EMBEDDED ASSESSSMENT PROCESS
SUPPLEMENTAL ACCREDITATION REPORT
September 15, 2004

The team will want to review the learning goals (page M-10) and the steps the College is taking in assessing them.

In the SER it is referenced that the College has developed an assessment process for undergraduate and graduate courses. It is not clear from the discussion how the learning outcomes are being directly assessed. To assist the team in its analysis, please provide appropriate documentation on your assessment process.

Introduction

This supplemental report is provided to show how the College is directly assessing the learning goals of two undergraduate programs – the B.S. in Business Administration and the B.S. in Accountancy. The B.S. in Information Systems and the MBA have developed learning goals for their respective degree programs and will begin collecting course embedded measures in the fall 2004 semester.

Program learning goals are directly assessed with embedded measures in key, upper-division 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 and 2 for the B.S. in Business Administration (BSBA) and the B.S. in Accountancy respectively.

For example, Table 1 indicates that FIN 303 (Financial Management), MKT 304 (Introduction to Marketing Management), and SOM 307 (Data Analysis and Modeling) are courses where data are collected to measure students' problem solving skills (i.e., general learning goal 2). The material in these three courses provides students with an opportunity to improve their problem solving skills and their performance is measured with exams or projects.

The Gateway course (BUS 301) provides students with important lessons in building teams and working cooperatively (i.e., general learning goal 6). However, the Gateway course is not currently collecting data on teamwork activities so the "courses" column is left blank. The College is committed to expanding our embedded assessment program to cover each of the program learning goals extensively. This report documents our pilot efforts that began in the fall 2003 semester.

Table 1. Linkage between BSBA Program Learning Goals and Course Embedded Measures

	BSBA Degree Learning Goals	***Courses with Corresponding Embedded Measures***
General Learning Goals	1. Our graduates have strong written and oral communication skills.	BUS 301, MKT 304, and SOM 307
	2. Our graduates have strong problem solving skills.	FIN 303, MKT 304, and SOM 307
	3. Our graduates have strong critical thinking skills.	BUS 301, BLAW 308*, and MKT 304
	4. Our graduates have an understanding of ethics and social responsibility.	BLAW 308*, FIN 303, and MGT 360
	5. Our graduates have strong information technology skills.	
	6. Our graduates can work effectively in teams.	
Management Specific Learning Goals	1. Our graduates understand the global context of business.	MGT 360
	2. Our graduates understand the cross-functional and interdisciplinary nature of business problems.	BUS 301
	3. Our graduates understand the principles and applications of investment and financial decision-making.	FIN 303
	4. Our graduates understand marketing management's role in a firm's business strategy.	MKT 304
	5. Our graduates understand basic concepts in management and organizational behavior and can apply these concepts to the management of people and resources in an organization.	MGT 360

Note: * indicates the course began using embedded measures during the spring 2004 semester. Otherwise, the course began using embedded measures during the fall 2003 semester.

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

	B.S. in Accountancy Degree Learning Goals	***Courses with Corresponding Embedded Measures***
General Learning Goals	1. Each student shall be able to recognize and analyze ethical problems in practical accounting situations and to select and defend a course of action.	
	2. Each student shall be able to effectively communicate complex accounting concepts both orally and in writing.	ACCT 351 (COM)*
	3. Each student shall be able to apply critical thinking skills when analyzing and solving problems.	ACCT 351
Accounting Specific Learning Goals	1. Each student shall have a conceptual understanding of accounting for:	
	External financial reporting	ACCT 351
	Managerial applications	
	Tax planning and preparation	
	The attest function	
	2. Each student shall be able to apply their conceptual understanding to both structured and unstructured problems in:	
	External financial reporting	ACCT 351
	Managerial accounting	
	Tax planning and preparation	
	Auditing	
	3. Each student shall be able to research accounting literature for both structured and unstructured problems in:	
	External financial reporting	ACCT 351
	Tax planning and preparation	
	Auditing	
	4. Each student shall have the necessary knowledge and skills required to sit for a certifying examination (CPA, CMA, or CFM).	

Note: * indicates the course began using embedded measures during the spring 2004 semester. Otherwise, the course began using embedded measures during the fall 2003 semester.

Implementation of the 2003 Fall Pilot

The College implemented an embedded assessment program in the fall 2003 semester. The program was implemented on a small scale, with each department selecting one core course as a pilot project. The results of the pilot program are being used to improve and expand the program in the spring 2004 semester.

The implementation stage began with the College assessment director meeting with each department and giving a PowerPoint presentation that included a discussion of the cost and benefits of an embedded assessment program and a proposed process for developing and implementing the program. The goal was twofold: (1) develop a program that would not impose an overwhelming time cost to faculty and (2) obtain measures of student learning that would provide useful feedback for improving our curriculum and pedagogy.

At first, some departments saw only the costs and not the benefits. However, the benefits quickly emerged when course assignments and grading were discussed. Many instructors give their students one overall score when grading assignments. This aggregate grade provides no information on what the student must do to improve. Moreover, instructors do not always make their grading criteria explicit. So students do not know what constitutes unacceptable, good, or exceptional performance. With embedded measures, students are told what skills, knowledge, and abilities (SKA) they must demonstrate to earn a good grade.

Embedded measures also make course learning goals explicit and thereby provide students with a clear understanding of what they are expected to know and to be able to do after completing the course. Additionally, students receive scores on each skill, knowledge, and ability needed for an assignment, thereby giving them specific feedback on where they need to improve. For example, an overall score of 75% on a case reveals very little. But, if the SKA needed on a case are graded separately on four grade categories of (1) ability to define an issue or problem, (2) identify alternative courses of action, (3) state conclusion and recommendation, and (4) write in a clear, concise, and grammatically correct manner, then students know where they must improve. Embedded measures also facilitate grading because it is easier to assign separate scores to smaller components of a case than it is to give one overall score.

Learning Goals at the Course Level

The development of our embedded assessment program began with the formulation of course learning goals. All of our departments have defined learning goals for the common upper-division core courses in the BSBA degree.

General Process to Develop Course Goals and Embedded Measures

Our departments develop embedded measures of student learning at the course level by providing answers to the following questions:

- What are the learning goals for your course? What should students know and be able to do after completing the course?
- How are the course learning goals related to program learning goals?
- What skills, knowledge, and abilities must students have to achieve the learning goals?
- What assignments, tests, or projects do you give to insure students are achieving the learning goals?
- How is achievement measured?

Table 3 shows the results of this process, using one of our BSBA elective courses, SOM 307: Statistical Analysis and Modeling, as an illustration.

Table 3. Learning Goals for SOM 307, Statistical Analysis and Modeling.

Course Learning Goals	***Linkage to Program Learning Goals***	***SKA***	***Measures***		
			Not Good Enough	Good Enough	Very Good
Students should be able to statistically analyze data to support decision-making in organizations	Statistical Analysis	Define the statistical problem			
		Select the appropriate method of analysis			
Students should be able to interpret and explain the results of their analysis to management	Effective Communication	Explain results in a non-technical manner			

The first step is to establish course learning goals. The next step is to identify the skills, knowledge, and abilities (SKA) that students must have to achieve the learning goals. Tests, projects, and other course assignments are the instruments used to assess the SKA.

Our Capstone course, Management 497: Strategic Management Seminar is required of all majors in the BSBA program. The Management Department conducted a gap analysis to establish the learning goals for this course, as described below.

Learning Goals for Business 497, Strategic Management

To determine an appropriate and measurable set of learning goals for BUS 497 (Strategic Management Seminar), the Management Department began by designing and administering a comprehensive survey instrument to a group of experts. Key results of this survey appear in Table 4.

Table 4. Results of Learning Goals Survey for BUS 497, Strategic Management

Potential Learning Goals	*Importance*	*Preparedness*	*Gap*	*Importance rank*	*Gap rank*
Know how to synthesize a wide variety of information	4.88	2.25	2.63	1	5
Analyze opportunities and threats originating in the industry environment	4.88	2.38	2.50	1	7
Know principles of strategic management	4.75	1.63	3.12	3	1
Understand the role of competitive strategy in building competitive advantage	4.63	1.63	3.00	4	2
Exercise effective communication skills	4.63	2.25	2.38	4	8
Understand the role of ethics and social responsibility in strategy	4.50	2.38	2.12	6	10
Know principles of effective strategic planning	4.38	1.63	2.75	7	3
Know principles of competitive advantage	4.38	1.75	2.63	7	5
Analyze opportunities and threats originating in the macroeconomic environment	4.38	2.50	1.88	7	12
Understand key mechanisms for implementing strategies	4.29	2.14	2.15	10	9
Understand the role of corporate strategy in building competitive advantage	4.25	1.50	2.75	11	3
Understand principles of corporate governance	3.88	1.75	2.13	12	10
Know how to use personal computers to do strategic analysis	3.43	2.29	1.14	13	13

Table 4 reveals that the biggest gaps between the importance of a potential learning goal and the preparedness of students in achieving that learning goal exist in "know principles of strategic management" and "understand the role of competitive strategy in building competitive advantage." These two goals have relatively high importance ranks, 3 and 4 respectively, indicating that they should become course learning goals. Note that the last four potential learning goals have relatively small gaps between importance and preparedness and they rank low in importance, making them poor candidates for learning goals in this course.

To design the survey instrument, the Management Department built a comprehensive list of concepts that are generally considered to be within the domain of "strategic management." Then, faculty who have taught BUS 497 in recent years were asked to add any concepts they felt were missing from the list. In addition, this group was asked to comment on any concepts they felt should be worded differently, including instances in which one concept should be split into two or more distinct concepts. The resulting list contained a total of 118 concepts, including the 13 category headers shown in Table 4.

Next, faculty members who have taught BUS 497 within the past five years were asked to complete the survey instrument. Defining the population as only those who have taught the course within the past five years helps ensure that the data come from "experts" in the subject area. There were fourteen such faculty members included in this population. At the time of this report, there were eight survey respondents.

The next step in the process of selecting learning goals for the course is for the BUS 497 affinity group to determine how the results of this survey should be used in the course design and pedagogy.

Embedded Assessment Results

The results discussed in this section are from a pilot program undertaken in fall 2003. We intend to expand this pilot effort on a larger scale in the spring and fall of 2004. In most cases, the results represent one section of an upper-division core course. While each department followed the same general approach to obtaining embedded measures, the departments varied somewhat in how they computed and summarized the performance measures.

Since student abilities, for the most part, are randomly distributed among sections of courses, the results represent a random sample of students. However, with an expanded assessment effort, we will obtain larger sample sizes to insure an even better cross-section of student demographics and smaller sampling errors. Nonetheless, these results provide data driven insight into student achievement.

Finance 303, Financial Management

This course is required of all students in the BSBA program. The course learning goals, their linkage to the program learning goals, the SKA and the results of embedded measures obtained from 99 students in one section of Finance 303 (Financial Management) are summarized in Table 5.

The instrument used to produce the data are the final examination. One or more questions on the final covered each learning goal. The percentage of correct answers on each question covering a given learning goal was computed. The scale in Table 6 was used to classify student performance on each SKA.

The results represent the average percentage of correct answers on the questions covering each learning goal. For example, on average, 85% of the students correctly answered the questions on “financial markets and institutions” and 75% of the students correctly answered the questions on “capital structure,” the other SKA associated with the course learning goal of being able to make “financing decisions.” Both of these scores fall into in the “good enough” performance category.

Note that it is possible to compute a weighted average score for all SKA associated with a particular learning goal, using different weights for each SKA that depend on its relative importance. The result would be an overall average score for the learning goal. For example, assuming that “financial markets and institutions” and “capital structure” are equally weighted in terms of their relative importance in being required to achieve the learning goal of making “financing decisions,” the average score for this leaning goal is 80%, putting student achievement on this learning goal into the “good enough” category.

Embedded measures are extremely helpful in flagging areas where a course is successful in helping students achieve the learning goals, and in highlighting problem areas where students are having difficulty. For example, only 66% of the students correctly answered the questions on “risk and return concept,” one of the three SKA associated with the learning goal of making “investment decisions.” This is the only SKA where student performance fell into the “not good enough” category. Depending on the relative importance of this knowledge, overall performance on the learning goal may be compromised. These results will be used by the Finance Department to uncover underlying causes and take appropriate corrective action, which may involve changes in pedagogy (e.g., new assignments or use of the Socratic Method) or in the course (e.g., devote more time to covering the topic or cover it earlier in the course).

Table 5. Embedded Measures for Finance 303, Financial Management

Course	Learning Goals	Linkage to Program Learning Goals	SKA	Measures		
				Not Good Enough	Good Enough	Very Good
Fin 303 (N= 99)	Investment Decisions	-Financial theories -Analytical Skills -Reflective thinking	Time value of money concept		80%	
			Risk and return concept	66%		
			Financial calculator		80%	
	Financing Decisions	-Financial theories -Analytical Skills -Reflective thinking	Financial Markets and Institutions		85%	
			Capital Structure		75%	
	Using Financial Data	-Financial theories -Analytical Skills -Reflective thinking	Financial Statements		77%	
	Financial Ethics and Regulatory Requirements	-Ethical and legal responsibilities in organizations and society	Ethics			95%
			Regulatory Requirements			93%

Table 6. Scale for All Measures in Table 5

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

Scores in categories below “very good” signal continuous improvement opportunities that involve identifying the underlying assignable causes preventing students from being “very good.” This is the next step. Our process for using the embedded results to improve student performance consists of forming departmental focus groups--all faculty who teach a given course as well as students who have completed the course. The goal is to identify possible improvement efforts. A good place to begin is to collect data from a course’s internal customers, the students taking the course. This can readily be done by conducting an in-class survey and asking students why they are having difficulty in achieving a particular learning goal. Possible assignable causes might be the difficulty of the textbook or that homework does not address the SKA required to achieve “very good” performance on the learning goal.

Systems and Operations Management 307, Data Analysis and Modeling

This course is an elective course for several options in the BSBA. The learning goals, their linkage to program learning goals, the SKA, and the embedded measures are shown in Table 7.

The instrument used to produce the embedded measures was the final examination in the course. The data in columns 5-7 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 a question associated with a particular SKA must fall within the intervals shown in Table 8.

The percentages are the percentages of students who received the indicated number of points on each question. For example, under “define problem,” 6% of the students received zero points and, hence, were “not good enough;” 32% received a score of one point and were classified as “good enough;” lastly, 61% of the students earned the maximum of two points and, accordingly, were “very good.”

The results indicate that the performance of 45% of our students was “not good enough” in terms of their ability to “explain the results.” However, 52% were “very good,” and 3% were “good enough.” This bimodal distribution is a signal that over half of our students are able to explain and interpret their results to management in a non-technical manner. Yet, there is also an unacceptably high percentage of students (45%) who have difficulty meeting this goal.

Table 7. Embedded Measures for SOM 307, Data Analysis and Modeling

Course	Learning Goals	Linkage to Program Learning Goals	SKA	Not Good Enough	Good Enough	Very Good	Mean %
SOM 307 (n=31)	Students should be able to statistically analyze data to support decision-making in organizations	Statistical Analysis	Define the statistical problem	6%	32%	61%	77%
			Select the appropriate method of analysis	19%	42%	39%	68%
	Students should be able to interpret and explain the results of their analysis to management.	Effective Communication	Explain results in a non-technical manner	45%	3%	52%	53%

Table 8. Scale for All Measures in Table 7

Performance Category	Skills, Knowledge and Abilities					
	Define Problem		Select Method of Analysis		Explain Results	
	Q1 (2 Pts.)	%	Q2 (10 Pts.)	%	Q3 (2 Pts.)	%
Not good enough	0	6	0 to 3	19	0	45
Good enough	1	32	4 to 8	42	1	3
Very good	2	61	9 to 10	39	2	52
Mean	1.55		6.84		1.06	
Mean %	77.4		68.4		53.2	

Moreover, 19% of our students were in the "not good enough" category with respect to their ability to "select the appropriate method of analysis." This could jeopardize the success of our students in meeting the learning goal associated with the ability "to statistically analyze data to support decision-making in organizations." Offsetting this result somewhat is the finding that 61% of our students were "very good" and 32% were "good enough" on the second ability associated with this learning goal --"define the statistical problem." Regardless, some intervention is required to help students improve their ability to select the appropriate method of analysis.

How can we obtain an overall score for a given learning goal? One method is to compute the mean percentage score for each question covering an SKA associated with that particular learning goal. The mean percentage on the first questions is 77.4%. This indicates that students earned, on average, 77.4% of the total points for this question. Similarly, the mean percentage on the second question is 68.4%. Since these two questions test the SKA required to achieve the first learning goal, we may obtain an average performance score for the learning goal by computing a weighted average of these two scores, with the weights reflecting the relative importance of each SKA. Assuming that each SKA is equally important, the average score for the first learning goal is the simple mean of these two scores, 79.2%.

Marketing 304, Introduction to Marketing Management

The source of embedded measures for the learning goals of this course was the marketing plan. A marketing plan or a significant portion of a marketing plan is a common assignment to all 304 classes. Each instructor develops their own grading rubric but the rubrics have common elements of evaluation for a key set of marketing principles and their application, as well as common elements to evaluate writing, critical thinking, and problem solving. Each learning goal score is a sum of the composite SKA evaluated for having met a professional standard of performance or in need of improvement before the professional standard is met. (Thus, a "0" or "1" 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: Marketing Principles and Application = 16 possible points (SKA); Writing and Communication Skills = 7 possible points, Critical Thinking = 12 possible points; and Problem Solving = 12 possible points. These points are used to establish performance categories as shown in Table 9. The SKA related to each learning goal are not reported here but are available upon request.

Table 9. Embedded Assessment Measures for MKT 304, Marketing Management

Learning Goal	***Not Good Enough***	***Good Enough***	***Very Good***
Marketing Principles and Application	below 12	12-14	15-16
Writing and Communication Skills	below 5	5- 6	7
Critical Thinking	below 8	9-10	11-12
Problem Solving	below 8	9	10-12

Below are the performance scores on the learning goals. Each performance score is a weighted average of the scores on the SKA related to each learning goal. The results are presented for a sample of students from a lecture hall class of 150 students.

Table 10. Scale for All Measures in Table 9

Course Learning Goal	***Linkage to Program Learning Goals***	***Not Good Enough***	***Good Enough***	***Very Good***
Marketing Principles and Application	Knowledge of the functional areas of business	12.5%	37.5%	50%
Writing and Communication Skills	Effective Communication	4.2%	54.2%	41.7%
Critical Thinking	Critical thinking	20.8%	54.2%	25%
Problem Solving	Problem Solving	8.3%	33.3%	58.3%

From these data we are most interested in the Marketing Principles and Application scores that show 12.5% of our students are not using principles appropriately and the critical thinking scores showing roughly 20% of the plans are "not good enough." In looking at the disaggregated SKA scores from each of these two learning goals, areas for improvement are revealed. Major problems with the application of principles center on SKA evaluating the quality of synergy, or how well the manageable elements work together. The major issue for effective critical thinking centered on the extent to which the "facts" presented in the "Situation Audit" fit the strategic analysis and recommendations. These findings will be shared with the 304 faculty and strategies for improving these elements of the course will be developed.

Management 360, Organizational Theory

The learning goals and the skills, knowledge, and abilities required to achieve the learning goals for Management 360 are shown in Table 11.

The embedded measures were derived from questions on the final examination. 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 2 below. The percentages of correct answers on the questions corresponding to each SKA are also given in Table 11. Finally, the percentage of correct answers is averaged over the SKA that comprise each learning goal. The results are grouped into the performance categories shown in Table 11 below.

Table 11. Embedded Assessment Measures for MGT 360, Organizational Theory

Learning Goal	Skills, Knowledge and Abilities	Not Good Enough	Good Enough	Very Good
Understands the varied roles and competencies required of managers	Knowledge of role of top managers			92
	Components of planning and administration			94
Mean				***93***
Understands environmental forces and how they influence today's organizations	Knowledge of group dynamics			98
	Strategies of Multinational firms		84	
Mean				***91***
Understands major political, legal, and cultural influences that affect managing in a global economy	Free trade laws			94
	Protectionism		84	
Mean			***89***	
Understands the forces/approaches influencing ethical judgments and conduct within organizations	Environmental policy		72	
	Ethical decisions		86	
Mean			***79***	
Understands the basic elements and the major behavior concepts/theories of the four functions of management: planning organizing, leading and controlling	Competitive strategies		78	
	Organizational behavior		88	
Mean			***83***	

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 90%	Good enough
90% or more	Very good

From Table 12, it appears that the students in this course are either “good enough” or “very good” in achieving the course learning goals. However, these results represent a pilot study of only 50 students in one section of this course. A larger sample size will be selected next fall across several sections of the course. The Management Department is currently working on refining the learning goals for this course. The revised learning goals and the results from a larger sample should provide a more comprehensive picture of student performance.

Business 301, Gateway Experience

Business 301 (BUS 301) is our "Gateway" course that prepares students for upper-division coursework in the College of Business and Economics. It is a required course for all business and accounting majors and must be taken prior to, or concurrently with, the student’s first upper-division business core classes. BUS 301 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 memorandums and letters.

Table 13 shows course learning goals, alignment with program learning goals, SKA, and student performance on various course assignments in BUS 301. These data were collected from eight sections of BUS 301 in the fall 2003 semester.

The scale in Table 14 was used to classify student performance on each learning goal. The oral communication measure is derived from a formal case presentation in the class. Students work in teams to develop and present a PowerPoint presentation. Each student must present a portion of the team presentation and is graded individually on her performance. Students are provided with the “Presentation Evaluation Form” shown in Figure 1, 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 Gateway course) is extremely important because it helps to identify the learning goals, SKA, and standards that will be used to grade students. Further, making SKA known to students by distribution of these grading forms helps students to understand exactly what is required to meet the course learning goals (e.g., to be a good presenter).

Table 13. Learning Goals for BUS 301, The Gateway Course

Course	Learning Goals	Linkage to Program Learning Goals	SKA	Measures		
				Not Good Enough	Good Enough	Very Good
BUS 301 (n = 234)	Oral Communication	-Effective Communication	Intro, platform skills, visual aids, clear communication, handling Q&A	4.3%	23.5%	72.2%
	Written Communication	-Effective Communication	Focus & audience, organization & flow, clarity & correctness of style, and presentation	5.5%	43.2%	51.3%
	Review and Integrate the Lower-division Core	-Critical thinking -Apply cross-functional and discipline-based knowledge	Understand and apply the top 10 concepts from 6 lower-division core classes	1.7%	55.9%	42.3%

Gateway instructors use this form to calculate student presentation grades but do not currently submit this information when turning in their course grades. The Gateway faculty do understand the need to breakout the SKA from this "Presentation Evaluation Form" and a large pilot section which will record and provide these data to the assessment director is being planned for the fall 2004 semester. By examining the total points for the presentation, we see that only 4.3% of the students fall into the category "not good enough." Without further information we cannot determine which SKA are driving the poor performance of these students. However, the online course evaluation that students complete at the end of each semester asks students to provide their views on whether the course was successful in meeting its learning goals. The fall 2003 responses to the course evaluation indicate that students believe the course helped improve their presentation skills. On a 1-5 Likert scale (5 being the highest), students gave the statement "this course helped me improve my oral communication skills" an average score of 4.63. (See Figure 2 and Table 15 for the course evaluation and student responses.)

A substantial number of Gateway students are successful in making formal, oral presentations as 72.2% fall into the category of "very good" while 23.5% 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 PowerPoint slides (worth 30 points out of 100).

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 written communication measure in Table 13 comes from an individual writing grade on the case analysis. Each team submits five 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 case. The content grade is the same for all individual team members but the writing grade is specific to the principal writer for a particular case. Students are provided with the ”Case Write Up Evaluation Form With Point Allocations” shown in Figure 3, which indicates how the total points are allocated to the various skills, knowledge, and abilities that are required for a writing assignment.

Figure 1. Presentation Evaluation Form

Presenters' Names / *Evaluation Criteria*	*Presenter*	*1*	*2*	*3*	*4*	*5*
	Total Points		**Points**	**Earned**		
1. Introduction 1.1. Introduced group/self 1.2. Outlined presentation 1.3. Set ground rules before starting 1.4. Made effort to connect with audience	10					
2. Platform skills 2.1. Was relaxed and comfortable 2.2. Dress and manner was professional 2.3. Not tied to podium 2.4. Projected voice and spoke clearly 2.5. Used pauses to underscore points 2.6. Did not use filler words 2.7. Made good use of non-verbal cues (eye contact, gestures, voice inflection) 2.8. Kept audience involved, checked for understanding	20					
3. Visual aids* 3.1. All major points covered are on overhead 3.2. Appropriate for nature of presentation 3.3. Content crisp, brief & uncluttered 3.4. Readable font size/colors (No eye charts) 3.5. Good use of colors and animation *(All team members get the same grade)	30					
4. Communication 4.1. Did not read from a script or notes 4.2. Provided clear explanation of materials 4.3. Explained flow charts and data tables 4.4. Presentation was well organized	30					
5. Handling of Q&A 5.1. Listened to questions carefully 5.2. Responded directly to question asked 5.3. Answered questions without defensiveness	10					
TOTAL *Grade each presenter out of 100.	**100**					

Figure 2. Gateway Course Evaluation for fall 2003

This instrument is designed to evaluate the Gateway course. Your responses are completely confidential and will be used to improve the course. Use the scale provided to indicate your agreement or disagreement with each of the following statements.

Strongly Agree 5	4	3	2	Strongly Disagree 1
1. The course helped me improve my teamwork skills.				
2. The course helped me improve my writing skills.				
3. The course helped me improve my oral communication skills.				
4. The case analysis helped me review and integrate the Lower Division Core concepts.				
5. The course helped me learn to do case analysis.				
6. The course provided me with a basic understanding of Strategic Thinking.				
7. I have made personal connections to students in the Gateway course.				
8. I have made connections to faculty in the Gateway course.				
9. The class website provides helpful information about the Gateway course.				
10. Please describe which of the assignments (e.g., case analysis, team building exercises, COBAE infomercial, term project, etc.) you found *most* valuable, and why.				
11. Please describe which of the assignments (e.g., case analysis, team building exercises, COBAE infomercial, term project, etc.) you found the *least* valuable, and why.				
12. Finally, we would greatly appreciate your *constructive* suggestions on how to improve the course. Please describe those suggestions in this space.				

Gateway instructors use this form to calculate writing grades but do not currently submit this information when turning in their course grades. The Gateway faculty do understand the need to breakout the SKA from this form and a large pilot section which will record and provide these data to the assessment director is being planned for the fall 2004 semester. By examining the total points for the writing grade, we see that only 5.5% of the students fall into the category "not good enough." Without further information we cannot determine which SKA are driving the poor performance of these students. It is noteworthy that student responses to the statement "the course helped me improve my writing skills" was relatively low – an average of 4.23 -- in comparison to their rankings of other course goals. (See Table 15).

However, we can say that a substantial number of students are successful in creating clearly written case analysis as 51.3% fall into the category of "very good" while 43.2% are deemed "good enough." These results may indicate that our students have largely mastered the skills required for producing clear written assignments. However, working in teams could hide the performance of weaker students. A principal author receives written work from team members and then assembles and edits their team's answers to case questions. The Gateway instructors recognize that this is a problem and are working to create individual writing assignments that do not involve the work of other team members.

The learning goal entitled "review and integrate the lower-division core" in Table 13 comes from the content grade on the case analysis. As mentioned previously, each team submits five business cases that are designed to review and integrate concepts from the lower-division core. The teams receive a content grade and a writing grade for each case. The content grade is the same for all individual team members but the writing grade is specific to the principal writer for a particular case. Student performance (or "measures") in Table 13 is determined by the average content grade on the five cases. Students are asked to follow some general guidelines when answering the case questions. Figure 4 contains the guidelines in the form entitled "Grading Critical Thinking & Problem Solving."

Table 15. Student Responses to Course Evaluation, fall 2003 semester

Course	***Course Evaluation Statement***	***Mean score***
BUS 301 (N = 371)* *Note: 74% of students	1. Improve Teamwork Skills	4.73
	2. Improve Writing Skills	4.23
	3. Improve Oral Communication Skills	4.63
	4. Review LDC	4.70
	5. Learn Case Analysis	4.69
	6. Strategic Thinking	4.45
	7. Connections to Students	4.75
	8. Connections to Faculty	4.00
	9. Class website is Helpful	4.62

Figure 3. CASE WRITE UP EVALUATION FORM WITH POINT ALLOCATIONS

All written cases must be submitted in the proper form specified at the end of the case -- for example: letter, short memo, long memo or short business report. The length depends upon the nature of the assignment. Each paper must identify the principal "writer" and the principal "editor" for that case. This role should be rotated on each team assignment so everyone gets to write and to edit.

1. Focus & Audience

1.1. The intended *audience* of the analysis is clearly identified (it is definitely **not the teacher)**.
1.2. The writing is clear about the *author's role* or rhetorical stance (analyst, consultant, etc.).
1.3. The main *issues* or the *purposes* of the writing are clearly identified before presenting the analysis.
1.4. The most important *ideas* or *conclusions* are up front and clear (i.e. "headlines are first!").
1.5. The writing is *focused* on the relevant issues identified and does not stray from the subject.
1.6. The writing style is appropriate for the intended audience (not too technical or patronizing).

2. Organization and Flow

2.1. Ideas *flow* logically between paragraphs and sentences.
2.2. Each paragraph starts with a clear *topical sentence*.
2.3. Sentences and *paragraphs are short*.
2.4. Sections and subsection *headings* have been used to break up long bodies of text.
2.5. Relevant *facts* (accounting reports, statistics, other data . . .) support the analysis, decisions and recommendations.
2.6. The writing clearly differentiates when an argument is based on *facts*, when the author is making an *assumption*, and when they are stating an *opinion*.
2.7. No use of circular or tautological reasoning. **(Example of circular reasoning: An activity based costing system is better than a traditional cost system because it uses activities).**
2.8. Provide reasons for positions taken instead of assertions. **(Example of an assertion: An activity based costing system is better than a traditional cost system because it provides true costs).**
2.9. Statements do not confuse correlation with causation. **(Example of spurious causation: Blue eyes cause skin cancer).**

3. Clarity, Correctness and Conciseness of Style

3.1. Written in a style that is *understandable* by a manager. (That is, proper business English without excessive *jargon*, *slang* words, or *colloquial* phrases.)
3.2. The length is right -- not too long to lose a busy manager's attention and not too short to omit critical information the manager needs to understand the analysis.
3.3. Uses active rather than passive voice.
3.4. The sentences are short and declarative. No vague and general statements.
3.5. The writing is grammatically correct; automatic *grammar* and *spell* check features have been used.
3.6. Sentences are not "wordy" (use of many words when few or one may be enough) or "awkward".
3.7. Sentences use the "best" or "appropriate" word to convey an idea or an issue. (e.g. without thrift action as opposed to swift action).

4. Presentation

4.1. Typed on a word processor with standard 1" margins on all four sides.
4.2. Typed in a professional font, such as Times Roman or Arial, and not fancy fonts such as Marigold.
4.3. Proper spacing between lines and new paragraphs is used so the document is easy to read.
4.4. Graphics and spreadsheets are incorporated in the document.
4.5. All exhibits/tables are numbered and labeled. Column headings aligned with data and a consistent format is employed throughout the document.
4.6. Narrative guides readers through the content of tables and exhibits.
4.7. Tables are not split tables across pages.
4.8. Document does not contain obvious typos and pages have been numbered.
4.9. The finished product is stapled or clipped neatly.

Figure 4. GRADING CRITICAL THINKING & PROBLEM SOLVING

There will be five cases analyzed, written up and presented by student teams. To receive a passing grade, a student's case analysis must demonstrate the following criteria:

- Generate a clear and unbiased question or state a problem.
- Clarify key ideas about the topic and use these concepts correctly.
- Approach the problem or question from a strategic organizational perspective.
- Use an interdisciplinary approach to address the question or problem.
- Evaluate information relevant to the generated question including separating advocacy statements from fact.
- Develop a logical line of reasoning to explain conclusions, consider alternative conclusions/solutions, and identify inconsistencies in reasoning.
- Make a clear decision, reach an opinion, solve a problem, or identify what information or assumptions are necessary to solve the problem.
- Present the problem and findings in a way that addresses the original problem and issues.
- Display sensitivity to alternative points of view or lines of reasoning; identify objections to line of reasoning pursued.

Gateway instructors do not currently submit detailed information about the case content grades when turning in their course grades. The Gateway faculty do understand the need to breakout the SKA for each learning goal and are now discussing what additional information should be collected and provided to the assessment director. By examining the total points for the content grade, we see that only 1.7% of the students fall into the category "not good enough." Without further information we cannot determine which SKA are driving the poor performance of these students. However, we can say that a substantial number of students are successful in producing good case analysis as 42.3% fall into the category of "very good" while 55.9% are deemed "good enough." These results may indicate that our students have largely mastered the skills required for good case analysis. Alternatively, working in teams could hide the performance of weaker students. The Gateway instructors recognize that this is a problem and are working to create more individual assignments that do not involve the work of other team members.

Student responses to the course evaluation indicate that the case analysis is a success. Roughly 67% of the students answered that the case analysis was the most valuable assignment in the course (i.e., question 10 in Figure 2). Student responses to the statement "the course helped me learn to do case analysis" was relatively high –an average of 4.69 - in comparison to their rankings of other course goals. (See Table 15.) Moreover, student responses to the statement “the case analysis helped me review and integrate the Lower Division Core concepts” was also high with an average of 4.70 out of 5.

The Gateway course 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 three sections of BUS 301 in the fall 2003 semester are summarized in Table 16. The scale for the LDC exams is shown in Table 17.

Table 16. Lower-division Exam Results

Course	***Lower-division Exam***	***Not Good Enough***	***Good Enough***	***Very Good***	***Mean score***
BUS 301 (N = 92)	Financial Accounting	1.0%	67.4%	31.5%	10.6
	Managerial Accounting	5.4%	69.6%	25.0%	10.3
	Business Law	2.2%	50.0%	47.8%	11.2
	Microeconomics	5.4%	75.0%	19.6%	10.1
	Macroeconomics	6.5%	61.9%	31.5%	10.3
	Statistics	11.9%	67.4%	20.7%	9.6

The scores in Table 16 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 similar across the LDC exams – between 9.6 in statistics and 11.2 in business law. However, there are some noteworthy differences when viewing the three performance categories. Only 1.0% of the students are deemed “not good enough” in financial accounting, which suggests that students have minimum proficiency in the subject. The findings also suggest that students have largely mastered the topics covered in business law. Only 2.2% of the students earn scores that are "not good enough" while 47.8% are "very good." By contrast, 11.9% of students do not pass the statistics exam after three takes and are categorized as "not good enough." And only 20.7% are deemed "very good" in statistics. This suggests that students are having a difficult time with this subject area. 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 lower-division statistics course and providing additional review materials to Gateway students.

Table 17. Scale for the LDC Exams

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

The assessment director has designed an extensive online survey that indicates where each student took her lower-division core class. This information will be collected and merged with extensive exam data that shows individual student performance on each of the top ten topics in the six core subjects. Survey and exam data will be collected during the spring 2005 semester in *all* Gateway sections. Such information will allow us to provide important feedback to instructors that teach lower-division courses at COBAE and, especially, local feeder schools, since nearly two-thirds of our students come from community colleges. For example, we may find that Santa Monica Community College students score well on questions that cover demand elasticity but do poorly on questions that cover linear regression. Timely feedback to lower-division core instructors will allow them to change the topic coverage in their courses. If we find that very few students who completed their business law course at COBAE missed exam questions covering product liability law, then our business law instructors may decide to allocate less class time to the topic.

Accounting 351, Intermediate Financial Accounting II

This course is required for the B.S. in Accountancy. The elements of critical thinking (A-C), their corresponding (numbered) skills, knowledge, and abilities, and the embedded measures obtained from 42 randomly selected students in two sections of ACCT 351 are shown in Table 18.

The accounting faculty selected the 351 class for embedded assessment because it is the first required course where students learn accounting from a professional preparer's viewpoint. Additionally, students who enroll into ACCT 351 must also concurrently enroll into ACCT 351 COM –communications for accounting. The two courses share common assignments so it is possible to assess multiple student skills (e.g., critical thinking, research, and written communication) in a single assignment.

The instruments used to produce the embedded measures were two cases from *Trueblood Case Series* –"Hope for the Terminally Ill" and "Exercise Your Option." These are difficult case scenarios developed by Deloitte to teach accountants to research and use judgment in accounting. The students completed five different cases using the rubric in Table 18. These cases comprised approximately 15% (40%) of the 351 (351 COM) course grade. However, only two cases were analyzed for assessment purposes. Given the time required to collect and analyze this detailed grading rubric, the results in Table 18 reflect a random sample of 42 students.

Table 18. Grading Rubric for Critical Thinking in ACCT 351 Cases

Elements of Critical Thinking and Corresponding (numbered) SKA	***Measures***			
	Excellent	Average	Below Average	Not at all
A. Reason logically and clearly:				
1. Clearly summarize the case facts.	69%	26%	5%	0%
2. Identify the transaction or accounting issue on which the audience needs assistance.	98%	2%	0%	0%
3. Understand the audience's purpose for the transaction.	24%	31%	7%	38%
4. Clearly state the accounting concepts or issues that are involved.	95%	5%	0%	0%
5. Research and summarize the appropriate accounting literature (provide citation).	76%	17%	5%	2%
B. Understand multiple perspectives:				
1. Analyze how the literature applies to the transaction/issue and identify alternative ways of treating the issue.	43%	33%	21%	3%
2. Understand the implications of <u>each</u> potential treatment by providing journal entries, calculations of accounting elements, footnote disclosures, etc. as appropriate.	N/A	N/A	N/A	N/A
3. Be sensitive to how these treatments accomplish the audience's goals and how they will affect others who rely on financial statements.	N/A	N/A	N/A	N/A
C. Evaluate alternative treatments:				
1. Select the treatment that, in your opinion, should be followed.	76%	9%	12%	3%
2. Express the criteria that guided your decision. (E.g. this treatment complies with the accounting profession's concept that revenue should be recognized when realized and earned and therefore will increase the public's confidence in your financial statements.)	57%	31%	9%	3%
3. State recommendations for accounting journal entries, calculations and disclosures clearly.	67%	12%	17%	4%

Table 18 evaluates the learning goal of critical thinking in the 351 course. Critical thinking requires students to reason logically and clearly, understand multiple perspectives, and evaluate alternative treatments (A-C). The numbered items under each element of critical thinking (A-C) are the skills that students must learn to develop critical thinking.

The data were analyzed by taking the percent of students who fell into one of four categories –"excellent," "average," "below average," or "not at all." For example, row A.1. indicates that 69% of the students received a rating of excellent on the skill "clearly summarize the case facts," while 26% were average, and 5% were below average.

The findings indicate that students have a difficult time understanding the client's purpose for the transaction at this stage in their study of accounting. Roughly 38% of the students fell into the category "not at all" on item A.3. Students are introduced to the theme of earnings management in ACCT 351. Prior to this course, students believe that accounting is "black and white", a set of rules, and thereby do not appreciate how management plans transactions to achieve their earnings goals. Management can mask the transaction's purpose with descriptions that fit the accounting literature. Students are just being exposed to the idea that they must thoroughly understand the business purpose of the transaction, and always be aware that management may manage earnings. This skill should develop by the time students complete their program.

Given this finding, the faculty teaching 351 can spend more time covering the client's purpose for the transaction. For example, the instructor who was involved in this assessment pilot has prepared an extensive set of PowerPoint slides on earnings management and devotes additional class time to the topic.

The findings also suggest that students have difficulty understanding the literature as 24% were deemed "below average" or "not at all" on item B.1. The instructor involved in this pilot now has students read their research aloud followed by a class discussion of its meaning.

In addition, students appear to have some difficulty in making recommendations for accounting journal entries (item C.3.). Approximately 21% fell into the categories "below average" or "not at all." This was a genuine surprise to the (pilot) instructor who assumed this was the simplest part of the case. Upon greater reflection, the instructor realized that she spent no class time on journal entries when reviewing a case. The instructor now places the journal entries on the board during the case reviews.

The findings suggest two areas where the ACCT 351 students shine –items A.2. and A.4. Almost all of the students (98% and 95% respectively) are excellent in identifying the transaction or accounting issue *and* clearly stating the accounting concepts or issues involved.

Table 19 presents the overall score for the critical thinking grading rubric in Table 18. Students can earn a maximum score of 3 points on each of the numbered skills in Table 18. Given nine relevant skills (i.e., items B.2. and B.3.

are excluded), students can earn a maximum total score of 27 (9 x 3) points on a particular case. For example, a score of 20 out of 27 places a student in the "good enough" category. The last column in Table 19 shows the percentage of students in one of three categories – "very good," "good enough," or "not good enough." Only 14.3% of the students were "not good enough" in demonstrating critical thinking on ACCT 351 cases.

Since 351 is the students' first exposure to critical thinking in accounting, it is difficult to determine what constitutes "good enough" performance. The scale in Table 19 is still being developed. The Accounting Department must decide where students should be in their skills development in ACCT 351 versus in ACCT 460 (Auditing) which is the final assessment point for senior-level students.

The Accounting Department meets twice a year to discuss assessment findings. In addition, faculty who teach 351 have met separately to review these embedded findings and to discuss possible course improvements. The 351 subgroup also met with faculty who teach ACCT 352 (intermediate financial accounting III) to convey lessons learned from this assessment process.

Table 19. Students' Overall Performance on Critical Thinking Rubric

Overall Performance on Grading Rubric	Outcome	Students in each Performance Category
24 – 27 points	Very Good	50.0%
18 – 23	Good Enough	35.7%
Below 18	Not Good Enough	14.3%

The instructor involved in this pilot was impressed by how much she learned about student performance. However, she was concerned with the cost of collecting the data. The Accounting Department is working on assessment strategies that will allow faculty to gather important data on student learning while not overburdening the faculty with data collection and analysis.