3**	**4**
Competency 4	**0**	**2**	**6**	**5**	**4**
Competency 5	**4**	**2**	**6**	**3**	**4**
Average	**1.4**	**1.4**	**6.4**	**4.2**	**3.8**

COMPENTENCY RATING FORM 2 (Math 105: Basic Mathematics)

Shown below is each student's performance level for each Competency. The average for each student, as well as the class average, is also shown below

	C1	C2	C3	C4	C5	Average
Student A	3	3	3	3	3	3
Student B	3	3	3	3	3	3
Student C	2	3	3	2	3	2.6
Student D	4	4	4	4	4	4
Student E	3	2	2	3	3	2
Student F	5	5	5	4	5	4.8

Student G	1	1	1	1	1	1
Student H	3	3	3	3	3	3
Student I	1	2	1	1	1	1.2
Student J	2	2	2	2	2	2
Student K	3	3	3	3	4	3.2
Student L	2	2	2	2	2	2
Student M	1	1	1	1	1	1
Student N	3	3	3	3	3	3
Student O	2	2	3	2	2	2.2
Student P	1	1	1	1	1	1
Student Q	3	2	3	2	3	2
Class Average	2.5	2.5	2.6	2.3	2.6	2.5

Total of 24 Students registered for Class
A's = 4%
B's = 4%
C's = 3%
D's = 8
F's = 21%
W's = 29%

SUMMARY CONCLUSIONS

Using the above data to improve student learning outcomes the following tips may help with student motivation and possibly interject conformity of grades and definitely improve the averages.

Using the Data to Improve Student Learning:

1) More hands-on classroom projects and math problem solving
2) Raise percentage counted for as a grade to counter poor attendance
3) Spend more class time working on specific assignments
4) Use a more entertaining approach to learning (games, puzzles, contests)
5) Take some class time to work with the Plato or another math learning tool

6) Set higher standards
7) Make tutoring a mandatory learning objective; tutor 1 session per week or meet with instructor 1 time per week to evaluate and work individually with student, count this part of the grade.

Department of Science, Math and Engineering Technology
Summary Assessment Report
ENVI 105 –-Spring2011

Prepared by Angie Manafy, Faculty

PURPOSE

The purpose of this report is to assess if students in ENVS-105 Environmental science are meeting state Higher Education Department (HED) mandated science competencies for a General Education Core transfer course. Furthermore, the end goal of assessment is to improve student learning. With the data collected from this class and previous ENVS102 sections, changes will be made to improve student learning with respect to material comprehension.

BACKGROUND

Environmental science- has been taught continually since Fall 2004 at LCC. The course is described in the LCC 2009-20012 Catalog:

This course includes an introduction for the science and non-science major a survey of environmental science and ecology with an introduction to problems of pollution, population, land use, energy, nutrients cycling, agriculture and pest control. Laboratory provides observation and experimentation relating to topics covered in the lecture.

During the Spring2011 semester the course started with 19 registered students; at the end of the semester going into the final exam 19 students remained; only 18 students took the final exam.

NM LAB SCIENCE COMPETENCIES:

1. Students will describe the process of scientific inquiry.

Students should:

a. Understand that scientists rely on evidence obtained from observations rather than authority, tradition, doctrine, or intuition.

b. Students should value science as a way to develop reliable knowledge about the world.

2. Students will solve problems scientifically.

Students should:

a. Be able to construct and test hypotheses using modern lab equipment (such as microscopes, scales, computer technology) and appropriate quantitative methods.

b. Be able to evaluate isolated observations about the physical universe and relate them to hierarchically organized explanatory frameworks (theories).

3. Students will communicate scientific information.
Students should:
Communicate effectively about science (e.g., write lab reports in standard format and explain basic scientific concepts, procedures, and results using written, oral, and graphic presentation techniques.)

4. Students will apply quantitative analysis to scientific problems.
Students should:

a. Select and perform appropriate quantitative analyses of scientific observations.

b. Show familiarity with the metric system, use a calculator to perform appropriate mathematical operations, and present results in tables and graphs.

5. Students will apply scientific thinking to real world problems.
Students should:

a. Critically evaluate scientific reports or accounts presented in the popular media.

b. Understand the basic scientific facts related to important contemporary issues (e.g., global warming, stem cell research, cosmology), and ask informed questions about those issues.

COURSE SPECIFIC LEARNING OBJECTIVES:
Upon successful completion of this course, with 70% (C) or better, the student should be able to:

1. Demonstrate knowledge of the basic concepts of environment, ecosystems, and impacts of pollution.
2. Demonstrate an understanding of the effect of human population on the environment.
3. Write critically about the environment.
4. Explain the basic concepts of Ecosystem and Ecosystem management.
5. Discuss water supply, use, and management.
6. Combine information to show an understanding of Global Warming and its impact.
7. Classify and summarize Indoor Air Pollution.

ASSESSMENT METHODS

The methods used to assess student progress toward and achievement of the learning outcome included:

- Quizzes, three chapter exams and a final exam 60%
- Laboratory Reports 15%
- Chapter homework assignments 20%
- Attitude, attendance, & participation 5%

SUMMARY OF RESULTS

The following tables display the results of student achievement of the learning outcomes. The results are shown for each section.

COMPETENCY RATING FORM –ENVS 102 Spring 2011

(NM Lab Science)

Student ID#		C1	C2	C3	C4	C5	Average
1.	A	3	3	3	3	2	2.8
2.	B	4	3	4	4	4	3.8
3.	C	4	4	4	4	4	4
4.	D	2	3	2	2	2	2.2
.	E	5	4	5	5	5	4.8
6.	F	2	2	2	2	3	2.2
7.	G	4	4	4	4	4	4
8.	H	3	2	2	2	2	2.2
9.	I	2	3	2	2	3	2.4
10.	J	2	2	2	2	3	2.2
11.	K	4	4	4	4	4	4
12.	L	3	4	4	3	3	3.4
13.	M	3	4	3	4	4	3.6
14	N	2	2	3	2	3	2.4
15.	O	2	2	2	3	2	2.2
16.	P	3	2	3	2	2	2.4
17.	Q	2	3	3	3	2	2.6
18.	R	3	3	3	3	2	2.8
19	S	3	2	3	3	3	2.8

	Class Average	2.94	2.94	3.05	3.0	3.0	

Pre-Test Post Test Comparison

YOU MUST USE % SCORES

	Student ID #	PRE-TEST % SCORE	FINAL EXAM % SCORE
1.	A	30	82
2.	B	38	88
3.	C	32	90
4.	D	20	70
5.	E	40	90
6.	F	20	-
7.	G	30	88
8.	H	20	70
9.	I	10	68
10	J	10	66
11	K	30	84
12	L	30	82
13	M	20	88
14	N	10	68
15	O	20	78

16	P	10	72
17	Q	10	70
18	R	20	70
19	S	20	73

FINAL GRADE REPORT

Student #	Final Exam	Grade	Final Grade
A	82	80.0	B
B	84	82	B
C	90	92	A
D	70	70	C
E	90	92	A
F	0	60	D
G	84	85	B
H	70	72	C
I	68	70	C
J	66	70	C
K	84	84	B
L	83	82	B
M	88	90	A
N	68	70	C
O	82	85	B
P	68	70	C

Q	69	70	C
R	78	82	B
S	67	70	C

Total 18 students registered for class

A's = 15.78%
B's = 36.8%
C's = 42.10%
D's = 5.2%
F's = 0%
W's = 0%
Percent Successful – Grade "C" or Higher = 94.73%

SUMMARY CONCLUSION: FUNDAMENTAL PREREQUISITES FOR EFFECTIVE LEARNING

Students have consistently demonstrated five areas of weakness that affect their performance in Environmental Science (and other college science courses):

1) Students generally do not read Text and often difficult for students to comprehend the material in the text book.

2) Students generally have a difficult time articulating what they have learned.

3) Developmental reading and writing must be a crucial component of class.

4) Students are not prepared to do even basic mathematics related to science.

5) Poor attendance affects comprehension and grades.

EXAMPLES OF THE USE OF ASSESSMENT DATA FOR IMPROVING STUDENT LEARNING OUTCOMES

Students are responsible for their learning outside of the classroom and to this end, homework assignments are used to get the students to preview the material. In addition, students get hands-on experience in the lab portion of the course. Students are expected to read lab materials before coming to lab.

The following describe the proposed modifications to course delivery and student behavior patterns:

- More homework and reading assignments for course that focus on reinforcing the understanding of each project.
- Change course prerequisites to include higher levels of reading and mathematics.
- Consider adding Blackboard Web component to the course, where writing is essential during the lecture that emphasizes topical review.
- Add an oral student presentation to focus on communicating scientific information.
- Reinstate College Success course to improve student study habits and emphasize attendance.
- Institute higher standards for developmental reading, grammar, and mathematics courses.

Department of Science, Math and Engineering Technology
Summary Assessment Report
VGD 106 – Script Writing for Video Games

Prepared by Nichole A. Collins, Adjunct Faculty
May 18, 2011

PURPOSE

The purpose of this report is to assess student learning outcomes for VGD 106: Script Writing for Video Game. The focus of this report is on how the outcomes of the assessments that were conducted during the delivery of the course are, and can be, used to inform decisions on modifications to course content, emphasis, assessment and teaching methodologies.

BACKGROUND

The Script Writing for Video Games course is the first program requirement for the Associate of Applied Science Degree in Video Game Design and Development (VGD) at Luna Community College (LCC). The VGD degree is designed for students who wish to enter the field of Video Game Development and Design. As described in the LCC 2009-2012 Catalog:

In this course the students will learn the techniques of storytelling as they relate to the particulars of writing game script. The class will complete exercises in analyzing video game storytelling, creative writing, and the process of turning good ideas into a script. Students will have opportunities to produce supporting visual materials; including character sketches, environments, and storyboards.

During the Spring 2011 semester, eight students registered, completed and ultimately passed the course with a C or better. Throughout the course the students were able to develop an idea for a video game, and work through the process of creating a viable story and character creation.

LEARNING OUTCOMES

Upon successful completion of VGD 106: Script Writing for Video Games, the student will

- Be able to create level and game layouts as well as design documents.
- Develop and create the concept art (i.e. characters, levels, maps et.) needed to develop a video game.
- Prepare a storyboard and present their idea for a video game.
- Identify and describe all materials and documents needed to storyboard.

- Explain the importance of the storyboard as well as who is involved in the process of developing a video game.

ASSESSMENT METHODS

The methods used to assess student progress toward achievement of the learning outcomes included:

- Assignments
- Midterm & Final Exam
- Presentations & Projects
- Attitude, Attendance & Participation

SUMMARY OF RESULTS

The following tables display the results of student achievement of the learning outcomes.

COMPETENCY RATING FORM 1 (VGD 106: Script Writing for Video Games)

The number of students performing at the various levels for each Learning Outcome point (or Competency).

	Excellent (5)	Good (4)	Average (3)	Poor (2)	Failing (1)
Competency 1 (C1)	2	6			
Competency 2 (C2)	1	4	2	1	
Competency 3 (C3)	1	5	2		
Competency 4 (C4)	1	5	2		

COMPETENCY RATING FORM 2 (VGD 106: Script Writing for Video Games)

Each student's performance level for each Competency. The average for each student, as well as the class average, is shown.

	C1	C2	C3	C4	Average
Student A	4	4	4	3	3.75
Student B	4	5	4	4	4.25
Student C	5	4	5	4	4.5
Student D	4	4	4	4	4
Student E	4	2	3	3	3

Student F	4	3	4	4	3.75
Student G	4	3	3	4	3.5
Student H	5	4	4	5	4.5
Class Average	4.25	3.62	3.88	3.88	

FINAL GRADE REPORT (VGD 106: Script Writing for Video Games)

	Final Exam	Final Grade	Letter Grade
Student A	90	93	A
Student B	88	92	A
Student C	92	90	A
Student D	78	85	B
Student E	88	83	B
Student F	76	88	B
Student G	85	76	C
Student H	91	94	A

Total 8 students registered for class
A's = 50%
B's = 37.5%
C's = 12.5%
D's = 0%
F's = 0%
W's = 0%
Percent Successful – Grade "C" or Higher = 59%

SUMMARY CONCLUSIONS

The most important aspect of the delivery of VGD 106: Script Writing for Video Games is the project and presentations component of the course. Along with multimedia lectures, homework assignments and exams, projects and presentations give the student the chance to develop an idea using material discussed throughout the course with practice and hands-on knowledge with this particular group of students, the predominately hands-on format of the course was conducive to student learning. Homework assignments were geared toward helping the student develop confidence in their idea and practice of the skills needed in creating a script and storyboard for a game.

Since the focus of many of the classes was on in-class projects and class discussions, the attitude of each student and the ability for the student to work independently was key to their success in

this course. However, there was a sufficient amount to collaborative in class work as well as on campus development. There were many instances of peer instruction and peer motivation that drove the pace of the course. Projects that were not completed in class had to be completed as homework, so there was a tangible motivation for students to work quickly and efficiently while in class with assistance from the Instructor, as well as from their peers.

EXAMPLES OF THE USE OF ASSESSMENT DATA FOR COURSE DELIVERY IMPROVEMENT

The following points describe the proposed modifications to course delivery and student behavior patterns:

- Due to the technological advancements in VGD, further developments should be made to provide more hands-on projects where students use computer illustration software.

- More homework assignments should be made that focus on reinforcing the understanding of each project and bridging the gap between the underlying concepts and skills gained by each project and exam-type questions.

- Considering the realism used in creating the human structure for video games, there is a need to require students to have a basic knowledge of the human body, physics and anatomy.

Department of Business and Professional Studies
Summary Assessment
CSA150: Computer Fundamentals

Prepared by Janice Encinias, Adjunct Faculty

PURPOSE

The purpose of this report is to assess Business and Professional Studies Course CSA150 based on student accomplishment of the course competencies and learning out comes. The focus of the report is on how the outcomes of the assessments conducted during the delivery of the course are and can be used to inform decisions on modifications to course subject matter, emphasis, assessment, and teaching methodologies. The student sample is 14 students, 5 of who dropped after mid-term. Even with the limited numbers, the assessment information can be useful to improving the course.

BACKGROUND

The Business and Professional Studies CSA 150 Computer Fundamentals is a core requirement for over all students attending a post secondary school. Computer Fundamentals CSA150 is transferable to all colleges and/or universities. The course description is as follows:

The course will cover computer operating principles, file management, the Internet, with an introduction to word processing, spreadsheets, database, and slide/electronic presentation programs. Current software such as Microsoft Word, Excel, Access, and PowerPoint will be used.

After completing this course, the student should be able to:

1. Have a basic understanding of the Windows Operating System and of the basic features in a specific Microsoft Office 2007 application.
2. Save, retrieve, delete, and organize files using file management skills.
3. **Microsoft Word**: be able to insert, edit, position, and format text, paragraphs, symbols, special characters, graphics, and images.
4. Create bulleted/numbered lists and outlines, columns, and tables.
5. Insert headers, footers, comments, and charts.
6. Create templates, envelopes, labels, and web pages.
7. **Microsoft Excel**: Enter, edit, format, and navigate cell content.
8. Locate, select, filter, and sort information.
9. Use statistical date and time, financial, logical, and other functions, and perform data analysis.

10. Create, format, and organize worksheets and create links to worksheets contained within a workbook.
11. **Microsoft Access**: Create, modify, and format tables, forms, queries, and reports.
12. Navigate amongst records and datasheets.
13. Import data to and export data from Access.
14. **Microsoft PowerPoint**: Create, modify, organize, enhance, and deliver slide presentations.
15. Insert tables, charts, diagrams, pictures, graphics, transitions, and animation schemes.
16. Customize slide templates and work with master slides.
17. Microsoft Outlook: Originate and respond to e-mail and instant messaging.
18. Attach files to messages.
19. Create, edit, and organize contacts, tasks, notes, and appointments/meeting/events.

ASSESSMENT METHODS

Pre and Post tests were administered so as to measure basic knowledge upon beginning of semester to what student has learned throughout the semester. Section terminology was measured by giving students a hand-made terminology quiz. Mid-term and final exams were also administered.

The methods used to assess student progress toward and achievement of the learning outcome included:

- Ability to log into Windows, Internet, and into Blackboard to upload all assignments
- Basic understanding of Microsoft Word, Microsoft Outlook, Microsoft Access, Microsoft PowerPoint, and Microsoft Excel by completing, uploading, and submitting the Integrated Project which incorporates all the applications taught.
- Completion of a Midterm and Final Exam with at least a 70%
- Understanding of Microsoft PowerPoint by creating and presenting in class.

SUMMARY OF RESULTS

The following tables display the results of student achievement of the learning outcomes.
The results are shown for each section.

	Excellent	Good	Average	Poor	Failing
Competency 1	9	0	4	0	0
Competency 2	8	1	1	4	0
Competency 3	6	1	2	1	4
Competency 4	6	2	1	1	4
Competency 5	6	2	1	1	4

Competency 6	6	1	2	1	4
Competency 7	6	1	1	2	4
Competency 8	6	0	2	2	4
Competency 9	6	1	2	1	4
Competency10	5	2	2	1	4
Competency11	3	1	0	1	4
Competency12	3	1	0	1	4
Competency13	3	1	0	1	4
Competency14	3	1	0	1	4
Competency15	3	1	0	1	4
Competency16	3	1	0	1	4
Competency17	3	1	0	1	4
Competency18	3	1	0	1	4
Competency19	3	1	0	1	4

As the tables illustrates, the students were generally ranked as either good or excellent in achievement of the course competencies. Some students, who had ranked average until mid-term, either did not complete assignments and/or stopped attending and did not drop after 12-week early alerts.

SUMMARY CONCLUSIONS

Students with average or above average attendance ranked high in a majority of competencies, retaining or understanding a wider range of the terms and performance ability. These students were able to use the course terms, software, and met the competencies 1-19 with little or no assistance.

The two factors that appear to be most related to the differences in student performance were attendance and completion of written assignments. There were five students missing over 60% of scheduled class time.

While overall achievement of learning outcomes was rated good to excellent, until mid-term, students were in need of improvement and failed to either complete and/or turn in their assignments and stopped attending class. There were four students who after mid-term failed to attend and/or complete and turn in assignments. Three students excelled academically.

EXAMPLES OF THE USE OF ASSESSMENT DATA FOR COURSE IMPROVEMENT

The following describe the proposed changes to the course teachings based on the assessment.

- Greater emphasis on class attendance and participation

- Some students are not conductive to effective learning meaning some students need to be referred to take the Keyboarding Fundamentals Course prior to Computer Fundamentals
- Test questions correlate with the learning outcomes, the correlation is not coded or readily identified; making assessments of the tests and quizzes more time consuming than necessary. A code will be developed that relates each question to the learning outcome or outcomes to expedite the assessment process.
- Classroom discussions over each chapter of each section were used to assess comprehension, critical thinking abilities, and application abilities. They were informal and inconsistent. Chapter assignments should include hand-made projects to include group research and more hands-on activities to use as a motivating factor.

Department of Business and Professional Studies
Assessment Report
ACCT201E: Accounting Principles II(DL)
ONLINE COURSE

Prepared by Eric Spencer, Adjunct Faculty
May 18, 2011

PURPOSE

The purpose of this report is to evaluate the effectiveness of student performance of the Accounting Principles II (Distance Learning) course offered to the 13 students who enrolled and completed the online course in the spring semester of 2011. To determine course effectiveness, the analysis will be based on student achievement of the course competencies and learning objectives described herein.

The focus of this report centers on the outcomes of strategies and assessments conducted during the delivery of the course. Such outcomes are used to make informed decisions regarding modifications to course content, emphasis, assessment and teaching methodologies. Because this is the first time information will be collected in this format, the results of the study will be used as a baseline for comparison to future Accounting Principles II online classes.

BACKGROUND

The Accounting Principles II (ACCT201) course is a continuation of Accounting Principles I (ACCT 200) and is also an introduction to, corporations, stocks, dividends, cash flow statements, managerial accounting and budgeting. This course is aligned to the NM Common Course Number: ACCT2123. The Accounting Principles II (ACCT201) (DL) course is offered every spring semester.

As described in the LCC 2009-2012 Catalog (p. 79), "the Department of Business and Professional Studies is committed to being a preeminent program of business educational studies known for its emphasis in developing competent, qualified students who are preparing to pursue higher educational degrees and/or successfully enter the workforce with a diverse knowledge in business, state-of-the-art computer applications, and inspired judgment. The faculty and staff are dedicated in their collaborative efforts to create an environment for learning that inspires each student to succeed and lead a positive lifestyle."

The Department of Business and Professional Studies offers one Associate of Arts Degree, three Associates of Applied Science Degrees, and four Certificate Programs. The Accounting Principles II

(ACCT201) course is identified as a program requirement for the Associate of Arts Degree, three of the Associate of Applied Sciences degrees, and three of the Certificate Programs.

CORE COMPETENCIES AND LEARNING OBJECTIVES

Core Competencies (pertain to knowledge, skills, abilities, application and characteristics that will enable a student to be successful in a particular accounting role):

The core competences identified for this course are those established by the New Mexico Business Articulation Committee. According to the business articulation and transfer matrix, this course should cover at least 75% of the core competencies listed below in order for articulation and transfer to occur.

The competencies are:

1. Perform basic accounting for corporations and on a limited basis for partnerships;
2. Prepare a statement of cash flows;
3. Demonstrate an understanding of the accumulation of costs in the cost accounting system using both the job-cost and process cost systems;
4. Describe the basic elements of the budgeting process, its objectives, and its impact on human behavior and demonstrate an understanding of budget preparation, including capital budgeting;
5. Prepare differential analysis reports for decision making;
6. Demonstrate as working knowledge of cost-volume-profit-analysis; and
7. Analyze a complete set of financial statements.

The Accounting Principles II (ACCT201) focuses heavily on competencies two through seven, and therefore directly covers 15% more than the minimum requirement. Partnerships, identified in the first competency, are addressed in the Accounting Principles I (ACCT200) course which is a prerequisite to Accounting Principles II (ACCT201); therefore, Luna Community College students are exposed to 100% of the competences in their course sequence of Accounting I and Accounting II.

Learning Objectives (pertain to specific knowledge and skills acquired by students in this accounting course):

The Learning Objectives identified below are those delineated as the *"Purpose or Objectives of this Course"* in the course syllabus for Accounting Principles II (ACCT201) (DL).

1. Demonstrate proficiency in basic computations and understand scientific methodology as it relates to the structure of accounting;
2. Demonstrate knowledge of the connections between theory and practice, and be able to transfer classroom learning and apply to situations in life outside the classroom;
3. Identify characteristics of a corporation and apply knowledge to journal entries for treasury stock, stock splits, dividends, corporate taxes, fixed asset impairments and restructuring charges, and prepare an income statement including unusual items and earnings per share data, describe comprehensive income and investments in stock, and discuss business combinations;
4. Identify and apply financial statement preparation including: cash flow statements, long-term borrowing, investments, and an analysis for analytical procedures including solvency and profitability;
5. Identify the differences between managerial and financial accounting, define the three manufacturing costs, describe accounting systems used by manufacturing businesses, prepare journal entries for a job order cost accounting system;
6. Distinguish between job order costing and process costing systems and classify costs by their behavior, calculate and interpret accounting for completed and partially completed units, prepare a cost of production report, and prepare journal entries for a process manufacturer.
7. Describe and prepare the basic budgets for a manufacturing business.

The learning objectives are aligned to the competencies. It is by mastery of the learning objectives that a student achieves proficiency of the core competencies.

STRATEGIES AND ASSESSMENT METHODS

The methods used to assess student progress toward achieving proficiency of core competencies through mastery of learning objectives include:

1. Quick Quizzes

   Purpose: To identify levels of knowledge and skills; used as short term assessment, test base knowledge, and assess acquisition of new knowledge.

   Prior to any demonstration or lecture of new material in the class, students were required to read assigned material. Each reading assignment is accompanied with a “Quick Quiz” that the student must complete. The Quick Quiz is generally four to ten questions designed to determine the level of the students understanding of

the material. The Quick Quiz was used in like manner of a pre-test, and gives the instructor data to guide areas that require more emphasis. A Quick Quiz is required for every chapter of material assigned.

2. Assigned Student Work

Purpose: Provide students the opportunity to apply new learning and skills augmented with immediate and constructive feedback.

Students were given the opportunity, after participating in a lecture, guided practice and observing a demonstration, to complete homework problems. Assigning student work provided opportunities to measure knowledge at various levels of skills and applications to core competencies. On the due date of each assignment, students participated in an in-depth review and demonstration of the assigned work. This review gave the student an opportunity to check for understanding, validation of work, and an opportunity to correct their work. This process provided immediate feedback to reinforce positive student outcomes and correct deficiencies. Students were provided the opportunities (optional) to re-work their assignments and re-submit the second attempt for credit and to improve their grade.

3. Examinations

Purpose: Measure retention of knowledge and skills through longer intervals of time.

The examinations were designed to determine the level of mastery the student possessed after having engaged in chapter readings, lectures, demonstration problems and homework problems. The examinations brought about full circle to the Quick Quizzes identified in item one above. Whereas the Quick Quizzes provided pre-assessment data, the examinations provided post-assessment data. There were two examinations given during the semester, one given at 4 weeks, and the other given at 12 weeks. Material covered between weeks 5-8 were tested as part of the mid-term, and material covered between weeks 13-16 were covered as part of the final exam. Exams were reviewed with the students to check for understanding, validation of knowledge and skills, and an opportunity to correct their work. Test items missed by 50% or more of the students were reviewed in detail as an effort to re-teach the competency.

4. Mid-Term and Final Examinations

   Purpose: Evaluate proficiency of competencies that encompasses course knowledge, skills and applications.

   These examinations were designed to determine the level of competency the student possesses after having engaged in chapter readings, lectures, demonstration problems and homework problems throughout the first 8 weeks of the course (mid-term exam) and throughout the 16 weeks of the course (Final Exams). The mid-term exam was reviewed in detail with the students to check for understanding, validation of knowledge, and provided opportunities to students to correct their work. Test items missed by 50% or more of the students were reviewed in detail as an effort to re-teach the competency.

   A pre-test, which is aligned to the Competencies and Learning Objectives, was administered to all students at the beginning of the semester, the Final Exam tested to the same Competencies and Learning Objectives.

5. Continuing Exercise Project

   Purpose: Provide early interventions and opportunities for students to improve areas of deficiencies; the continuous improvement approach.

   Based on the outcomes of the assessments (Examinations 1 & 2 and Mid-Term Examination), specific material were assigned to students in order to provide continuous opportunities to learn and demonstrate proficiency in areas students demonstrated deficiencies. For example, if a student continuously demonstrated, via assessments, that they did not understand cash flow statements, they were given an opportunity to re-learn and demonstrate proficiency of cash flow statements via the continuing Exercise Project. Projects varied for each student based on their levels of proficiency as it related to the learning objectives and core competencies. The Continuing Exercise Project is also referred to as the Competency Plan.

EVALUATION TOOL

During the semester, students participated in two summative examinations, a mid-term examination and a final examination. Examinations were administered as follows:

Week 1 – Summative Examination 1

Week 8 – Mid Term Examination
Week 12 – Summative Examination 2
Week 16 – Final Examination

Exhibit 1 illustrates the accounting material, as aligned to competencies, which were tested in each of the assessments. All but the first Summative Examination retested competencies that were assessed in prior examinations allowing students multiple opportunities to demonstrate proficiency. As illustrated in the exhibit, the accounting material is not compartmentalized by competency but is interwoven among competencies.

Exhibit 1:

Cross-reference of Competencies to Assessment

	Competency 1	Competency 2	Competency 3	Competency 4	Competency 5	Competency 6	Competency 7
Exam 1 (Week 4)	Capital and Retained Earnings						
Mid Term Exam (Week 8)	Re-Test on Capital and Retained Earnings.		Cash Flows, Financial Analysis, Management Accounting , Job Order Costing, Activity Based Costing				
Exam 2 (Week 12)	Capital Investments				Cost-Volume Analysis, Business Decisions, Capital Investments		
			Re-Test Items from Mid-Term				
Final Exam (Week 16)				Master Budget and Flexible Budget			Performance Evaluation
	Re-Test All Competencies Previously Tested; Focus is on items most highly missed by students in prior assessments.						

SUMMARY OF THE DATA

Tables 1-7 presented below display an instructor initiated alignment of the Core Competencies to the Learning Objectives and provide a way to see the results of student achievement by learning outcomes utilizing the summative examinations, a mid-term and a final exam as source data.

Tables one through three presented below show data collection for the first summative examination, the mid-term examination and the final examination. Tables four through seven omit the midterm as those competencies were introduced and assessed during the second half of the semester and were not eligible to be tested on the mid-term examination. Additionally, tables four through seven do not report mid-term exam data as these competencies were covered in the second nine-weeks of the semester. Finally, table seven only reports data collected from the final examination as no other summative assessments were specifically administered for the accounting topic of performance evaluation.

Key:

Excellent is defined as numeric scores of 100% to 90%
Good is defined as numeric scores of 89% to 80%
Average is defined as numeric scores of 79% to 70%
Poor is defined as numeric scores of 69% to 60%
Failing is defined as numeric scores of 59% and Below

Table 1:

Competency 1: Perform basic accounting for corporations and on a limited basis for partnerships							
Learning Objectives		**Assessment Methods**	Excellent	Good	Average	Poor	Failing
1.	Demonstrate proficiency in basic computations and understand scientific methodology as it relates to the structure of accounting	Exams	1	2	0	4	6
		Mid-Term	3	7	0	0	3
		Final Exam	4	8	0	1	0
2.	Demonstrate knowledge of the connections between theory and practice, and be able to transfer classroom learning and apply to situations in life outside the classroom	Exams	1	2	0	5	5
		Mid-Term	0	0	0	0	0
		Final Exam	3	4	0	0	6
3.	Identify characteristics of a corporation and apply knowledge to journal entries for treasury stock, stock splits, dividends, corporate	Exams	0	2	2	3	6

	taxes, fixed asset impairments and restructuring charges, and prepare an income statement including unusual items and earnings per share data, describe comprehensive income and investments in stock, and discuss business combinations	Mid-Term	4	0	9	0	0
		Final Exam	1	5	3	0	4

Table 2:

Competency 2: Prepare a statement of cash flows							
Learning Objectives		**Assessment Methods**	Excellent	Good	Average	Poor	Failing
1.	Demonstrate proficiency in basic computations and understand scientific methodology as it relates to the structure of accounting	Exams	4	0	0	3	6
		Mid-Term	8	0	0	0	5
		Final Exam	5	0	5	0	3
2.	Demonstrate knowledge of the connections between theory and practice, and be able to transfer classroom learning and apply to situations in life outside the classroom	Exams	4	0	0	2	7
		Mid-Term	13	0	0	0	0
		Final Exam	0	0	0	0	0
4.	Identify and apply financial statement preparation including: cash flow statements, long-term borrowing, investments, and an analysis for analytical procedures including solvency and profitability	Exams	3	0	0	6	4
		Mid-Term	2	5	0	6	0
		Final Exam	5	0	4	4	0

Table 3:

Competency 3: Demonstrate an understanding of the accumulation of costs in the cost accounting system using both the job-cost and process cost systems							
Learning Objectives		**Assessment Methods**	Excellent	Good	Average	Poor	Failing
1.	Demonstrate proficiency in basic computations and understand scientific methodology as it relates to the structure	Exams	11	0	0	0	2
		Mid-Term	7	0	0	0	6
		Final Exam	6	0	0	5	2
2.	Demonstrate knowledge of the connections between	Exams	5	0	0	0	7

	theory and practice, and be able to transfer classroom learning and apply to situations in life outside the classroom	Mid-Term	4	0	9	0	0
		Final Exam	8	0	0	0	5
5.	Identify the differences between managerial and financial accounting, define the three manufacturing costs, describe accounting systems used by manufacturing businesses, prepare journal entries for a job order cost accounting system	Exams	10	0	0	0	3
		Mid-Term	5	2	5	0	1
		Final Exam	5	0	0	6	2
6.	Distinguish between job order costing and process costing systems and classify costs by their behavior, calculate and interpret accounting for completed and partially completed units, prepare a cost of production report, and prepare journal entries for a process manufacturer	Exams	13	0	0	0	0
		Mid-Term	3	3	0	0	7
		Final Exam	0	0	0	0	0

Table 4:

Competency 4: Describe the basic elements of the budgeting process, its objectives, and its impact on human behavior and demonstrate an understanding of budget preparation, including capital budgeting							
Learning Objectives		**Assessment Methods**	Excellent	Good	Average	Poor	Failing
1.	Demonstrate proficiency in basic computations and understand scientific methodology as it relates to the structure of accounting	Exams	12	0	0	0	1
		Final Exam	11	0	0	0	2
2.	Demonstrate knowledge of the connections between theory and practice, and be able to transfer classroom learning and apply to situations in life outside the classroom	Exams	0	0	0	0	0
		Final Exam	11	0	0	0	2
6.	Distinguish between job order costing and process costing systems and classify costs by their behavior, calculate and interpret accounting for completed and partially completed units, prepare a cost of production report, and prepare journal entries for a process manufacturer	Exams	3	0	0	0	10
		Final Exam	6	2	0	1	4
7.	Describe and prepare the basic budgets for a manufacturing business	Exams	5	0	0	0	8
		Final Exam	0	0	0	0	0

Table 5:

Competency 5: Prepare differential analysis reports for decision making							
Learning Objectives		**Assessment Methods**	Excellent	Good	Average	Poor	Failing
1.	Demonstrate proficiency in basic computations and understand scientific methodology as it relates to the structure of accounting	Exams	10	0	0	0	3
		Final Exam	0	0	0	0	0
2.	Demonstrate knowledge of the connections between theory and practice, and be able to transfer classroom learning and apply to situations in life outside the classroom	Exams	12	0	0	0	1
		Final Exam	0	0	0	0	
4.	Identify and apply financial statement preparation including: cash flow statements, long-term borrowing, investments, and an analysis for analytical procedures including solvency and profitability	Exams	0	0	0	0	0
		Final Exam	12	0	0	0	1
5.	Identify the differences between managerial and financial accounting, define the three manufacturing costs, describe accounting systems used by manufacturing businesses, prepare journal entries for a job order cost accounting system	Exams	0	0	0	0	0
		Final Exam	8	0	0	0	5
6.	Distinguish between job order costing and process costing systems and classify costs by their behavior, calculate and interpret accounting for completed and partially completed units, prepare a cost of production report, and prepare journal entries for a process manufacturer	Exams	13	0	0	0	0
		Final Exam	6	0	0	5	2
7.	Describe and prepare the basic budgets for a manufacturing business	Exams	11	0	0	0	3
		Final Exam	12	0	0	0	1

Table 6:

Competency 6: Demonstrate as working knowledge of cost-volume-profit-analysis							
Learning Objectives		**Assessment Methods**	Excellent	Good	Average	Poor	Failing
1.	Demonstrate proficiency in basic computations and understand scientific methodology as it relates to the structure of accounting	Exams	7	0	0	5	1
		Final Exam	0	0	0	0	0
2.	Demonstrate knowledge of the connections between theory and practice, and be able to transfer classroom learning and apply to situations in life outside the classroom	Exams	12	0	0	0	1
		Final Exam	0	0	0	0	0
5.	Identify the differences between managerial and financial accounting, define the three manufacturing costs, describe accounting systems used by manufacturing businesses, prepare journal entries for a job order cost accounting system	Exams	10	0	0	0	3
		Final Exam	0	0	0	0	0
6.	Distinguish between job order costing and process costing systems and classify costs by their behavior, calculate and interpret accounting for completed and partially completed units, prepare a cost of production report, and prepare journal entries for a process manufacturer	Exams	13	0	0	0	0
		Final Exam	8	0	0	4	1

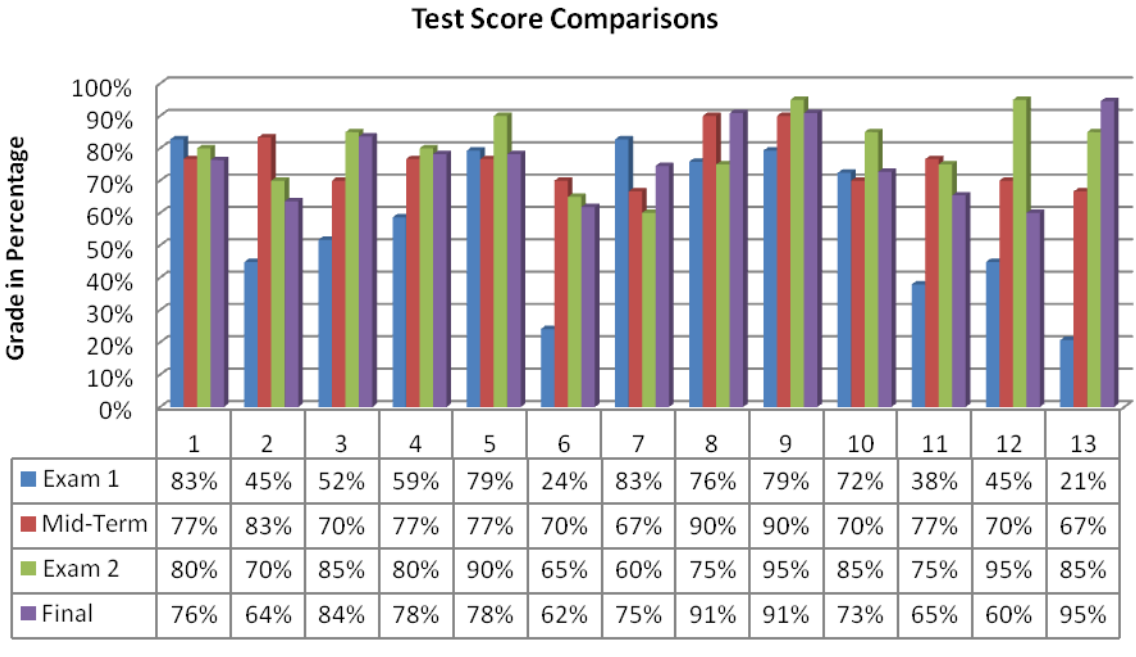
Table 7:

Competency 7: Analyze a complete set of financial statements							
Learning Objectives		**Assessment Methods**	Excellent	Good	Average	Poor	Failing
1.	Demonstrate proficiency in basic computations and understand scientific methodology as it relates to the structure of accounting	Final Exam	12	0	0	0	1
2.	Demonstrate knowledge of the connections between theory and practice, and be able to transfer classroom learning and apply to situations in life outside the classroom	Final Exam	0	0	0	0	0

4.	Identify and apply financial statement preparation including: cash flow statements, long-term borrowing, investments, and an analysis for analytical procedures including solvency and profitability	Final Exam	0	0	12	0	1
7.	Describe and prepare the basic budgets for a manufacturing business	Final Exam	12	0	0	0	1

Exhibit 2 below shows a comparison of test scores by student. Of the 13 students taking the final exam which tested all competencies, nine tested proficient and four were nearing proficiency. The minimum level of proficiency for all examinations was established at 70%, see Exhibit 3.

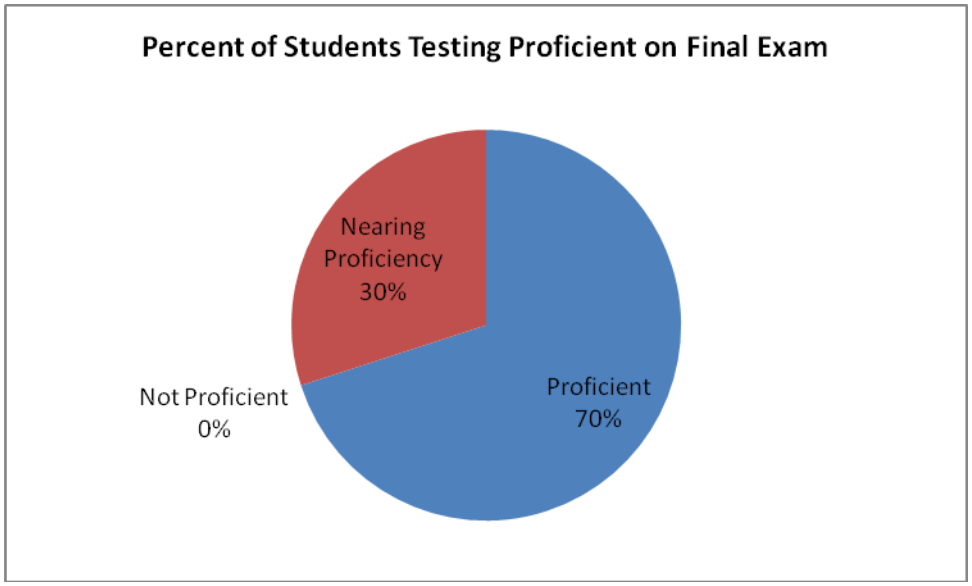
Exhibit 2:



	1	2	3	4	5	6	7	8	9	10	11	12	13
Exam 1	83%	45%	52%	59%	79%	24%	83%	76%	79%	72%	38%	45%	21%
Mid-Term	77%	83%	70%	77%	77%	70%	67%	90%	90%	70%	77%	70%	67%
Exam 2	80%	70%	85%	80%	90%	65%	60%	75%	95%	85%	75%	95%	85%
Final	76%	64%	84%	78%	78%	62%	75%	91%	91%	73%	65%	60%	95%

Class Averages	Exam 1	Mid-Term	Exam 2	Final Exam
	58%	78%	85%	76%

Exhibit 3:



***9 students proficient, 4 students nearing proficiency**

Exhibit 4 below shows the comparison of student performance on the pre-test to the final exam. The percent of growth to proficiency acquisition ranges from the low of 20% to a high of 80% according to the two assessments. The student (12) who's data demonstrates 20% growth in proficiency acquisition did not perform at the 70% minimum proficiency on the final exam; in comparison to another student (13) who achieved the same pre-test score, their percentage of growth in proficiency acquisition was nearly 55%.

Exhibit 4:

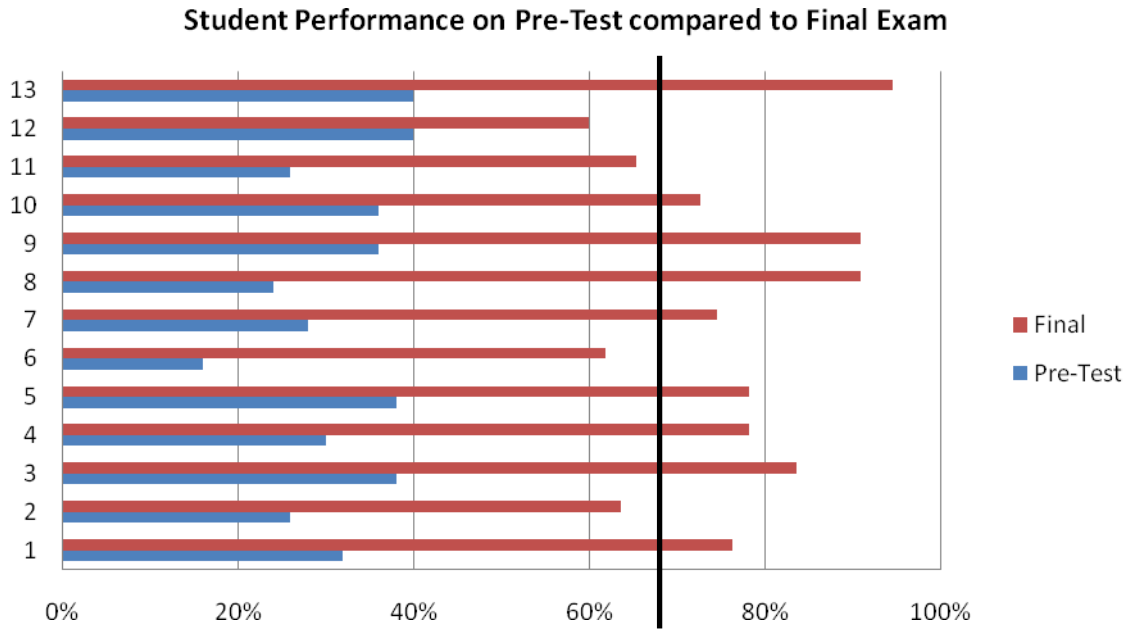
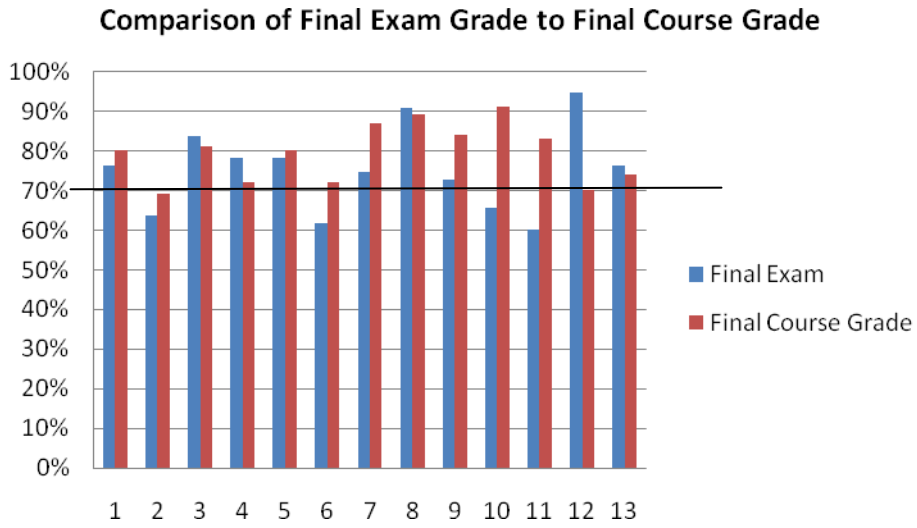


Exhibit 5 indicates that nine of 13 students achieved a higher course grade than the grade achieved on the final exam; the other five students achieved a higher grade on their final exam than they achieved for the course. The disparity between the final exam grade and the final course grade accounts for missing homework, inconsistent class attendance or participation and not completing the recommended competency plans (which will be discussed below). However, this disparity does not account for text anxiety that may have occurred with the test taker. Below is a visual representation of this disparity with 70% identified as the minimum acceptable proficiency.

Exhibit 5:



Based on student objectives of the assessments (Examinations 1 and 2 and the Mid-Term Examination), specific material was assigned to students in order to provide continuous opportunity to learn and demonstrate competency in the areas student demonstrated deficiencies. For example, if a student demonstrated, via assessments, that they did not understand cash flow statements, they were given the opportunity to re-learn and demonstrate proficiency of cash flow statements via the continuing Exercise Project (Competency Plan). Projects varied for each student based on their mastery levels as it related to the learning objectives and core competencies. Exhibit 6 is an illustration of a competency plan designed for Exam 1 based on student outcomes. Based on a test item analysis for this assessment, an example of a student's competency plan assignment would be to complete Chapter 11 CP2, Chapter 12, CP 1, and Chapter 13 CP 3.

Exhibit 6:

You have received an email with the treatment plan assignment for you to demonstrate your knowledge and ability to meet the competencies and learning objectives that were tested for Chapters 11-13.

Chapter 11 Competency Plan (Competency 1)

CP1*	CP2	CP3
37B	37B	37B
Case 2	39B	39B
	Case 2	39B
		Case 2

Chapter 12 Competency Plan (Competency 1)

CP1	CP2	CP3
34B	34B	32B
	35B	34B
		25B
		Case 2

Chapter 13 Competency Plan (Competency 2)

CP1	CP2	CP3
28B	27B	27B
	28B	28B
		26B
		Case 2

*CP is identified to be a Competency Plan
Complete the assignments for each CP that you were assigned.
All worksheets are attached for you to perform the assignment.

Note: This assignment is not required; however, it is highly recommended you complete the competency plan assigned to you.

Throughout the course, three competency plans were developed and disseminated to students. While the competency plans were not required, students were highly encouraged to complete the assignment as the accounting material is integrated. Not acquiring proficiency in one competency could lead to greater difficulty in the mastery of another related competency. As presented in Exhibit 7 below, student grades for the final exam and the final course grade are sorted by the number of competency plans completed by the student. In all but one case, the students who completed the three recommended competency plans achieved higher final course grades than students who did not. The students who only completed one competency plan did not perform worse than students who completed two competency plans. The greatest gains are seen when students complete the three recommended competency plans.

Exhibit 7:

Comparison of Final Exam to Final Grades Sorted by Number of Competency Plans Completed

Completed 1 Competency Plan		Completed 2 Competency Plans		Completed 3 Competency Plans	
Final Exam	Final Grade	Final Exam	Final Grade	Final Exam	Final Grade
78%	72%	76%	80%	75%	87%
62%	72%	64%	70%	91%	90%
		84%	82%	73%	91%
		78%	80%	65%	83%
		91%	84%		
		60%	70%		
		95%	70%		

How The Data is Used to Improve Student Learning

Based on the analysis of the data in the section above, several observations for improvement are noted. First, qualitative recommendations for improvement towards student learning are provided, and then a quantitative approach is taken.

Qualitative:

During the course of the semester students seemed to have had difficulty in grasping concepts that are building from learning objectives/course competencies covered in their level one accounting course. This provided greater difficulty in students being able to acquire proficiency in Accounting II concepts. For example, students demonstrated difficulty in the following areas:

1. Manipulation of the Accounting Equation: Assets = Liabilities + Owners Equity
2. Understanding of non-cash transactions: Depreciation Expense not affecting cash
3. Make-up of the Income Statement: Income Summary and closing of accounts
4. Analysis of Financial Statements: Income Statement, Balance Sheet, Statement of Owners Equity.

With regard to homework, the class average on assigned homework is a 68%. In a review of the class grade book, it is apparent that non-submission of the homework seems to be more of a factor than poor performance on the assignment. Every homework assignment is reviewed in class, line-by-line, which gives the opportunity for students to check for understanding, validation of work, and an opportunity to correct the work. This process provides immediate feedback to

reinforce positive student outcomes and correct deficiencies. Students were provided the opportunities to re-work the assignment and re-submit the second attempt for credit. As an improvement strategy, the next cohort of students taking this class will be required to re-submit revised homework as a way for the instructor to determine if the student is following the review and correcting errors. At the conclusion of instructing the next cohort, an analysis to compare results of that cohort to the results of this class will assist in determining to what extent active review homework influences performance on assessments.

Quantitative

After a thorough review of Tables 1 through 7 contained in this report the following observations are made:

1. Exam 2:
    a. Did not test Objective 2 of Competency 4
    b. Did not test Objective 4 of Competency 5
2. Mid-Term Exam:
    a. Did not test Objective 2 of Competency 1
    b. Did not test Objective 5 of Competency 6
    c. Did not test Objective 6 of Competency 5 or 3
    d. Did not test Objective 7 of Competency 4
3. Final Exam
    a. Did not test Objective 2 of Competency 2
    b. Did not test Objective 6 of Competency 3
    c. Did not test Objective 5 of Competency 5
    d. Did not test Objective 1, 2, and 5 of Competency 6
    e. Did not test Objective 2 of Competency 7

Additionally, it was observed that the final exam only contained one question to assess student proficiency for Competency 5 and 6. In the future, additional questions will need to be developed to ensure that students receive a fair and reliable assessment of their proficiency to these two competencies.

Learning Objective 2, *Demonstrate knowledge of the connections between theory and practice, and be able to transfer classroom learning and apply to situations in life outside the classroom* make up 41% of the items identified as not tested in a particular assessment – Exam 2, Mid-Term, and Final Exam collectively. This does not necessarily come as a surprise as the assessments are summative in nature and are designed in a multiple choice format. Since the objective requires application to situations outside of the classroom, open ended questions will need to be developed if this objective is going to be tested by the assessment tools. An alternative to the development of the questions, discussions can be created and posted in the discussion segment

of the Blackboard system and utilized as an addendum to the assessment tools. Whether open ended questions are included in the assessments or discussion forums are developed, a detailed rubric that aligns to the competencies will need to be developed and shared with the students. This is certainly a doable activity that will be implemented with the next cohort.

The objectives and competencies identified on the upper section of this page are identified as not being assessed. It is important to note that they were not assessed in the particular assessment for which they are identified. Further analysis demonstrates that all learning objectives and all competencies were assessed at some point within the four assessment instruments implemented. The identification of those learning objectives and competencies serves a data point that the student did not have the ability to demonstrate proficiency on more than one occurrence. This provides an opportunity to review the number of times students actually have to demonstrate proficiency to each competency and learning objective.

In the final analysis, all of the students who completed the three recommended competency plans achieved higher final course grades than students who did not. Those students who only completed one competency plan did not perform worse than students who completed two competency plans. The greatest gains are seen when students complete the three recommended competency plans.

The competency plans provided continuous opportunities for students to learn and demonstrate competence in the areas where they demonstrated deficiency on the assessments. They also allowed for the opportunity for students to re-learn and demonstrate proficiency through the Continuing Exercise Project. The completion of the competency plans were optional however, it highly recommended that students complete them. The next time this on-line course is offered, the students will be required to complete the competency plans assigned. Further analysis will assist in determining to what extent completion of the competency plans influences performance on assessments.

The last consideration for improvement of student performance could be found in re-vamping the Quick Quizzes. The purpose of the quizzes is to identify levels of knowledge and skills; used as short term assessment, test base knowledge, and assess acquisition of new knowledge. Prior to any demonstration or lecture of new material in the class, students are required to read assigned material. Each reading assignment is accompanied with a “Quick Quiz” that the student must complete. The Quick Quiz is generally four to ten questions aiming to determine the level of the students’ understanding of the material. The Quick Quiz is used in like manner of a pre-test, and gives the instructor data to guide areas that require more emphasis. The next time this on-line course is offered, the Quick Quizzes will also be administered after the chapter reading, lecture, and review of the homework to provide more frequent data to the student and the

instructor in identifying the learning objectives and competencies the student may be performing deficiently. This will enable for frequent remediation to correct student deficiencies that may arise.

Department of Humanities
Summary Assessment Report
SPAN101- Beginning Spanish I

Spring 2011 SLOA Participant
Prepared by Shirley S. Marlow, Adjunct Faculty

PURPOSE

This report will assess student performance in SPAN101: Beginning Spanish. The goal of assessment is to improve students' learning. I will use data to improve the learning outcomes.

BACKGROUND

The course is designed to include the essentials of first-year communicative functions, grammar skills, and cultural overview of different Spanish speaking countries.

HUMANITIES COURSE

LEARNING OBJECTIVES/OUTCOMES

Upon completion of the course, with a C or better, the student will be able to:

- **I.** Identify correct form of noun and article utilization (masculine/feminine) (K)
- **II.** Integrate the correct use of present tense regular verbs (S)
- **III.** Generate a list of present tense stem-changing verbs (S)
- **IV.** Distinguish the cultural and language differences and commonalities of Spanish speaking regions (AN)
- **V.** Utilize reflexive verb with appropriate form of corresponding reflexive pronoun (AP)
- **VI.** Identify/list correct vocabulary words and proper use of definite article (K)
- **VII.** Memorize accurate spelling of vocabulary within written text. (K)

ASSESSMENT METHODS AND TOOLS

- In class assignments
- Homework assignments
- Quizzes
- Class/oral participation
- Midterm exam
- Final exam

The purpose of the final exam administered at the end of the course will be utilized to evaluate the success of the teaching methods and learning outcomes. The exam is a cumulative exam that

tests the learning that has taken place throughout the semester. Concepts introduced within each chapter built upon concepts mastered in previous chapters. The test consisted of 32 fill in the blank test items, the point value of the exam was 72 total points. Point values were given for logical responses, correct verb form, accurate use of reflexive pronouns, definite article and accurate spelling. Test questions were found in the Testing Program manual provided by ¡ARRIBA! Communicación y Cultura, Fifth Edition (2008). The following table is a distribution of test items based on Bloom's Taxonomy Cognitive Domain: Knowledge, Application, Analysis, and Synthesis.

Table 1 illustrates the point spread among the Learning Objectives expected upon successful completion of the course.

Table 1
Table of Specifications
(72 possible points)

Learning Objective	Knowledge	Application	Analysis	Synthesis	Total Test Points
1.	**X**	**X**		**X**	**8 Points**
2.	**X**	**X**	**X**	**X**	**16 Points**
3.	**X**	**X**		**X**	**8Points**
4.	**X**				**8 Points**
5.	**X**	**X**	**X**	**X**	**8 Points**
6.	**X**	**X**	**X**	**X**	**16 Points**
7.	**X**		**X**		**8 Points**
				Total Points Available	72 Points

Table 2 illustrates the level at which each learning objective was met by each individual student and the level at which the objectives were met as a class.

DATA TABLE 2

Learning Objectives

STUDENT	LEARNING OBJ. 1	LEARNING OBJ. 2	LEARNING OBJ. 3	LEARNING OBJ. 4	LEARNING OBJ. 5	LEARNING OBJ. 6	LEARNING OBJ. 7	Individual Average
1	3	1	1	N/A	1	2	3	1.57
2	5	5	5	N/A	5	5	5	4.3
3	3	4	4	N/A	4	4	4	3.3
4	5	0	0	N/A	0	2	5	1.71
5	5	3	3	N/A	3	3	1	2.57
6	2	2	2	N/A	2	1	3	1.71
7	5	3	3	N/A	3	2	4	2.86
8	5	4	4	N/A	4	1	5	3.29
9	5	5	5	N/A	5	5	5	4.29
10	5	5	5	N/A	5	2	4	3.71
11	5	4	4	N/A	4	4	5	3.71
12	5	4	4	N/A	4	4	5	3.86
13	4	3	3	N/A	3	1	1	2.14
14	5	2	2	N/A	2	2	5	2.57
15	0	0	0	N/A	0	0	0	0
16	5	4	4	N/A	4	5	4	3.71
Class Average	4.2	3.06	3.06	N/A	3.06	2.7	3.7	

Rubric Rating

E- 5 Excellent **U-2 Unsatisfactory**
G-4 Good **P-1 Poor**
FR-3 Fair **N-0 Never Attended**

Table 3 displays the results of student achievement based upon the learning objectives. Eighty one percent (81%) of students' achievement was good to excellent, while nineteen percent (19%) of students failed or scored below average in the class as a whole. The class average of 3.06 illustrates the need for improvement.

DATA TABLE 3
Final Grade Point Average
By
Student

STUDENT	AVERAGE	GRADE
1	2.50	D
2	4.75	A
3	4.75	A
4	2.75	C
5	3.50	B
6	2.75	C
7	2.75	C
8	2.75	C
9	3.50	B
10	2.75	C
11	3.50	B
12	3.50	B
13	0.50	F
14	3.50	B
15	0.50	F
16	4.75	A
TOTAL AVERAGE	3.06	

RUBRIC RATING
5-Excellent
4-Good
3-Average
2-Unsatisfactory
1-Poor

SUMMARY OF RESULTS

The information disaggregated in **Table 2** provides measurable data on where instructional improvement is necessary. Student achievement is on the lower end of the scale in Learning Objective 6. The table represents the lack of proficiency in identifying/listing vocabulary words and proper use of definite articles. Learning Objective 4 was not tested on the final exam, cultural and language differences and commonalities of Spanish speaking regions was discussed and introduced through lecture and video materials provided by ¡ARRIBA! 5th Edition. Overall achievement of the learning objectives is average; the final exam was 25% of the final grade. Based on the student's final grade and the learning objective rubric rating scale, a correlation between student achievement (in class assignments), attendance and final grade is observed.

IMPROVEMENTS

The data obtained from this report will be used to improve instruction and student outcomes in the following manner:

- More class discussion in Spanish, allowing students to become more familiar with the spoken and written language.
- Students will be provided with more practical assignments as it pertains to the rules of spelling and sentence structure.
- In class and homework assignments will be more student centered.
- An oral student presentation to focus on communication in Spanish will be implemented.
- Intensive instruction will be provided in the proper utilization of definite articles.
- Test items will be added to the final exam that will determine the student knowledge of cultural differences among Spanish speaking regions.
- The state competencies provided through the Humanities Department at Luna Community College do not match with the teaching taking place in Beginning Spanish. Instructor will research learning objectives and competencies used by other Higher Education institutions so that an alignment process may be implemented.

Department of Humanities
Summary Assessment Report
SPCH111—Public Speaking

Spring 2011 SLOA Participant
Prepared by Cynthia Riley, Adjunct Faculty

PURPOSE

Public speaking is the combination of two skills: writing and speaking. For students to be successful public speakers, they need to learn these skills through practice.

OBJECTIVES

1. Practical experience for speaking publically

2. Practice methods for developing material pitched to particular audiences in particular venues

3. Practice methods for effective oral presentations

4. Practice critical skills for self analysis and analysis of others

5. Develop the use of supporting material to enhance credibility

6. Develop understanding of rhetorical modes

COMPETENCIES

1. Analyze and evaluate oral and written communication in terms of situation, audience, purpose in a compelling statement and order supporting points logically and convincingly.
2. Express a primary purpose in a compelling statement and order supporting points logically and convincingly.
3. Use effective rhetorical strategies to persuade, inform and engage.
4. Employ writing and/or speaking process such as planning, collaborating, organizing, composing, revising and editing to create presentations using correct diction, syntax, grammar and mechanics
5. Integrate research correctly, and ethically and credible sources to support the primary purpose of communication.
6. Engage in reasoned civic discourse while recognizing the distinctions among opinions, facts and inferences.

•Please note that additional expectations were not reflected in the above competencies. The additional competencies were all related to the performative skills of public speaking.

ASSESSMENT METHODS

1. Presentation of speeches, evaluated by instructor and class members
2. In class activities designed as practice for oral presentations
3. Evaluation of drafts, outlines, summaries, and works cited pages
4. Use of critical skills in oral and written form/ student and instructor response to speeches

Class participation:	20%
Speeches	40%
Mid-tern Exam	20%
Final Exam	20%

Below are two forms used when grading students' speeches

Speech 111 Grade Sheet
Points: Each category is worth up to 20 pts.
Name_____
Delivery:
_____Voice (loud, clear diction, expression, energy)

_____Smooth and practiced delivery (did not read, no vocal tics)

_____Body (stillness or appropriate gestures, energetic posture, eye contact)

_____Awareness of audience (clothes, tone, diction and vocal expression appropriate)

_____Use of outline or note cards/ power point/ visual aides (did it support speech?)
Comments/improvements:

Draft and Outline:
_____Main idea and Organization (beginning, middle, end)

_____ Effective introduction and conclusion (use of strategies to grab audience/ considered parting words)

_____Supporting details and examples/ specific details/ illustrations and facts

_____Effective outline (enough detail, not too much, not too little)

_____Understands topic

Comments /improvements:

For researched speeches and final:

_____ Viable sources used/ Sources appropriate to the topic

_____ Understanding of source materials/ Integration of source material into argument

_____Quotes included

_____Proper Works Cited or References page

Comments/ improvements:

Speech was effective in these ways:

Speech was not effective in these ways: **Grade_____**

_____Name

SPEECH 111 MID-TERM GRADE SHEET

Each category is worth 20 pts.

_____ Memorization

_____ Persona

_____Voice: volume, expressiveness, vocal tics

_____ Body: appropriate gestures, appropriate clothes, physical tics

_____ Understanding of the material

GRADE_____

SUMMARY OF RESULTS

25 students enrolled. 22 students remained in the class.

30% made A's 50% made B's 10% made C's and 10% made F's.

7 A's
11 B's
2 C's
2 F's

The failing grades were due to lack of attendance.

The Class average for six competencies was on a scale of 1-4 **3.7**

These are not accurate.

EXAMPLES OF THE USE OF ASSESSMENT DATA FOR COURSE IMPROVEMENTS

I have four suggestions which will enhance assessment accuracy.

1. Replace the current text book Lucas, Stephen *The Art of Public Speaking tenth addition*, McGraw Hill, Madison, 2009. Use of this text encourages instructors to employ methods which don't support the learning of the skill of public speaking.
   I recommend the use of a grammar and writing reference book like the one used for the Comp I and Comp II courses, and a volume of famous speeches.
2. Take a close look at the competencies:
   a. They don't include the perfomative skills employed in public speaking
   b. They are in line with Comp. II, and since there is no prerequisite for Speech 111, they are not fair and reasonable expectations for those who have never taken a college writing course
3. Have a prerequisite for Speech 111.
4. Lower the cap from 25 to 15 students. As Dolly Parton once said, "You can't put 50 pounds of mud into a 5 pound sack." Consider this: On test day, 25 math students come in and take their test during one period, and the next class period they begin a new lesson. In speech class each student takes the test separately. If the speech is a nice robust ten minutes long, then that is 250 minutes of class time, or five days, or 1 and 2/3rds weeks, spent on ONE test. 25 students are too many considering the skills they are expected to acquire in the time allotted.

An assessment of skills is a messy business. But it can be done accurately. We simply need classroom practices and an assessment paradigm which accounts for performance and progress.

Department of Allied Health
SLOA Summary Assessment Report, May 18, 2011
NRSG 094 TEAS Prep Reading Comprehension
Test of Essential Academic Skills

Prepared by Instructor Denise Fox, R.D.H., B.A. English

PURPOSE:

The purpose of this report is to assess the effectiveness of the delivery of the TEAS Prep Reading Comprehension course based on student achievement of the course learning objectives. The focus of the report is how the outcomes of an assessment conducted during the delivery of the course can be used to modify course content and improve student learning and/or teaching methodologies.

COURSE DESCRIPTION

"This course will focus on the Test of Essential Academic Skills (TEAS) test preparation to understand the many facets of reading comprehension and how to apply that to test taking. This class will focus on types of reading, types of thinking and types of questions that will be given in the TEAS format."

--LCC 2009-2012 Catalog

BACKGROUND:

Passing the TEAS exam is required for entrance into the Luna Community College Nursing Program. It was evident by low TEAS scores that pre-nursing students needed remediation in the four components of the TEAS. The course began as a two-week review, covering all aspects of the TEAS: science, math, English, and reading comprehension. Eventually, the course morphed into four, one-credit courses with each subject divided. The Reading Comprehension course (as well as the other subjects) has been taught in this 16-week format for seven semesters.

LEARNING OBJECTIVES:

The learning objectives have been developed after a critical study of the course textbook, the *Study Manual for the Test of Essential Academic Skills (TEAS): Version V,* and sample TEAS exams. The learning objectives for the course are listed here.

Based upon the class experience and assignments the student will be able to:

1. Recognize topics, main ideas, supporting details, and themes.
2. Create topic (main idea) sentences and recognize topic and summary sentences.
3. Recognize the author's tone, attitude and purpose of a passage.
4. Distinguish between facts, opinions, biases, and stereotypes.

5. Identify passages as to their purpose: narrative, persuasive, technical, or expository.
6. Make conclusions and inferences about passages.
7. Discern an author's writing patterns, i.e. problem-solution, cause-effect, compare-contrast.
8. Interpret charts, maps, diagrams, labels, and graphs.
9. Follow sets of directions.
10. Determine a word's meaning based on the context in which it is used.
11. Compare products and make inferences.
12. Pass the weekly spelling quizzes.
13. Pass the TEAS with an overall score of 58.7%.

ASSESSMENT METHODS:

Several assessment methods are used in this class.

- spelling quizzes
- two exams—a midterm and a final
- weekly homework
- classroom discussions

Spelling quizzes were based upon the lesson given the previous week. Similarly, appropriate homework was assigned that correlates to each week's lesson. The 30 question midterm exam was constructed by me in a mixed format (multiple choice, fill in the blank, short answer); students were given an hour to complete the exam.

The 30 question final exam was taken from the TEAS textbook (a practice exam in a strictly multiple choice format); students were given an hour to complete the exam. Previous to the final, students knew ahead of time to study the two TEAS practice exams in the back of their books. Although this information was known, all three students failed the final exam.

SUMMARY OF DATA:

Spelling Quizzes

Learning Objective	Number of Quizzes	Number of Questions (multiple choice)	Ave. Quiz Score
#12	8	10	70

*2 students missed one quiz each.
*Lowest quiz score was 30; highest 100.

Midterm Exam

multiple choice, fill in blank, short answer test (30 questions)

Learning Objectives	*Total Test Questions*	*% Answered Correctly*
#1: topic	3 test questions	33%
#2: summary & topic sentence	6 test questions	78%
#3: author's purpose	9 test questions	78%
#4: facts/opinions	3 test questions	89%
#6: inferences	4 test questions	59%
#12: spelling	5 test questions	80%

Final Exam

multiple choice test (30 questions)

Learning Objectives	*Total Test Questions*	*% Answered Correctly*
#2: summary & topic sentence	2 test questions	100%
#3: author's purpose	2 test questions	83%
#4: facts/opinions	1 test question	100%
#5: types of passage	3 test questions	22%
#6: conclusions	8 test questions	54%
#6: inferences	6 test questions	61%
#7: author's writing patterns	1 test question	100%
#8: interpreting graphs/maps	4 test questions	58%
#9: following directions	1 test question	100%
#10: contextual clues	1 test question	67%
#11: price comparison	2 test questions	67%

*Note: While I teach spelling in Reading Comprehension, the TEAS evaluates spelling in the "English and Language Usage" section. Because I used a practice reading comprehension exam from the TEAS book as

the final course examination, Learning Objective #12 can only be measured by evaluating spelling quiz and midterm exam grades. Please see the results for LO #13 (passing the TEAS with an overall score of 58.7%) below.

TEAS Exam

Student	*Previous TEAS Adj. Indiv. Score/Reading Score*	*TEAS (Spring '11) Adj. Indiv. Score/Reading Score*
K. M. (taken 3 times previously)	48.7%/6th percentile	52.0%/5th percentile
M. H. (taken 2 times previously)	40.7%/14th percentile	49.3%/25th percentile
D. R. (taken 1 time previously)	42%/14th percentile	not taking test

HOW THE DATA IS USED TO IMPROVE STUDENT LEARNING:

Historically, students take the TEAS multiple times before they pass it. If a student doesn't pass the TEAS after taking my class, I suggest he or she enroll (for credit or to audit) in READ105 Develop-mental Reading, a remedial, 3-credit reading comprehension class. From evaluating the results of the midterm examination, areas that need improvement are topic identification and inference identification. The final exam shows us that additional instruction needs to be given in these areas: 1) identifying conclusions and inferences, 2) determining passage type (narrative, expository, persuasive, technical), 3) extrapolating information from graphs and maps, 4) developing contextual word clue skills, and 5) determining "best price" information when comparing products.

Often students "advise themselves" and don't ask for faculty's help in determining how they should proceed. Before retaking the TEAS several times (or even once), students should get tutoring or enroll in either a TEAS preparation course or the proper basic reading or introductory grammar course. Another issue must be questioned: perhaps raising the bar on the Compass test would require students to take developmental courses early in their college career rather than suddenly realizing (after having taken all prerequisite courses and passing them) they can't pass a reading comprehension test for entrance into the nursing program. Anecdotally, many nursing program applicants have good G.P.A.'s, but the TEAS exam is challenging; often students have difficulty understanding why they can't pass it after getting adequate grades in the required courses such as Anatomy and Physiology I and II and Freshman Composition I.

Student K.M. raised her Adjusted Individual Total Score after taking the TEAS Prep Reading Comprehension course, but her percentile rank in the reading category fell from a six to a five. I also taught K.M. in the English TEAS Prep course; we see a significant improvement here: her percentile rank increased from a 25 to a 72. Student M.H.'s reading comprehension score increased from a 54.8% to a 61.9% thus raising her percentile rank to a 25 from the 14th percentile; her Adjusted Individual Total Score also increased: 40.7% to 49.3%. Student D.R. has

changed his course of study and will be enrolling in the dental assisting program, which doesn't require the TEAS for entrance.

Luna Community College

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ASSESSMENT REPORT for MATH180 COLLEGE ALGEBRA

Prepared by: Dr. Andrew Feldman - Academic Director

May 27, 2011

PURPOSE

The Department of Science, Math, and Engineering Technology is taking a proactive stance on assessment and student learning outcomes for the purpose of improving curriculum and student learning. The department has administered three semesters of a MATH180-College Algebra standardized final exam for spring, summer and fall of 2010. The purpose of the standardized exam is to determine if students in all sections of college algebra are performing at the competency levels determined by the New Mexico Higher Education Department (HED). As a result of the pilot program, the department implemented a permanent standardized final exam beginning January 2011.

A critical question arises when considering the college math requirements and state competencies; are we teaching students to be mathematically competent? (Boyles and Barnet, 2007). MATH180-Colege Algebra is a transfer course in the general education core, statewide articulation agreement; 18 programs at LCC require College Algebra in order to complete the degree program. This course has a standard curriculum and transfers to any university in the state and nationwide. College Algebra is important in the general education core curriculum as it provides breadth of knowledge, fosters rational, logical, and critical thinking skills.

BACKGROUND

The Department of Science, Math, & Engineering Technology has traditionally collected assessment data that includes pre- and post test data, instructor ratings of students with respect to state math and science competencies, and final grade pass/fail data to improve curriculum and student learning outcomes. However, there was some concern over the delivery of College Algebra and the student learning outcomes that arose from examination of the assessment instruments.

Assessment data that is on file indicates that there are inconsistencies between instructor's assessment of student learning outcomes, course material covered, and academic rigor of

different courses/instructors and the final exams. As such, it is difficult to compare one course to another. Problems began to arise in the higher level math course in that some students were not prepared even after having gone through the sequence of development courses and college algebra.

Initially, the proposed standardized exam pilot program to measure student learning outcomes was an "add-on" assessment; however since there was no incentive for students to take this add-on seriously and perform well the exam was changed to a standardized final exam and administered across all sections of College Algebra for spring, summer and fall 2010 semesters.

As indicated above, a permanent standardized final exam process was implemented during the spring 2011 semester. The major change from the pilot program was that two versions of the final were administered to an all-sections exam held on Friday May 7, 2011 in the department lecture hall. The two versions of the exam were developed by a committee of math faculty. Each question addressed the same state competency, but with different numbers. A set of answer keys were developed and a grading scale was agreed upon by the faculty.

Learning Outcomes:

The requirement for College Algebra in the General Education core is based on the notion that algebra teaches logical and rational thinking in addition to the mathematical skills required to continue in science and engineering. As set by state standards, College Algebra covers graphing, solving various types of equations, function notation and operations on functions, and exponential and logarithmic equations that model real-world problems that are applicable to everyday life and particularly in science and engineering. If a student can master these topical areas they are prepared to continue their education and understand that math is the language of science and technology – drivers of modern society.

The textbook used by all sections of the course is Algebra and Trigonometry: 5th Edition: Larson, Hostetler, & Edwards, Houghton Mifflin, 2008, covering chapters P & 1-4 which address the state competencies.

State of New Mexico College Algebra Competencies:

1. Students will graph functions

Students should:

a. Sketch the graphs of linear, higher-order polynomial, rational, absolute value, exponential, logarithmic, and radical functions.

b. Sketch a graph using point plotting and analysis techniques, including basic transformations of functions such as horizontal and vertical shifts, reflections, stretches, and compressions.

c. Determine the vertex, axis of symmetry, maximum or minimum, and intercepts of a quadratic equation.

2. Students will solve various kinds of equations.

Students should:

a. Solve quadratic equations using factoring, completing the squares, the square root method, and quadratic formula.

b. Solve exponential and logarithmic equations.

c. Solve systems of two or three linear equations.

3. Students will demonstrate the use of function notation and perform operations on functions.

Students should:

a. Find the value of a function for a given domain value

b. Add, subtract, multiply, divide and compose functions.

c. Determine the inverse of a function.

d. Compute the difference quotient for a function.

e. Correctly use function notation and vocabulary related to functions, i.e. domain, range, independent variable, of, even symmetry, etc.

4. Students will model/solve real-world problems.

Students should:

a. Use and understand slope as a rate of change.

b. Use equations and systems of equations to solve application problems.

c. Apply knowledge of functions to solve specific application problems.

d. Solve compound interest problems.

e. Solve application problems involving maximization or minimization of a quadratic function.

f. Solve exponential growth and decay problems.

ASSESSMENT METHOD

For the spring 2011 semester, the math faculty developed two versions of a final exam for MATH180 that was used in an all-section final held on May 7 in the department lecture hall; thirty five (35) students were present for the exam from four sections of College Algebra. The exam addressed the state competencies in a fairly even distribution,

Students were required to sign in to the all-section exam and use a number on their test. Two copies were made of every exam and distributed to three instructors for grading. The instructors who performed the grading were not aware of which students' exam they were grading. With prior agreement among the faculty, each question was worth 10 points, five for showing the work and five for the correct answer, or some variation in between. This method of grading was selected to avoid grading bias which had been seen in the pilot program.

RESULTS

Data from the spring 2011 College Algebra final exam are presented in **Figures 1 & 2**. There were four sections of college algebra with three live on the main campus and one online course. There were a total of 35 students in the four sections taking the final exam.

Summary of Data:

General Conclusions SPRING 2011 – The Exam

- One instructor thought the exam was not fair to the students. However, it was the math faculty who developed the exam. The math faculty had input and reviewed the exam prior to administration.
- One instructor felt that administering the exam on Saturday before finals week deprived the students of additional study time.
- The exam had a fairly even distribution of questions relating to each state competency.
- A different exam (two versions) will be created each semester by the math faculty.
- Expected performance was well below the expected 70% for the overall exam and for each question.
- A number of question averages (and therefore student performance on state competencies) were consistently below the 70% level.
- Exam scores from each instructor were averaged for the final score on each exam. There was significant variation between the grades assigned by each individual grader.
- Based on Exam averages (n = 35 students): Mean = 44%; Standard Deviation = 26.8%; Median = 38%; Mode 29%; MAX = 91.3%; MIN = 0%.

General Conclusions SPRING 2011 – The Curriculum and Instructors:

- Instructors often do not cover all the required material in the course; usually giving less attention to the chapter on exponential and logarithmic functions. Greater emphasis is often placed on the first four chapters of the book (P- Ch. 3) and neglecting to cover Chapter 4
- Students often need remediation at the beginning of the course (covered in Chapter "P")
- The curriculum is adequate and meets state HED competencies; however the students are not always prepared to take a comprehensive final.
- Extra-curricular tutoring is not consistent between instructors, although student tutors are available in the department.
- Faculty need to hold students to a higher standard- greater expectation.

- Most students start off in a lower level math course- full-time faculty and department director need to work with adjunct faculty to improve instruction and achieve higher standards.
- Faculty needs more communication and collaboration to improve student learning.
- Faculty need to use more active learning techniques and apply math to everyday life to retain student interest without diluting the curriculum.
- Faculty need to encourage students to use tutoring services and office hours.
- Department director need to hold all math faculty to a higher standard.

Using the Data to Improve Student Learning Outcomes:

- Instructors in MATH116 – Intermediate Algebra will have to ensure students are prepared to move on the MATH180 through curriculum alignment, grading and outcomes assessment.
- MATH180 instructors will have to cover the entire required curriculum to meet state competencies – curriculum will be aligned among math instructors and all chapters will be covered.
- A standard grading scheme was adopted to have comparable data and individual graders exam scores were averaged to eliminate bias in grading; this effort will continue.
- Equal emphasis on each competency will be addressed by the instructors.
- MATH180 needs supplementary curriculum such as PLATO (computerized, self-paced learning tool) for mastery of course content.
- Lesson delivery and timing will be coordinated among the various instructors and sections of MATH180. Instructors will work collaboratively to develop active learning techniques and employ real-life data for use in solving math problems.
- Instructors will require that students use the math tutoring center (Academic Center for Excellence) and use instructor's office hours.
- The department will continue to meet to discuss developmental math problems and lack of student preparation for college algebra. The Developmental Math Committee will continue to address curriculum and course delivery problems.
- Department math faculty will meet in the beginning of each semester in a workshop type setting to establish best practices and concur on focus areas in the curriculum.
- The department will continue the standardized final exam as regular procedure and will hold the final exam in the department lecture hall on the Saturday before final exam week at the end of the semester.
- To minimize grading bias, students will be assigned a number to identify their exam and three copies of each completed exam will be made and distributed to three math faculty for grading. The faculty will not know the student identity of the exams they are grading. The three copies as graded will then be averaged for a grade on the final exam.

- Math faculty have agreed to work collaboratively in developing best practices for curriculum delivery and setting grading standards for the exam.

CONCLUSIONS:

The significant drop in exam averages from the pilot program to the spring 2011 semester (70% to 44%) is likely the result of a more accurate assessment of student performance on the final exams; however, a number of factors may have affected the result. Using three faculty to grade the exams and taking their average probably resulted in more accurate assessment of the overall grades. Analysis of the pilot program exam scores per section indicates that instructors were much easier on their students in terms of grading than they are in grading anonymous exams.

This was the first experience with an all-section exam at LCC and the instructors may have not properly prepared their students. Test anxiety for students is also a factor in taking an exam with unfamiliar students in a large lecture hall setting. Students also seem to have decreased in performance as the exam progressed as seen in **Figure 2** with the drop in average test score towards the end of the test.

Based on the results of the pilot program some improvements have been made within the department regarding the delivery of the college algebra curriculum. Additional efforts will continue to correct some of the problems noted above. Math faculty and student instructional leaders will continue to offer tutoring sessions during office hours and in the departments' Academic Center for Excellence (ACE) Lab.

Addressing the concern of one faculty member that students are deprived of extra study time, it should be noted that students in all section knew when the exam would be and the instructors should have used class time to allow for final exam review. The overall drop in the exam average cannot be wholly assigned to a lack of preparation due to a Saturday exam.

By implementing the suggestions to improve student learning outcomes the faculty hope to achieve a higher overall exam average and ultimately a greater understanding of mathematics by our students. Improvements have been made each semester to the delivery of the math courses, but significant changes need additional time to be measured. Faculty work on aligning instruction and a standardized exam to be administered to all college algebra sections at one time with minimal grading bias is hoped to improve student learning outcomes.

The math faculty collectively agree that overall student performance is poor and a collaborative effort must be made to address shortcomings While a standardized final exam is only one tool for assessment and may not tell department faculty all that is desired for improvements to student

learning, it is a valuable tool as a part of direct assessment of learning. The department is committed to continuing assessment and improving student learning.

References:

Boyles, David C., and Barbara Barnet, 2007. Basic Skills Assessment: A Locally Developed Strategy for Assessing Math Skills. 3.110, Vol. 3, Ch. 2 – A Collection of Papers on Self-Study and Institutional Improvement, 2007.

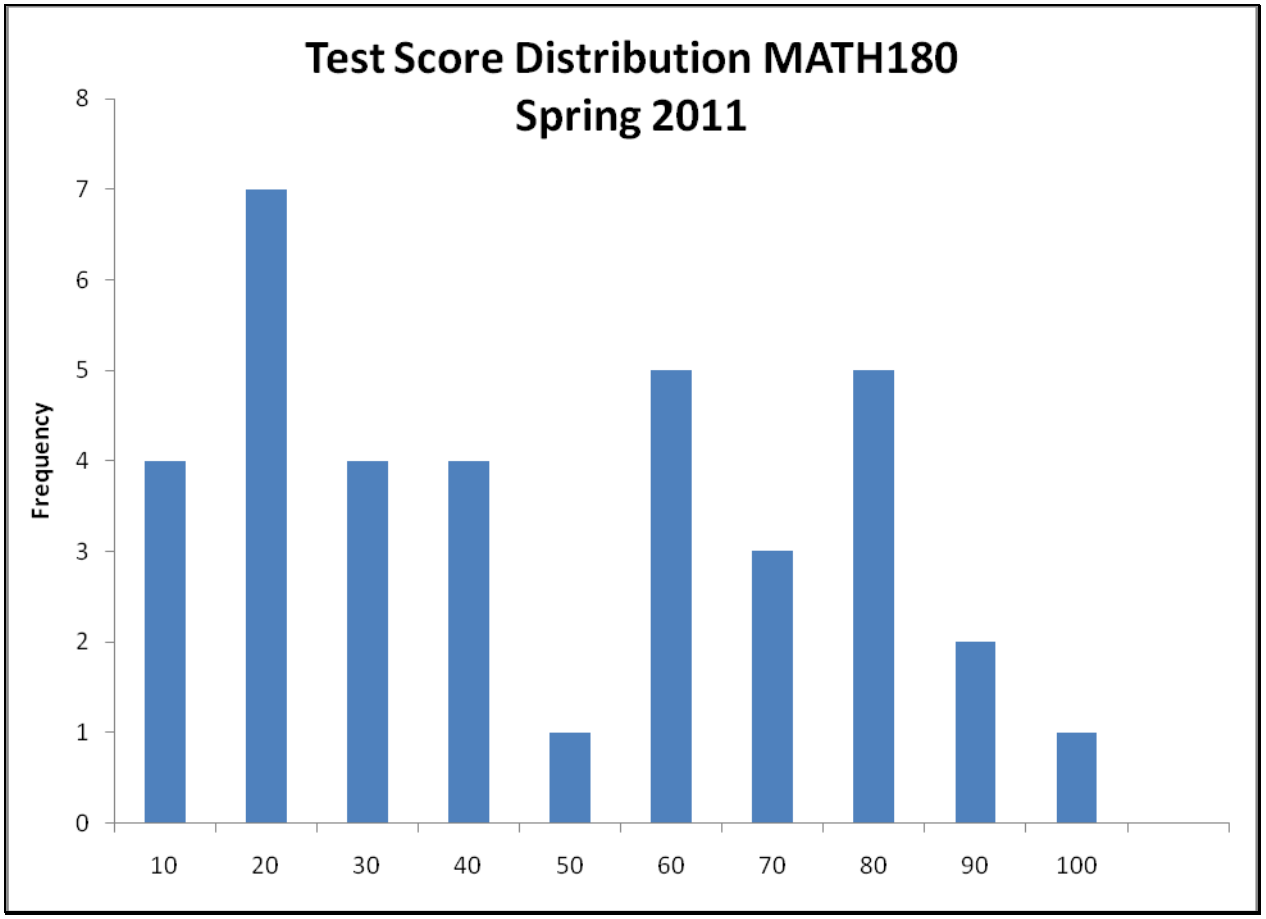

Figure 1 – Histogram of Test Score Distribution for Spring 2011 College Algebra. Mean 44%, Median 38%, Mode 29%, Max 91.3%, Min 0.0%, Standard Deviation 26.8%.

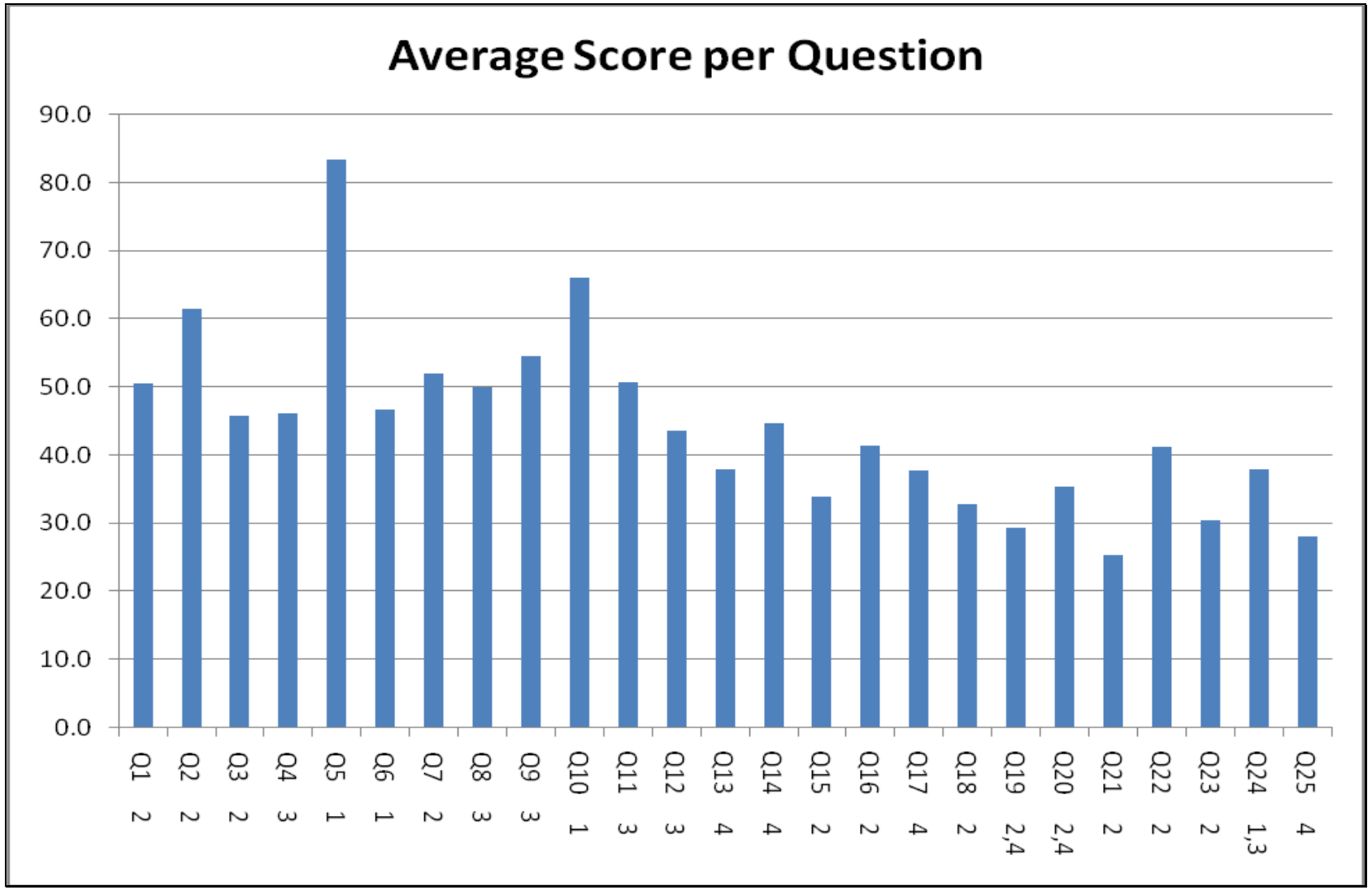

Figure 2 – Average score per question for College Algebra Final Exam Spring 2011. N= 35 students. X-axis indicates the question number and the NM State Algebra competency addressed, with three questions addressing more than one competency.