

Spring 2006 Embedded Assessment Report

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Introduction

This report shows how the college is directly assessing the learning goals of four degree programs –the B.S. in Business Administration, the B.S. in Accountancy, the B.A. in Economics, and the Master in Business Administration -in the spring 2006 semester. Additionally, the B.S. in Information Systems has established learning goals for the degree program and will collect course embedded measures in the fall 2006 semester.

Program learning goals are directly assessed with embedded measures in 15 different courses where students have an opportunity to demonstrate proficiency in the learning goals. The linkage between program learning goals and embedded measures in specific courses is shown in Tables 1 through 4.

For example, Table 1 indicates that FIN 303, FIN 435, MKT 304, SOM 120, and SOM 306 are courses where data is collected to measure students' problem solving skills (i.e., BSBA general learning goal 2). The material in these five courses provides students with an opportunity to improve their problem solving skills and their performance is measured with exam questions, case analysis, or class projects.

Table 5 indicates the type of instruments that faculty selected to measure student achievement in the learning goals. For example, BLAW 308, SOM 306, SOM 307, ECON 401, ECON 406, and ECON 410 all used essay exam questions to assess how well students were meeting the course learning goals.

Table 1. Linkage between B.S. in Business Administration Program Learning Goals and Course Embedded Measures

	BSBA Program Learning Goals	Courses with Embedded Measures
General Learning Goals	1. Our graduates have strong written and oral communication skills.	BUS 302, MKT 304, SOM 120, SOM 306, SOM 307
	2. Our graduates have strong problem solving skills.	FIN 303, FIN 435, MKT 304, SOM 120, SOM 306
	3. Our graduates have strong critical thinking skills.	BUS 302, BLAW 308, MKT 304
	4. Our graduates have an understanding of ethics and social responsibility.	BUS 302, BLAW 308, FIN 303, MKT 304, MGT 360
	5. Our graduates have strong information technology skills.	MKT 304, SOM 306, SOM 307
	6. Our graduates can work effectively in teams.	BUS 302
Management Specific Learning Goals	1. Our graduates understand the global context of business.	FIN 435
	2. Our graduates understand the cross-functional and interdisciplinary nature of business problems.	BUS 302
	3. Our graduates understand and can apply basic business concepts.	BUS 302, BLAW 308, FIN 303, FIN 435, MKT 304, MGT 360, SOM 120, SOM 306, SOM 307

Table 2. Linkage between B.S. in Accountancy Program Learning Goals and Course Embedded Measures

	BSA Program Learning Goals	Courses with Embedded Measures
General Learning Goals	1. Our graduates are able to recognize and analyze ethical problems in practical business and accounting situations and to select and defend a course of action.	BUS 302, BLAW 308, FIN 303, MKT 304, MGT 360
	2. Our graduates are able to effectively communicate complex business and accounting concepts both orally and in writing.	ACCT 351 COM, BUS 302, MKT 304, SOM 120, SOM 306
	3. Our graduates are able to apply critical thinking skills when analyzing and solving problems.	BUS 302, BLAW 308, MKT 304
Accounting & Management Specific Learning Goals	1. Our graduates are able to apply their conceptual understanding to both structured and unstructured problems in accounting	
	2. Our graduates are able to research accounting literature for both structured and unstructured problems in accounting.	
	3. Our graduates understand the cross-functional and interdisciplinary nature of business problems.	BUS 302
	4. Our graduates understand and can apply basic business concepts.	BUS 302, BLAW 308, FIN 303, MKT 304, MGT 360, SOM 120, SOM 306

Table 3. Linkage between B.A. in Economics Program Learning Goals and Course Embedded Measures

	BAE Program Learning Goals	Courses with Embedded Measures
General Learning Goals	1. Quantitative Skills	ECON 401, ECON 406
	2. Communication Skills	ECON 406
Economics Specific Learning Goals	1. Students will have the ability to apply supply and demand analysis to analyze the business environment and public policy.	
	2. Students will understand why there are gains from trade.	ECON 406
	3. Students will understand the importance of considering opportunity cost in decision making.	
	4. Students will understand why some economies are wealthy and others are not.	
	5. Students will understand key macroeconomic measures of economic activity.	ECON 401
	6. Students will understand the role of markets as an organizer of economic activity.	ECON 410
	7. Students will be able to express economic concepts both intuitively and more formally.	ECON 401, ECON 406, ECON 410
	8. Students will be able to use and interpret economic data and statistics effectively.	ECON 410
	9. Students will understand the impact of monetary and fiscal policies on macroeconomic variables.	ECON 401
	10. Students will be able to evaluate the significance of market failure for public policy.	

Table 4. Linkage between MBA Program Learning Goals and Course Embedded Measures

	MBA Degree Learning Goals	Courses with Embedded Measures
General Learning Goals	1. Have skills appropriate for senior management professionals, including:	
	• Analytical thinking	GBUS 600, MGT 693
	• Clear communication	MGT 693
	• Effective teamwork	
	• Global perspective	GBUS 600
	• Ethical practices	
Management Specific Learning Goals	2. Integrate theory and practice	GBUS 600
	3. Understand the interdisciplinary relationships in the firm and its environment	MGT 693

Table 5. Types of Instruments used to Cover Learning Goals

Assignments	Courses with Embedded Measures
Multiple choice exam questions	BUS 302, FIN 303, FIN 435, MGT 360, ECON 410
Essay exam questions	BLAW 308, SOM 306, SOM 307, ECON 401, ECON 406, ECON 410
Class project	MKT 304, GBUS 600, MGT 693
Case analysis	BUS 302, SOM 120, SOM 306, SOM 307, ACCT 351 COM
Formal presentation	BUS 302

Business 302, Gateway Experience

Business 302 prepares students for upper-division coursework. It is a required course for all business programs (i.e., BSBA, ACCT, and IS) and must be taken prior to, or concurrently with, the student's first upper-division business core classes. BUS 302 reviews and tests students' knowledge of the lower-division business core (financial and managerial accounting, micro and macroeconomics, business law, and statistics) by integrating and applying concepts from these courses to solve business problems. While the course does not introduce new material from the lower-division business core, it is designed to develop the ability of our students to apply these disciplines in a complex business environment. Students also learn to work in teams, to analyze business cases, to make class presentations, and to write short business reports. In addition, business ethics and ethical frameworks are an important aspect of the course.

Table 6 shows course learning goals, alignment with BSBA program learning goals, SKA, and student performance on various course assignments in BUS 302. This data was collected from 12 sections containing 336 students enrolled during spring 2006.

Table 6. Embedded Measures for BUS 302

Course Learning Goals	Linkage to Program Learning Goals	SKA	Not Good Enough	Good Enough	Very Good
1. Enhance oral communication	-Effective communication	Intro, platform skills, visual aids, clear comm., handling Q&A	1.4%	22.3%	76.3%
2. Enhance written communication	-Effective communication	Focus & audience, organization & flow, clarity & correctness of style, and presentation	13.1%	47.8%	39.2%
3. Use ethical thinking in solving business problems	-Ethics and social responsibility	Identify issues, stakeholders, possible solutions, apply ethical theories, and recommend policy	23.2%	51.0%	25.5%
4. Work effectively in teams	-Effective Teamwork	Prepared for meetings, completed tasks on time, improved final product, offered timely feedback, etc.	5.5%	11.4%	83.1%
5. Review and integrate lower-division core concepts	-Critical thinking -Apply cross-functional and discipline-based knowledge	Understand & apply the top 10 concepts from 6 lower-division core classes	9.8%	57.0%	33.2%

The scale in Table 7 was used to classify student performance on each course learning goal. The oral communication measure is derived from a formal case presentation. Students work in teams to develop and present a Power Point presentation. Each student must present a portion of the team presentation and is graded individually on her performance. Students are provided with a *Presentation Evaluation Form*, which indicates how the total points are allocated to the various skills, knowledge, and abilities that are required for a formal presentation. This form (among

others used in the course) is extremely important because it helps students understand exactly what is required to meet the course learning goals (e.g., to be a good presenter).

By examining the total points for the presentation, we see that only 1.4% of the students fall into the category “not good enough.” Apparently, a substantial number of Gateway students are successful in making formal, oral presentations as 76.3% fall into the category of “very good” while 22.3% are deemed “good enough.” These results may indicate that our students have largely mastered the skills required for formal oral presentations. Alternatively, working in teams may bolster the individual performance of weaker students who receive help from team members to create the Power Point slides (worth 30 points out of 100).

Table 7. Scale for All Measures in Table 6

Performance on SKA	Outcome
Less than 70%	Not good enough
More than 70% but less than 85%	Good enough
85% or more	Very good

The written communication measure in Table 6 comes from an individual writing grade on the ethics case analysis. The ethics case is designed to review and apply five ethical theories covered in the course. The students receive a writing grade and a content grade for the ethics case. Students are provided with a grading rubric, which indicates how the total points are allocated to the various skills, knowledge, and abilities that are required for the ethics case analysis. Students read the case prior to attending class and are given approximately 60 minutes to write their analysis during one class period.

By examining the total points for the writing grade, we see that 13.1% of the students fall into the category “not good enough.” However, a large number of students are successful in creating clearly written case analysis as 39.2% fall into the category of “very good” while 47.8% are deemed “good enough.” These results may indicate that our students have largely mastered the skills required for producing clear written assignments.

The “ethical thinking” measure in Table 6 comes from the individual content grade on the ethics case analysis. The findings suggest that students are having some difficulties applying the ethical theories covered in the course. Some 23.2% of the students fell into the category “not good enough,” while 76.5% fell into the “good enough” or “very good” categories.

The measure for “effective teamwork” comes from *Team Evaluation Forms* completed for each student by each one of her teammates. Evaluation forms are submitted for five assignments that require group work. The measure in Table 6 is the average of the five total scores for each student. It is important to note that students can view their own average scores but are unable to view the scores given to them by a particular teammate. Despite this anonymity, students appear to be somewhat reluctant to give teammates low scores. The overall mean total score (out of 100 points) was 90.5. Not surprisingly, almost all students (i.e., 94.5%) fell into the “good enough” or “very good” categories.

The learning goal entitled “review and integrate the lower-division core” comes from the content grade on the business case analysis. Each team submits three business cases that are designed to review and integrate the top ten concepts from the lower-division core. The teams receive a content grade and a writing grade for each business case. Normally the content grade is the same for all students on a team. However, individuals may receive lower scores if they do not participate in their team’s work. This is also true for the case writing grade.

Student performance in Table 6 is determined by the *average* content grade on the three business cases. By examining the average content grade, we see that 9.8% of the students fall into the category “not good enough.” It appears that a large number of students are successful in producing good case analysis as 33.2% fall into the category of “very good” while 57.0% are deemed “good enough.” These results may indicate that our students have largely mastered the skills required for good business case analysis. Alternatively, working in teams could hide the performance of weaker students.

The one-unit lab associated with the Gateway course (i.e., BUS 302L) requires students to take a multiple-choice exam in each of the six lower-division core business subjects: financial accounting, managerial accounting, business law, microeconomics, macroeconomics, and statistics. Students must pass each of the six exams with a minimum score of 8 out of 16 correct answers. If students do not achieve the minimum required score on their first attempt, they are given two additional opportunities to pass each exam. The purpose of the LDC exams is to demonstrate minimal proficiency in all LDC areas. The exam results from all 799 students enrolled in BUS 302L during spring 2006 are summarized in Table 8. The scale for the LDC exams is shown in Table 9.

Table 8. Lower-division Exam Results

Lower-division Exam	Not Good Enough	Good Enough	Very Good	Mean score
Financial Accounting	13.5%	72.5%	14.0%	9.4
Managerial Accounting	15.5%	69.9%	14.6%	9.3
Business Law	5.0%	56.1%	38.8%	10.8
Microeconomics	11.7%	67.3%	21.1%	9.8
Macroeconomics	11.3%	69.6%	19.1%	9.6
Statistics	17.0%	69.1%	13.8%	9.2

Table 9. Scale for the LDC Exams

Performance on LDC	Outcome
Below 8	Not good enough
8 to 11	Good enough
Above 11	Very good

The scores in Table 8 represent the *highest* exam score achieved by any given student on a particular exam. As mentioned previously, each student had three opportunities to take each of the six LDC exams. The mean scores are fairly similar across the LDC exams –between 9.2 and 10.8. However, there are some noteworthy differences when viewing the three performance categories. The findings suggest that students have largely mastered the topics covered in

business law. Only 5.0% of the students earn scores that are “not good enough” while 38.8% are “very good.” By contrast, 15.5 (17.0) % of students do not pass the managerial accounting (statistics) exam after three takes and are categorized as “not good enough.” And only 14.6 (13.8) % are deemed “very good” in managerial accounting (statistics). This suggests that students are having a difficult time with these subject areas. Improvement strategies will be investigated to determine interventions that can improve the performance of these students. Examples of possible intervention strategies are altering topic coverage in the corresponding lower-division course and providing additional review materials to Gateway students.

Business Law 308, Business Law II

This course is required of all students in the Business Law, Finance, and Management options; and in the Accounting program. The course learning goals, their linkage to program learning goals, the SKA, and the results of embedded measures obtained from 78 students in two sections of BLAW 308¹ are summarized in Table 10.

Table 10. Embedded Measures for BLAW 308

Course Learning Goal	Linkage to Program Learning Goals	Skills, Knowledge, and Abilities	Not Good Enough	Good Enough	Very Good
Agency	-Critical thinking -Ethics	<i>Respondeat superior</i> : liability of an employer for torts committed by an employee	13%	22%	65%
Partnership	-Basic Business Concepts	Creation of a partnership; liability for contracts entered into by a partner; liability of contracts entered into by an agent	5%	27%	68%

The instrument used to produce the data are essay exam questions. The data in the last three columns of Table 10 are the percentages of students who fell into each performance category. Students were deemed “very good” if their score on a particular exam question was in the A or B range. Alternatively, students who scored in the C range were deemed “good enough,” while those who scored in the D or F range were deemed “not good enough.”

The findings indicate that most students understand both the concept of vicarious tort liability and of liability for contracts entered on behalf of partnerships. These results show a general improvement when compared to results gleaned from the spring 2004 assessment, where the scores demonstrating an understanding of agency law were 29% “not good enough;” 20% “good enough,” and 51% “very good” and the corresponding measures for partnership law were 12%; 16%; and 72%.

¹ Note: Data taken from the final exam. Essay questions were identical across the two sections which were taught by two different faculty members.

The Business Law Department plans to review and discuss these findings during the fall 2006 semester. There is some concern that we are unable to assess the learning of students in our lecture hall sections – because of the size of such classes, instructors are unable to grade essays of the depth required to provide meaningful results. Our historical data indicates that students in lecture hall sections earn grades approximately one grade lower than students in identical courses with identical faculty in smaller sections (i.e., 30 to 38 students).

Finance 303, Financial Management

This course is required of all students in the BSBA, ACCT, and IS programs. The course learning goals, their linkage to program learning goals, the SKA, and the results of embedded measures obtained from 520 students in seven sections of Finance 303 are summarized in Table 11.

Table 11. Embedded Measures for FIN 303

Course Learning Goal	Linkage to Program Learning Goals	SKA	Not Good Enough	Good Enough	Very Good
Investment Decisions	-Problem solving -Basic business concepts	Time value of money concept			87%
		Risk and return concept		78%	
		Financial calculation		84%	
Weighted Mean				83%	
Financing Decisions	-Problem solving -Basic business concepts	Financial Markets and Institutions		73%	
		Capital Structure		78%	
Weighted Mean				76%	
Using Financial Data	-Problem solving -Basic business concepts	Financial Statements		77%	
Financial Ethics and Regulatory Requirements	-Ethics and social responsibility	Ethics			86%
		Regulatory Requirements		84%	
Weighted Mean					85%

The instruments used to produce the data are from several exams, including midterm and final exams. One or more multiple-choice questions on the exams covered every skill, knowledge, and ability that is associated with a particular course learning goal. The percentage of correct answers on each question covering a given SKA was computed. The scale in Table 12 was used to classify student performance on each SKA.

Table 12. Scale for All Measures in Table 11

Performance on SKA	Outcome
Less than 70%	Not good enough
More than 70% but less than 85%	Good enough
85% or more	Very good

The results represent the percentage of correct answers on the questions covering each SKA associated with a particular learning goal. For example, on average, 87% of the students correctly answered the questions on “time value of money concept;” 78% of the students correctly answered the questions on “risk and return concept;” and 84% correctly answered questions that require “financial calculation” --the three SKA associated with the course learning goal of being able to make “investment decisions.”

The rows labeled “weighted mean” provide an overall measure for each course learning goal. These weighted means are calculated by averaging the scores on each SKA associated with a particular learning goal. For example, assuming that the three SKA associated with “investment decisions” are equally weighted in terms of their relative importance, the average score for this learning goal is 83%, putting student achievement on this learning goal into the “good enough” category. The weighted means in Table 11 suggest that students in this course are either “good enough” or “very good” in achieving all four of the course learning goals.

Every semester, the assessment results from the previous semester are shared with faculty who teach the 303 course. Areas that need improvement are discussed and faculty are asked for their input to enhance teaching and learning effectiveness.

With the exception of “financing decisions,” student performance on the course learning goals is similar across the fall 2005 and spring 2006 semesters. Under the two SKAs that comprise “financing decisions,” namely, “financial markets” and “capital structure,” student performance fell from the “very good” to the “good enough” category. The department will continue to monitor student performance in these two SKAs in the future.

Finance 435, Problems in Corporate Financial Policy

This course is required of all students in the finance option of the BSBA program. It is primarily taken by finance majors, but occasionally students in accounting also take it as an elective. In spring 2006, 74 students from two sections of FIN 435 were assessed. The course learning goals, their linkage to BSBA program learning goals, the SKA, and the results of embedded measures are summarized in Table 13 below.

Table 13. Embedded Measures for FIN 435 (Spring 2006)

Course Learning Goal	Linkage to Program Learning Goals	SKA	Not Good Enough	Good Enough	Very Good
Investment Decisions	-Problem solving -Global context of business -Basic business concepts	Cost of capital estimation			86%
		Capital budgeting techniques			99%
Weighted Mean					93%
Financing Decisions	-Problem solving -Global context of business -Basic business concepts	Financial markets and institutions		77%	
		Capital structure: theories and applications		75%	
Weighted Mean				76%	
Using Financial Data	-Problem solving -Basic business concepts	Financial statement analysis			89%
Asset Valuation	-Problem solving -Basic business concepts	Time value concept of money			95%
		Securities valuation		81%	
		Risk and return concept		74%	
		Portfolio theory and asset pricing models			94%
Weighted Mean					86%

The instrument used to produce the data is a set of multiple-choice questions designed to test students' knowledge of each SKA associated with a particular course learning goal. Questions were chosen and reviewed by the Finance Department Assessment Committee. We tried to

select questions that cover the core skills of each SKA with a reasonable level of difficulty. For each SKA, two or three multiple-choice questions were used.

A subset of the questions was included in the midterm, and the rest was included in the final exam. The percentage of correct answers on each question covering a given SKA was computed. The scale in Table 14 was used to classify student performance on each SKA.

Table 14. Scale for All Measures in Table 13

Performance on SKA	Outcome
Less than 70%	Not good enough
More than 70% but less than 85%	Good enough
85% or more	Very good

The results represent the average percentage of correct answers on the questions covering each SKA associated with a particular learning goal. For example, on average, 86% of the students correctly answered the questions on “cost of capital estimation” and 99% of the students correctly answered the questions on “capital budgeting techniques;” the two SKA associated with the course learning goal of being able to make “investment decisions.” From Table 13, we see that student performance in each SKA falls into either the “good enough” or “very good” category.

The rows labeled “weighted mean” provide an overall measure for each course learning goal. These weighted means are calculated by averaging the scores on each SKA associated with a particular learning goal. For example, assuming that the two SKA associated with “investment decisions” are equally weighted in terms of their relative importance, the average score for this learning goal is 93%, putting student achievement on this learning goal into the “very good” category. The weighted means in Table 13 suggest that students in this course are either “good enough” or “very good” in achieving all four of the course learning goals.

Student performance on the course learning goals is fairly similar across the fall 2005 and spring 2006 semesters. In both semesters, student performance is either “good enough” or “very good” in all SKAs and in all course learning goals. There is also some improvement this semester. Student performance in two SKAs has improved from “good enough” to “very good:” “cost of capital estimation” (from 81% to 86%), and “portfolio theory and asset pricing” (from 83% to 94%). For all other SKAs, student performance stayed in the same category as the previous semester.

The FIN 435 course has used embedded assessment measures for three consecutive semesters. The findings are shown in Table 15. From this table, it is clear that student performance on the learning goals has improved over time. Moreover, student performance has improved greatly in the more difficult SKAs. For example, in spring 2005 (the first semester when embedded measures were implemented), there were three SKAs with an average score below 70%. These were: “capital structure,” “securities valuation,” and “risk and return concept.” There has been continuous improvement in these three SKAs over the next two semesters –with all three SKAs above 70%.

This provides evidence on the benefits of an assessment program. The assessment results provide the instructor with a better understanding of students’ learning outcomes. This can help pinpoint the particular subject areas where students experience the greatest difficulties. As a result, the instructor can develop strategies to help improve students’ learning in those subject areas. In the case of FIN 435, the instructor intentionally spends additional classroom time on the more difficult subject areas. More practice problems were provided to students and the instructor went over many computational examples in class to bolster student learning.

Table 15. Embedded Measures for FIN 435 (Spring 2005 to Spring 2006)

Course Learning Goal	Linkage to Program Learning Goals	SKA	Spring 2005	Fall 2005	Spring 2006
Investment Decisions	-Problem solving -Global context of business -Basic business concepts	Cost of capital estimation	80%	81%	86%
		Capital budgeting techniques	97%	97%	99%
		Weighted Mean			89%
Financing Decisions	-Problem solving -Global context of business -Basic business concepts	Financial markets and institutions	86%	76%	77%
		Capital structure: theories and applications	68%	71%	75%
		Weighted Mean			77%
Using Financial Data	-Problem solving -Basic business concepts	Financial statement analysis	91%	91%	89%
Asset Valuation	-Problem solving -Understand and apply basic business concepts	Time value concept of money	91%	95%	95%
		Securities valuation	63%	71%	81%
		Risk and return concept	51%	74%	74%
		Portfolio theory and asset pricing models	87%	83%	94%
Weighted Mean			73%	81%	86%

Marketing 304, Introduction to Marketing Management

The source of embedded measures for seven course learning goals is the marketing plan or situation audit done as a lab exercise. This is required in all MKT 304 classes. A set of skills, knowledge, and abilities (SKA) is used to evaluate each learning goal for each report sampled. Each SKA is evaluated for having met a professional standard of performance or in need of improvement before the professional standard is met (thus a "1" or "0" is assigned for each SKA for each learning goal -- the sum of the "1's" assigned for each SKA is the score for that learning goal.)

The learning goals each have a different number of SKA. For example, marketing principles and applications has 16 associated SKA and therefore 16 possible points. These points are used to establish performance categories as shown in Table 16. The SKA related to each learning goal are not reported here (to conserve space) but are available upon request.

Table 16. Scale for All Measures in Table 17

Course Learning Goal	Not Good Enough	Good Enough	Very Good
Marketing Principles & Applications	Below 12	12 to 13	14 to 16
Writing & Communication Skills	Below 2	2 to 3	4 to 5
Critical Thinking	Below 6	6	7 to 8
Problem Solving	Below 7	7 to 8	9 to 10
Information Management & Decision Support	Below 4	4	5 to 6
Global or International Issues	0	1	2
Ethical Thinking	Below 2	2 to 3	4

Table 17 provides the performance scores on the course learning goals. Each performance score is the percentage of student reports falling into each performance category for each learning goal. The 100 reports were produced by individual students. There were five sections of the course offered in spring 2006. The analysis sample contains 20 randomly selected marketing plans from each of the five MKT 304 sections. Two faculty members were trained and used to assess each marketing plan. Any discrepancy in judgment on an SKA was discussed and resolved by these two faculty.

The findings suggest that students have been successful in achieving all seven course learning goals. Less than 5% of student reports fall into the category of "not good enough" on any learning goal.

One area of marked improvement (compared with spring 2005) was in the application of marketing principles specifically as applied to strategic goal-related tracking and control. This year instructors made assumptions concerning revenues more explicit. This one change resulted in an 18% improvement in student scores for the learning goal "marketing principles and applications."

The marketing faculty will continue their efforts to improve students' understanding of synergy and tracking in marketing management, planning, and implementation. This will be achieved again through lecture emphasis and lab exercises.

This course contributes greatly to the college's goal for writing skills development. In this regard, the marketing faculty must note that despite their use of "Turn-it-in" and warnings to students, they continue to have an unacceptable problem with plagiarism. The department plans to pilot an

exercise in fall 2006 to help reduce its plagiarism problem. Students will be asked to perform various citation tasks. These will be returned until done correctly. This exercise will precede graded work requiring citation. Instructors will track writing sub-scores and the number of plagiarism cases to determine the impact of the exercise.

Also revealed in this analysis, is the continued contribution of this course to the mission-related goals for student sensitivity to global / international nuances and to ethical issues. Furthermore, the skill areas of information management and decision support are effectively exercised and developed in this course.

Table 17. Embedded Measures for MKT 304

Course Learning Goal	Linkage to Program Learning Goals	Not Good Enough	Good Enough	Very Good
Marketing Principles & Application	Basic business concepts	1%	27%	72%
Writing & Communication Skills	Communication skills	0%	4%	96%
Critical Thinking	Critical thinking	1%	12%	87%
Problem Solving	Problem Solving	3%	15%	82%
Information Management & Decision Support	Information technology skills	0%	5%	95%
Global or International Issues	Global context of business	0%	0%	100%
Ethical Thinking	Ethics	0%	5%	95%

Management 360, Organizational Theory

This course is required of all students in the BSBA, ACCT, and IS programs. Four course learning goals, their linkage to program learning goals, and the skills, knowledge and abilities, and the results of embedded measures obtained from 440 students in three sections of MGT 360 are summarized in Table 18.

Table 18. Embedded Measures for MGT 360

Course Learning Goal	Linkage to Program Learning Goals	Skills, Knowledge, and Abilities	Not Good Enough	Good Enough	Very Good
Varied roles and competencies required of managers	Basic business concepts	Role of top managers			91%
Environmental forces and how they influence today's organizations		Strategies of firms			91%
Forces/approaches influencing ethical judgments and conduct within organizations	Ethics	Ethical frameworks		82%	
Basic elements and the major behavior concepts/theories of the four functions of management: planning organizing, leading and controlling	Basic business concepts	Knowledge of group dynamics		81%	

The embedded measures were derived from common multiple-choice questions on the midterm and final examinations. The questions were grouped according to the learning goals covered by the question. To answer each question correctly, students must have certain skills, knowledge, and abilities, as shown in column 3 above. The percentages of correct answers on the questions corresponding to each learning goal are also given in Table 18. The results are grouped into the performance categories shown in Table 19 below.

Table 19. Scale for All Measures in Table 18

Performance on SKA	Outcome
Less than 70%	Not good enough
More than 70% but less than 90%	Good enough
90% or more	Very good

From Table 18, it appears that students in this course are either “good enough” or “very good” in achieving the four course learning goals.

The Management Department is currently working on refining the learning goals for this course.

Systems and Operations Management 120, Basic Business Statistics

This course is a requirement for all students in the BSBA, Accounting, IS, and Economics programs. The course learning goals, their linkage to program learning goals, the skills, knowledge, and abilities (SKA), and the results of embedded measures obtained from 229 students in all sections of SOM 120 taught by full time faculty are shown in Table 20.

Table 20. Embedded Measures for SOM 120

Course Learning Goals	Linkage to Program Learning Goals	Skills, Knowledge, and Abilities	Not Good Enough	Good Enough	Very Good
Recognize the statistical problem	Understand and apply statistical concepts	Define the decision problem	5%	67%	28%
Statistically analyze data in support of solving business problems	Problem solving	Select the appropriate statistical method; use statistical software output to interpret the results	8%	56%	36%
Interpret and explain results of analysis to management	Strong written communication	Clarity of explanation and interpretation of results; writing ability	8%	65%	27%
<i>Weighted Mean</i>			9%	72%	19%

The instrument used to produce the results in Table 20 is a case study with statistical analysis and recommendations. Each student was provided with different data from that of other students. The purpose of this case is to provide each student with the opportunity to demonstrate their knowledge of the statistical modeling concepts that they have learned during the semester and to evaluate the student's ability to explain these concepts using simple terminology.

The data in columns four through six are the percentages of students who fell into each SKA performance category. To be classified in a given performance category, a student's score on the portion of the case analysis associated with a particular SKA must fall within the intervals shown in Table 21. The "weighted mean" in the bottom row above is determined by taking a weighted average of each student's scores in the three course learning goals. The weights are based on a departmental consensus of the relative importance of each course goal. They are calculated as 30% each for "recognize the statistical problem" and "analyze data" and 40% for "interpret and explain results."

The results in Table 20 were roughly similar for the three course learning goals. Students appeared to have slightly more difficulty with the second goal, selecting the appropriate statistical method, 8% "not good enough," than with the first, recognizing the statistical problem, 5% "not good enough." Model selection in statistics appears to be difficult because it involves conceptual models and not the mechanical step-by-step procedures used for solving problems in other subjects. Students have had particular difficulty selecting models in statistical hypothesis testing. Similar results were discovered in the assessment of the statistics exams in BUS 302L. The

department has discussed this issue and has been attempting to correct the problem. Perhaps it has had some degree of success. The 8% “not good enough” for selecting the appropriate statistical method in spring 2006 is substantially down from the 28% “not good enough” in fall 2005.

These assessment results will be reviewed by the Systems and Operations Management Department next semester. The department will use embedded assessment measures again in all sections of SOM 120 in the 2006 fall semester.

Table 21. Scale for All Measures in Table 20

Performance on SKA	Outcome
90 – 100 pts	Very good
60 – 89 pts	Good enough
Less than 60 pts	Not good enough

Systems and Operations Management 306, Operations Management

This course is required of all students in the BSBA, Accounting, and IS programs. The course learning goals, their linkage to program learning goals, the skills, knowledge and abilities (SKA), and the results of embedded measures obtained from 414 students in most sections of SOM 306 are summarized in Table 22.

The instruments used to produce the measures in Table 22 were the final examination and a short business case or an Internet-based game. More specifically, the first learning goal, "knowledge of basic concepts," was assessed using the final exam. Each of the three SOM 306 instructors used a group of questions on the final exam that aligns with the first learning goal. For example, the instructors assessed knowledge of basic concepts, such as linear programming, production planning, inventory management, quality, project management, and so forth. The second and third learning goals were assessed using either a short business case or an Internet-based game. Each instructor chose one of these two methods for their assessment.

The data in columns four through six are the percentages of students who fell into each SKA performance category. To be classified in a given performance category, a student's score on the portion of the case analysis associated with a particular SKA must fall within the intervals shown in Table 23. The “weighted mean,” in the last row above, is determined by taking a weighted average of each student's scores in the three course learning goals. The weights are based on a departmental consensus of the relative importance of each course goal; and are calculated as 40% for “analysis of operations management problems” and 30% each for the other two goals.

On the first learning goal, “knowledge of basic concepts,” only 10% of the students were “very good” and the largest percentage, 30%, were “not good enough.” On the second goal, “analysis of problems,” a far higher 22% were “very good” and a slightly lower 27% were “not good enough”. This pattern was also noted in assessing the SOM 307 course, which appears to support the idea that it is easier for students to learn solution techniques and data analysis than it is for them to learn more conceptual ideas. That is, it is easier for students to learn mechanical step-by-step procedures for solving analytical problems than it is for them to learn how to apply the appropriate conceptual models. The department has been trying to address this problem and it is encouraging to note that the 30% “not good enough” statistic on the first learning goal is an improvement over the 42% “not good enough” figure in fall 2005.

Table 22. Embedded Measures for SOM 306

Course Learning Goals	Linkage to Program Learning Goals	Skills, Knowledge, and Abilities	Not Good Enough	Good Enough	Very Good
Knowledge of basic concepts of operations management	-Basic business concepts	-Understand the role of operations management -OM Strategies -Quality management -Planning and control	30%	60%	10%
Analysis of operations management problems	-Problem solving -Information technology skills	-Forecasting -Control charts -Project management -Inventory Control -Scheduling -Layout	27%	51%	22%
Presentation of results	-Problem solving -Written communication	-Demonstrate effective writing -Clear and concise interpretation of results	9%	58%	33%
<i>Weighted Mean</i>			21%	56%	23%

Table 23. Scale for All Measures in Table 22

Performance on SKA	Outcome
80 – 100 pts	Very good
50 - 79 pts	Good enough
Less than 50 pts	Not good enough

The majority of students scored very high, 91% “good” or “very good,” on the third goal, presentation of results. In this category, there has been improvement over the last two semesters. This might have been the result of a departmental effort to persuade instructors to spend more time going over methods of reporting analytical results.

These assessment results will be reviewed by the Systems and Operations Management Department next semester. The department will again use embedded assessment measures in all sections of SOM 306 in the 2006 fall semester.

Systems and Operations Management 307, Data Analysis and Modeling

This course is a requirement for the SOM option and an elective for several other options in the BSBA. The course learning goals, their linkage to program learning goals, the skills, knowledge, and abilities (SKA), and the results of embedded measures obtained from 93 students in all sections of SOM 307 taught by full-time faculty are shown in Table 24.

Table 24. Embedded Measures for SOM 307

Course Learning Goals	Linkage to Program Learning Goals	Skills, Knowledge, and Abilities	Not Good Enough	Good Enough	Very Good
Recognize the decision problem and select the appropriate decision support and statistical model	Basic business concepts	(1) Define the decision problem, and (2) select appropriate statistical or stochastic model	36%	34%	30%
Analyze data to support decision-making in organizations	Information technology skills	Use of software to perform analysis	16%	67%	17%
Interpret and explain results of analysis to management	Written communication	Clear communication and interpretation of results	39%	43%	18%
<i>Weighted Mean</i>			29%	49%	22%

The instruments used to produce the results in rows one and three of Table 24 were exam questions. The results in row two came from a case study with analysis and recommendations. The purpose of the case is to provide each student with an opportunity to demonstrate their knowledge of statistical and stochastic modeling concepts that they have learned during the semester and to evaluate their ability to explain these concepts using simple terminology.

The data in columns four through six are the percentages of students who fell into each SKA performance category. To be classified in a given performance category, a student's score on the exam questions or case analysis associated with a particular SKA must fall within the intervals shown in Table 25. The "weighted mean" in the bottom row above is determined by taking a weighted average of each student's scores in the three course learning goals. The weights are based on a departmental consensus of the relative importance of each course goal. They are calculated as 40% each for "select the appropriate model" and "analyze data" and 20% for "interpret and explain results."

On problem recognition and model selection, 36% were "not good enough", compared with 31% in fall 2005. This was the second highest "not good enough" among the three course learning goals. As in the past, students had particular difficulty learning concepts in statistical hypothesis testing; i.e., choosing the appropriate model and probability distribution (Z, t, or p), determining the correct null versus alternative hypothesis, and understanding the concept of significance. The

department has discussed this issue, is attempting to correct the problem, and has met with some degree of past success, other than this year, in correcting this problem.

The highest “not good enough” among the three course learning goals was “interpretation and explanation of results” at 39%, compared with only 25% in fall 2005. The reasons behind this change are not clear and will be discussed at a departmental meeting next semester. It could be due to the instructors giving students less practice assignments in advance of the assessment questions.

The Systems and Operations Management Department will review these assessment results next semester. The department will use embedded assessment measures again in all sections of SOM 307 in the 2006 fall semester.

Table 25. Scale for All Measures in Table 24

Performance on SKA	Outcome
90 – 100 pts	Very good
60 – 89 pts	Good enough
Less than 60 pts	Not good enough

Accounting 351 COM, Communications for Accountants

This two-unit course is required for the B.S. in Accountancy. Students must concurrently enroll into ACCT 351 (Intermediate Financial Accounting II). The two courses share common assignments so it is possible to assess multiple student skills (e.g., critical thinking, research skills, and written communication) in a single assignment. The 351 COM course learning goal is to develop a business style of writing letters, memos, and reports based on accounting situations.

The course embedded measures consist of: (1) scores from a pre and post-diagnostic exam that measures students’ ability to properly apply conventions of English and organize information; and (2) scores from two writing assignments (i.e., pre and post assessment) in response to the assigned ACCT 351 cases.

The diagnostic exam comprises 55 groups of 2-3 sentences where students select the sentence with proper punctuation, capitalization, number style, abbreviations, plural and possessive forms, spelling, compound words, and grammar usage. In addition, a group of five sentences each is organized for good paragraph flow. There are 60 possible points.

The pre-diagnostic exam was given in the prior semester (i.e., fall 2005) in ACCT 350. All students were assigned the *Gregg Worksheets* that accompany the *Gregg Reference Manual* after completing the exam. This represents the treatment for a pre-post-test assessment design. The *Gregg Worksheets* comprise 24 worksheets containing practice sentences requiring students to apply the rules for the conventions of English. Answer keys are available on the Oviatt Library webpage. Student worksheets were checked for completion during Week 1 of the 351 COM course.

The post-diagnostic exam is identical to the pre-diagnostic exam and is given in 351 COM during Week 5 of the spring 2006 semester. The pre and post-diagnostic exam scores are not included in the students’ final course grade. Students who score below 42 points receive an Incomplete in the class until they pass. The diagnostic exam is given twice each semester.

There are also two written documents that are evaluated (i.e., pre and post assessment). The pre-assessment does not count towards the students' grade the first time that it is graded. However, students consider the pre-grade, feedback, and comments and write a revision of the pre-assessment writing assignment, which counts 5 percent. The post-assessment writing assignment counts 10 percent.

The pre-assessment writing assignment is a diagnostic letter. Students are asked to write a business letter advising a client about making an investment decision based on the financial statements. Students are asked to discuss the financial statements in terms of reliance and reliability. Students are also told that very little credit will be given for quoting definitions or repeating the information provided in the facts. The client is not a sophisticated businessperson and, therefore, students are asked to communicate in terms that will be easily understood. Students are also provided with information about the format used to write a business letter.

The post-assessment writing assignment is from a case entitled the "Three Little Pigs." Students are asked to analyze the case and prepare a one-page letter that states whether an inventory impairment exists, how to evaluate an impairment, and whether to write down one of the end categories.

The two written assignments -diagnostic letter and case analysis- are evaluated using the *Business Communication Evaluation Form for Written Documents*. Students are given this form prior to the assignments so they understand the skills, knowledge, and abilities that are required for excellent written assignments. Holistic grading is used based on the qualities listed in the evaluation form for the four categories of business writing: (1) audience, (2) organization, (3) clarity, and (4) presentation. Grades from 0 to 4 were given, representing the letter grades F through A.

Table 26 shows the average scores for the pre (diagnostic letter) and post (case analysis) writing assessments; and the average pre and post-diagnostic exam scores for 119 students enrolled in 3 sections of ACCT 351 COM during the spring 2006 semester.

Table 26. Embedded Measures for ACCT 351 COM

Instrument	Mean
Pre Writing Assessment	1.66
Post Writing Assessment	2.80
<i>% of students who score below 2.0 on the post writing</i>	<i>4.5%</i>
Pre Diagnostic Exam	40.9
Post Diagnostic Exam	47.0
<i>% of students who score below 42 on the post exam</i>	<i>5.0%</i>
Sample Size	119

A comparison of mean pre and post-writing assessments indicates that student performance rises by more than one point (i.e., 1.14). Additionally, 45 percent of the students scored below 2.0 on the pre-writing assessment compared with only 16 percent on the post-writing assessment.

The average post-diagnostic exam score has risen 6.1 points after completing the *Gregg Worksheets*. The pre-exam scores range from 29 to 52 points (out of 60 possible points), while the post-exam scores range from 37 to 56 points. Additionally, 34 percent of the students scored below 42 on the pre-diagnostic exam compared with only 5.0 percent on the post-diagnostic exam.

The 351 COM students seem to be taking this exam more seriously than in past semesters. Students scoring below 42 receive an Incomplete for the course until they pass the exam. Six students scored below 42.

Economics 401, Macroeconomic Theory

This is a required senior level course taken by all students in the Economics program. The objective of the course is to increase students' understanding of aggregate economic growth and fluctuations. Emphasis is placed on the microeconomic foundations of macroeconomic behavior. To meet the course objective, two specific course learning goals are required. The specific course learning goals are: #1 -understand the factors that influence macroeconomic activity and key macroeconomic variables in the long run; and #2 -understand business cycles.

Much of the analysis done in this class allows the student to practice general program learning goal # 1 -quantitative skills. The class uses graphs and algebra in macroeconomic analysis.

The class also provides students with an opportunity to demonstrate mastery of three economic specific program learning goals. These include goal # 5 -understand key macroeconomic measures of economic activity; goal # 7- express economic concepts both intuitively and more formally; and goal # 9 -understand the impact of monetary and fiscal policies on macroeconomic variables.

Program learning goal #5 represents a standard part of any macroeconomics class. Macroeconomic measurement issues are covered during the first two weeks of the class. Macroeconomic variables such as gross domestic product, the consumer price index, and the unemployment rate are used throughout the course. These variables represent basic knowledge needed to conduct macroeconomic analysis. Reaching program learning goal #5 is a necessary step in attaining both course specific learning goals.

Program learning goal #9 is also a standard component of any macroeconomics class. The impact of monetary and fiscal policies on macroeconomic variables is a central component of course learning goal #2- understanding business cycles. Mastery of this program learning goal provides the student with the knowledge and skills needed to analytically understand stabilization policy issues.

Program learning goal # 7 -express economic concepts both intuitively and more formally- is practiced and ultimately demonstrated throughout the course. Most economic ideas are developed both verbally and graphically (some algebra is used). This program learning goal is demonstrated during the process of meeting course specific learning goal #1- understand long-run macroeconomic activity and course specific learning goal #2- understand business cycles.

Mastery of course learning goal #1- understand long-run determinants of key macroeconomic variables, is evaluated using an essay question from the midterm exam: *Using the Solow Growth Model, explain what will happen to the steady-state consumption level if the population growth rate increases due to an increase in immigration. Explain in words and with a graph.* This question tests mastery of course specific learning goal #1- understand long-run macroeconomic activity; program specific learning goals #5 -understand key macroeconomic measures and #7 -

express concepts intuitively and formally; and general program learning goal #1 -quantitative skills.

Mastery of course learning goal #2 -understand business cycles- is evaluated using an essay question on the final exam: *Using the Classical version of the IS-LM model, discuss how a temporary decrease in government spending will impact the economy. Explain using both words and a graph.* This question tests mastery of course specific learning goal #2- understand business cycles; program specific learning goals #5 -understand key macroeconomic measures- #7 -express concepts intuitively and formally- and #9 -understand the impact of monetary and fiscal policy; and general program learning goal #1 -quantitative skills.

The course learning goals, their linkage to one general program goal and three program specific learning goals, and the results of embedded measures from 37 students in one section of ECON 401 are summarized in Table 27. The scale in Table 28 was used to classify student performance on the course learning goals.

Table 27. Embedded Measures for ECON 401

Course Learning Goals	Linkage to Program Learning Goals	Not Good Enough	Good Enough	Very Good
Understand the long-run determinants of macroeconomic variables	-Quantitative skills -Key macroeconomic measures -Express economic concepts both intuitively and more formally	43%	35%	22%
Understand business cycles	-Quantitative skills -Key macroeconomic measures -Express economic concepts both intuitively and more formally -Monetary and Fiscal Policy	43%	49%	8%

Table 28. Scale Used for All Measures in Table 27

Performance on Course Learning Goal	Outcome
Less than 50%	Not good enough
More than 50% but less than 75%	Good enough
More than 75%	Very good

Economics 406, International Trade

This is an elective senior level course taken by students in the economics program. The course objective is to increase students’ understanding of international trade issues. This includes comparative advantage, gains from trade, trade and growth, trade policy, and immigration.

Much of the analysis done in this class allows the student to practice general program learning goals # 1 -quantitative skills and # 2 -communication skills. The students use graphs and algebra in their analysis. Students develop their communication skills (writing) by taking essay exams and completing a paper. The class also provides students with an opportunity to demonstrate mastery of two economic specific program learning goals. These include goal # 2 –understand why there are gains from trade and goal # 7 -express economic concepts both intuitively and more formally.

Program learning goal # 7 -express economic concepts both intuitively and more formally - is practiced and ultimately demonstrated throughout the course. Most economic ideas are developed both verbally and graphically (some algebra is used). On the final exam, an essay question was asked that required the student to demonstrate mastery of goal # 7. The exam question was “Free trade raises a country’s overall level of welfare. Develop and use the Endogenous Tariff Model to explain why governments impose tariffs on imports. What happens to the tariff when a country experiences a recession?” The question requires the student to graphically and verbally develop the model. Then the student must apply the model to a situation when an economy goes into a recession. Student answers to this final exam essay question were used to produce the assessment data.

The course learning goal, its linkage to three program learning goals, and the results of embedded measures from 35 students in one section of ECON 406 are summarized in Table 29. The scale in Table 30 was used to classify student performance on the course learning goal.

Table 29. Embedded Measures for ECON 406

Course Learning Goal	Linkage to Program Learning Goals	Not Good Enough	Good Enough	Very Good
Comparative advantage, gains from trade, growth, trade policy, and immigration	Quantitative skills (using graphs)	17.4%	30.4%	52.2%
	Communication skills (exam writing)	17.4%	34.8%	47.8%
	Express economic concepts both intuitively and more formally	30.4%	34.8%	34.8%

Table 30. Scale Used for All Measures in Table 29

Performance on Course Learning Goal	Outcome
Less than 55%	Not good enough
More than 55% but less than 75%	Good enough
More than 75%	Very good

Economics 410, Industrial Organization

This course is an upper-division elective. During spring 2006, all students enrolled in the course were in the Economics program. The program learning goals and student performance outcomes are summarized in Table 31.

Table 31. Embedded Measures for ECON 410

Program Learning Goals	Not Good Enough	Good Enough	Very Good
1. Use and interpret economic data and statistics effectively		X	
2. Express economic concepts both intuitively and more formally	X		
3. Understand the role of markets as an organizer of economic activity	X		

The instrument used to produce the assessment data was the final examination in the one section of this course offered in spring 2006. Some 33 students took this examination. A series of three multiple-choice questions were included to cover the first learning goal listed in Table 31. The second and third learning goals were each assessed by an open-ended, short-answer question. Once measured, student performance was categorized according to the scale in Table 32 –by calculating the mean score on the embedded exam questions.

Table 32. Scale for All Measures in Table 31

Performance	Outcome
Below 60% “correct”	Not Good Enough
60% to 80% “correct”	Good Enough
Above 80% “correct”	Very Good

Student performance for each of the three learning goals is discussed in detail below.

This course is offered on a fairly irregular basis (once every three or four semesters). Thus, the earliest that any changes could be made to the course as a result of these findings is during the fall 2007 or spring 2008 semester.

Use and interpret economic data and statistics effectively

Three multiple-choice questions (2, 3, and 4)² were included to measure this learning goal. Student performance on these questions is summarized as follows:

Question	Correct	Incorrect	% Correct	Outcome
2	31	2	94	Very Good
3	8	25	24	Not Good Enough
4	24	9	73	Good Enough
All Questions	63	36	64	Good Enough

Overall, these results are quite encouraging.

² Exam questions are not provided here to conserve space. However, all questions are available upon request.

Most students (94%) were able to answer question 2 correctly, which required the understanding, interpretation, and comparison of the “Four Firm Concentration Ratio” – the most widely used numerical measure of market structure. Student performance on this question was pleasantly surprising.

Relatively few students (24%) answered question 3 correctly. This is somewhat unexpected, since the answer follows as a direct application of the “Inverse Elasticity Pricing Rule.” An investigation of incorrect answers suggests that many students incorrectly thought that comparisons of profits across firms could be made as a result of differences in the value of price elasticity of demand. Performance on this question was quite disappointing.

A majority (73%) of students were able to answer question 4 correctly. This question required students to understand and interpret values of cross-price elasticity of demand, and recognize how to determine if one good is a substitute for another based upon this measure.

Express economic concepts both intuitively and more formally

An open-ended, short-answer question was used to measure student performance on this learning goal. Answers were graded on an 8-point scale. The mean grade was 3.8 (or 47.4%). As a result, student performance is categorized as “Not Good Enough.”

Further insight into student performance can be obtained by noting that the median score on this question was 4. Additionally, four students earned scores of 0 and three students earned scores of 8.

Student performance was relatively better on the first part of the question which was relatively straightforward. Students simply needed to correctly identify the given pricing plan as an example of “non-linear pricing” – a concept which was precisely defined in lecture and in the textbook. This part of the question could be correctly answered graphically, functionally, and/or verbally.

To correctly answer the second part of the question, it was necessary to recognize that “Plan 2” was dominated by “Plan 1,” in that total consumer expenditure is never less under the former (for any level of consumption). Many students failed to recognize the intuitive implication of this relationship on the optimal choice of consumers.

Understand the role of markets as an organizer of economic activity

An open-ended, short-answer question was included to measure student performance on this learning goal. Answers were graded on a 12-point scale. The mean grade was 2.6 (or 21.5%). Thus, student performance is categorized as “Not Good Enough.”

Further insight into student performance can be obtained by noting that the median score on this question is only 1. Additionally, 10 students earned scores of 0 while only one student earned a perfect score of 12.

Student performance on this question was quite disappointing, since this question was fairly straightforward. It simply asked students to apply and work through the Stackelberg model of oligopoly (one of the primary models of oligopoly which was discussed in lecture and covered in the textbook). Many students incorrectly answered the question by attempting to apply the Cournot model of oligopoly (in which firms compete by choosing quantities simultaneously rather than sequentially). Others incorrectly mentioned price competition, apparently trying to apply the Bertrand model of oligopoly to a situation in which it was clearly stated that firms compete by choosing quantities. These answers indicated that many students were not able to distinguish

among the different models of imperfect competition which were discussed throughout the semester.

While students were clearly asked to show all work for each part of this question, many simply wrote down memorized formulas which were derived in lecture and in the textbook. Often the stated formulas were not applicable, in that they were for one of the other oligopoly models mentioned above.

Finally, many students did not write anything for this question, suggesting that they did not even know how to begin. While this was the last question on the exam, it is worth noting that the two hour time constraint for the exam did not appear to be binding for most individuals in the class (only 4 or 5 students out of 33 were still working on the exam at the end of the allotted time). Thus, this behavior is not likely a result of students “running out of time and not getting to the last question.”

GBUS 600, Analysis of Contemporary Organizations

GBUS 600 is a required, interdisciplinary course that introduces new graduate students to the field of business. The course focuses on the nature of organizations and the interrelatedness of the functional areas. Management theories are explored through readings of primary source materials. Students develop communication and research skills through individual and group projects that focus on organizations and their environments.

The course learning goals, their linkage to MBA program learning goals, and the results of embedded measures obtained from 38 students are summarized in Table 33.

Table 33. Embedded Measures for GBUS 600

Course Learning Goal	Linkage to Program Learning Goals	Not Good Enough	Good Enough	Very Good
1. Financial reporting, analysis, and markets	Analytical thinking	0%	34.3%	65.7%
2. Domestic and global economic environments of organizations	Global perspective	0%	34.3%	65.7%
3. Human behavior in organizations	Integrate theory and practice	2.6%	23.7%	73.7%

The instruments used to produce the data are a 15-page group research paper and an individual four-page paper. The data in the last three columns of Table 33 are the percentages of students who fell into each performance category. Students were deemed “very good” if their work was in the A or B range. Alternatively, students whose work was in the C range were deemed “good enough,” while those with work in the D or F range were deemed “not good enough.”

Measurements for the first two learning goals “financial reporting” and “economic environments of organizations” were taken from the industry report, which is a 15-page group research paper. Evaluation of the first learning goal was based on: “overall makes good use of available industry data to back up analysis, demonstrating complete research from reputable sources.” Evaluation of the second learning goal was based on: “discusses the industry’s future thoughtfully, considers macro-economic variables.”

Measurement of the third learning goal “human behavior in organizations” was taken from an individual 4-page paper. The paper’s objective was “to enhance critical thinking and analytical skills, to integrate and apply readings on management, and to develop a clear concise writing style appropriate to business.” The assignment was: “based on each assigned reading, consider a situation in the workplace where an understanding of the principles and theories in the readings could improve management and its outcomes. Be specific in connecting and applying the theories to actual behavior in specific situations. Use your new understanding of management theory to make recommendations for improved management of human behavior in organizations.”

Almost all students fell into the “good enough” or “very good” performance categories on all three course learning goals. These findings suggest that students are able to conduct good industry research and apply their understanding of organizational theory to practical situations.

Management 693, Seminar in Strategic Management

This required seminar is taken in the last semester of course work for MBA students. It is an integrative seminar dealing with broad business policy problems via the case method. There is a definition and analysis of internal and external factors affecting the development of the objectives and policies of the firm. The course stresses the interrelationships of major functional areas and the pervasive adjustments that may result from changes in a specific policy. Students are expected to use their personal experience and apply the analytical tools obtained from specialized courses in the solution of organization-wide problems. Strong emphasis is placed on case study methodology.

The data in Table 34 comes from a report which is similar to the traditional comprehensive exam. The individual work of 22 students in the seminar was assessed with the use of an extensive grading rubric. The rubric contains six major components: (1) internal analysis; (2) analysis of the external environment; (3) integration of major strategic issues; (4) available alternative strategies; (5) recommendations and implementation plan; and (6) report writing. The six components and 18 related attributes are listed in columns one and three in Table 34. The scale for each attribute runs from a minimum of one to a maximum of five. Mean attribute scores are listed in the last column.

The first three components (and 10 related attributes) provide a measure of how well students “understand the interdisciplinary relationships in the firm and its environment” –an MBA program learning goal. The mean attribute scores for the internal analysis component range from 3.19 to 4.11. The mean attribute scores for analysis of the external environment range from 3.03 to 4.23. And the mean attribute scores for integration of major strategic issues range from 3.12 to 3.43. The highest mean attribute score (4.23) went to students’ five-forces analysis.

The fourth and fifth components (and 5 related attributes) provide a measure of students’ “analytical thinking” –an MBA program learning goal. The mean attribute scores for the available alternative strategies component are 2.56 and 2.97. The mean attribute scores for recommendations and implementation plan range from 2.76 to 2.88. The lowest mean attribute score (2.56) went to key pros and cons are sufficiently described.

Finally, the “report” component (and 3 related attributes) provides a measure of students’ “writing skills.” The mean attribute scores for report writing range from 2.76 to 4.45. The highest mean attribute score (4.45) went to students’ executive summaries.

Table 34. Embedded Measures for MGT 693

Report Components	Program Learning Goals	Attributes	Mean
1. Internal analysis	Firm and its environment	Corporate mission, goals, and performance are assessed effectively	3.89
		Corporate strategy is identified and assessed effectively	3.19
		Competitive strategy is identified and assessed effectively	3.43
2. External analysis		Functional analysis is complete and accurate	4.11
		Good assessment of major trends in the general environment	4.03
		Five-forces analysis is complete	4.23
3. Integration		Key success factors are explained adequately	3.03
		Fit between company's internal and external environment is sufficiently assessed	3.43
		Critical issues are precisely explained	3.12
4. Alternative strategies	Analytical thinking	Critical issues fit well with the internal and external analyses presented in report	3.39
		Considers a range of alternatives that appropriately address the critical issues	2.97
5. Recommend		Key pros and cons are sufficiently described	2.56
		Clear why these recommendations were selected from set of alternatives considered	2.81
		Recommendations are sufficiently integrated into a single consistent overall strategy	2.88
6. Report	Writing skills	Anticipates major implementation issues and barriers, then identifies a credible series of action steps to deal with them	2.76
		Executive summary offers a good overview of key issues and conclusions from the report	4.45
		Report is organized well, is internally consistent, and there is a logical flow of analysis and points	3.76
		Critical issues and recommendations are relevant, complete, and significant	2.76