ACADEMIC PROGRAM ASSESSMENT OF STUDENT LEARNING

Phase 2 Report, 2009-10

College: BUSINESS
Department: FINANCE
Program: FINANCE MAJOR
Degree Granted: BACHELOR OF BUSINESS ADMINISTRATION

If multiple programs are included, please list additional programs here (graduate & undergraduate must be separate):
N/A

Check one: Undergraduate X  Graduate -None

Person Completing Report: Lizbeth G. Ellis, Dept. Head  Office Phone: 646-3201
Title: Department Head  E-Mail: lellis@nmsu.edu

Department Head (if different from person completing report) SAME AS ABOVE

Check one: Fall Implementation Schedule: XX  Spring Implementation Schedule:

External Accrediting Agency (if applicable: AACS) (programmatic assessment of degree rather than by major)

Date of last accreditation site visit: Spring 2003  Date of next accreditation site visit: 2012-2013

RUBRIC ATTACHED AS APPENDIX A.

DIRECT STUDENT LEARNING OUTCOME: Students can use the net present value method to determine profitability, decide whether to accept or reject a proposed project, and provide a rationale for the decision.

COMPONENTS OF THE OUTCOME:

1. Students can translate the verbal or written assertions and apply appropriate procedures. This includes development of appropriate mathematical expressions with clearly defined variables and/or units. An appropriate model of quantitative analysis is chosen.

2. Students can analyze the problem and determine the correct value. This involves accurately interpreting the quantitative data, completing the analysis to arrive at the correct result and correctly interpreting the result.

3. Students can effectively communicate the results of the analysis. This includes accurate use of quantitative data to support conclusions and recognition of extensions of the problem or conclusion. Recommendations are organized in a coherent logical manner.

ASSESSMENT DATA:

When did the assessment take place?
Fall 2009

How many students participated in the assessment process?
35 Finance Majors (100% of Finance Majors enrolled in and completing Finance 341)

Please report student performance scores:
See attachment labeled Appendix B.

What percentage of students obtained the desired level of performance?
100% of assessed finance majors met or exceeded the overall desired performance standard, although several students did not meet the standard with respect to specific performance criteria.

**Does the percentage of students who obtained the desired level of performance meet the program’s stated benchmark?** yes

**INTERPRETATION:**

*Discuss how the data provides evidence that the desired level of performance on the stated learning outcome is or is not being achieved by students.*

Calculating and using net present value (using a given cost of capital) is one of the most fundamental skills that a finance major should be expected to master. Using 3 specific performance criteria, our assessment was designed to determine whether our students can (1) take a specific verbal problem with quantitative data, (2) analyze that problem by accurately calculating net present value and then (3) explain the logical consequences (or decision to be made) from the net present value computation. The data suggests that in their first finance course, almost all students are mastering this particular skill.

*Discuss how the data provides meaningful information/evidence to the program that can be used in decision-making and structuring of future learning opportunities.*

Since this was our first detailed assessment of student learning with respect to a particular financial tool, we started with one of the most basic fundamental skills and found that students are, for the most part, mastering this skill in their first finance class. The knowledge will allow us to begin teaching other tools of financial analysis in the subsequent finance courses with some degree of confidence that the first building block – net present value – has been mastered.

In addition to the assessment with respect to this single direct student learning outcome, we conducted a general knowledge skills assessment in Finance 341 using a multiple choice instrument. (Data in Appendix C) From this, we found that student outcomes were the lowest in distinguishing between various types of risk and calculating required returns given appropriate risk measures. Based on this, we decided to conduct a more comprehensive assessment of student outcomes on this learning objective in Finance 355 in the Fall of 2010.

**FACULTY DISCUSSION & IMPACT:**

*When did your faculty have a discussion about the results of your assessment?*

We held a meeting on March 1, 2010 to discuss the assessment results. A packet of information including the Fall 2009 data from our three assessment initiatives

*What issues did your faculty discuss in relation to the results of your assessment?*

Given the 100% success rate, the faculty questioned the validity of the assessment and whether it was meaningful to the course. The consensus was that the assessment problem was a good one and that while it was not the most difficult problem imaginable, it was highly unlikely that a student could have analyzed and solved the problem correctly before taking the course. However, because this particular financial tool is such an essential building block, virtually all faculty make substantial effort to ensure that students acquire this skill in their very first finance course. The assessment validates that we are not only making the effort but are having success.

Another question was whether we could draw a meaningful conclusion based on a single semester’s data. The general view was that because the success rate was so very high, even if this was an unusually good semester, it was unlikely that additional semester’s data would show any real deficiency with respect to this particular learning outcome. Nonetheless, it was decided that this same assessment would be continued in the Spring 2010, Fall 2010 and Spring 2011 semester to provide additional validation.

*Did the data you collected really answer the question you had about the intended outcome? If not, why?*
Yes, we believe so. However, to increase our comfort level with the reliability, we will continue this assessment for at least 3 additional semesters.

**IF data indicates a need for increased learning of the intended outcome, what steps will be taken by the program to foster increased learning of the outcome?** Not applicable

**If interventions are implemented, when will you reassess this outcome to determine whether or not interventions were effective?** Not applicable

**IF data indicates students are achieving the desired performance level on the intended outcome, is there anything that the program learned about the intended outcome? Will any changes be made?**

Yes, we verified what we intuitively believed to be true – that our students are mastering this basic skill in their first finance course. With this knowledge, we can be more effective and efficient in subsequent finance courses by quickly proceeding into more complex net present value problems and utilizing less time for review of this skill in its basic form.

**ASSESSMENT PROCESS:**

**How effective was your assessment process?**

The process seemed to work very well.

**How will what you found this year affect what you do in assessment next year?**

As noted previously, in addition to the single directed learning outcome to which this report relates, conducted a general knowledge and skills assessment covering 5 learning objectives using 10 multiple choice questions. From this additional assessment, we found that finance majors are not meeting our performance target with respect to outcome D: “Students can distinguish between various types of risk and calculate required returns given appropriate risk measures.” (Finance majors were successful in demonstrating knowledge and skills on this topic only 64% of the time.) Based on this information we will take two steps to improve learning outcomes. First, Finance 341 instructors will be asked to increase coverage of this topic (essentially increased “time on task”). Second, the instructors who teach Finance 355 will develop another assessment instrument and rubric relating to this particular outcome to be implemented Fall 2010. By conducting the assessment in a higher level course for which FIN 341 is a prerequisite, we hope we can determine whether students who did not meet the performance target in their first finance class acquire the knowledge and skills to perform at a higher level in the subsequent course.

**How have your assessment findings been communicated to the students in your program?**

An email will be sent to all Finance Majors on or before March 12, 2010 with links to the Finance Learning Outcomes page where links to the OAC Phase Reports and the Outcomes Data, along with some general background information is located.

**Are your assessment Phase Reports or another form of reporting on your assessment activities available to your constituents? How?**

Yes, this documentation will is available via our website as of March 8, 2010

**If on the internet, please provide website:**

The web page has been created: [http://business.nmsu.edu/academics/finance/learning-outcomes/](http://business.nmsu.edu/academics/finance/learning-outcomes/). A link to this report will be added to this page (which already contains the 2009 Phase One report) and available for viewing by March 12, 2010.
# Quantitative Problem-Solving Assessment Rubric (Fall 2009)

General Achievement: Quantitative Reasoning is the ability to translate verbal or written assertions into quantitative data, read and analyze quantitative data, use models, interpret quantitative data, translate quantitative evidence and reasoning back to verbal or written assertions and support conclusions.

<table>
<thead>
<tr>
<th>Specified Achievements</th>
<th>3: Exceeds Standards</th>
<th>2: Meets Standards</th>
<th>1: Fails to Meet Standards</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Translates verbal or written assertions and applies appropriate procedures</td>
<td>Student develops appropriate mathematical expressions and/or operational definitions from verbal or written assertions with clearly defined variables and/or units. Student chooses and properly applies one or more methods/models of quantitative analysis with no errors.</td>
<td>Student develops mathematical expressions and/or operational definitions from verbal or written assertions with few or minor errors. Student chooses and properly applies a method/model of quantitative analysis with few errors.</td>
<td>Student develops mathematical expressions and/or operational definitions from verbal or written assertions with significant errors. Student exhibits ability to differentiate between qualitative and quantitative data. Applies inappropriate procedure. No approach taken or approach was unclear.</td>
<td>3 2 1</td>
</tr>
<tr>
<td>Analyzes the problem and determines the correct value</td>
<td>Student accurately interprets the quantitative data with no errors. Analysis is complete showing the correct results of the calculation; interpretation of results obtained is logical, correct and explained clearly.</td>
<td>Student interprets the quantitative data with few data errors. Analysis is incomplete or incorrect due to minor errors in the interpretation of results.</td>
<td>Analysis is incomplete or incorrect due to major errors in the interpretation of results. An analysis of results was not attempted or impossible to follow.</td>
<td>3 2 1</td>
</tr>
<tr>
<td>Communicates the results</td>
<td>Student accurately uses quantitative data to support conclusions and recognizes extensions of the problem and/or conclusion. Recommendations are consistent with the results obtained. Results and recommendations are presented in a coherent and logical manner with complete sentences; appropriate grammar, spelling and/or use of quantitative data.</td>
<td>Recommendations are understandable but not always consistent with the results obtained. There are minor problems with organization, composition, and/or use of quantitative data.</td>
<td>Student uses no quantitative data to support their conclusion. Recommendations are inconsistent with the results obtained and poorly communicated.</td>
<td>3 2 1</td>
</tr>
</tbody>
</table>

**Scoring Key:**
- Exceeds standards: 8-9
- Meets Standards: 5-7
- Fails to meet Standards: <=4

**Standard:** 75% or more of the students meets or exceeds standard.
APPENDIX B: Assessment Outcomes Data - Fall 2009 - Finance Majors
(Problem-Solving Portion - FIN 341)

**Financial Problem-Solving: Net Present Value**

**Learning Outcome:** Students can use the net present value method to determine profitability, decide whether to accept or reject a proposed project, and provide a rationale for the decision.

**Target:** 75% or more of the students meets or exceeds standard.

**Methodology:** Problem embedded in exams in all sections of Finance 341. A total of 35 Finance Majors participated in the assessment (100% of enrolled finance majors who took the exam).

<table>
<thead>
<tr>
<th>Specified Achievements</th>
<th>3: Exceeds Standards</th>
<th>2: Meets Standards</th>
<th>1: Fails to Meet Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Translates verbal or written assertions and applies appropriate procedures</td>
<td>Student develops appropriate mathematical expressions and/or operational definitions from verbal or written assertions with clearly defined variables and/or units. Student chooses and properly applies one or more methods/models of quantitative analysis with no errors.</td>
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<td>Student develops mathematical expressions and/or operational definitions from verbal or written assertions with significant errors. Student exhibits ability to differentiate between qualitative and quantitative data. Applies inappropriate procedure. No approach taken or approach was unclear.</td>
</tr>
<tr>
<td></td>
<td>33 students = 94%</td>
<td>2 students = 6%</td>
<td>0 students = 0%</td>
</tr>
<tr>
<td>Analyzes the problem and determines the correct value</td>
<td>Student accurately interprets the quantitative data with no errors. Analysis is complete showing the correct results of the calculation; interpretation of results obtained is logical, correct and explained clearly.</td>
<td>Student interprets the quantitative data with few data errors. Analysis is incomplete or incorrect due to minor errors in the interpretation of results.</td>
<td>Analysis is incomplete or incorrect due to major errors in the interpretation of results. An analysis of results was not attempted or impossible to follow.</td>
</tr>
<tr>
<td></td>
<td>31 students = 89%</td>
<td>3 students – 8%</td>
<td>1 student = 3%</td>
</tr>
<tr>
<td>Communicates the results</td>
<td>Student accurately uses quantitative data to support conclusions and recognizes extensions of the problem and/or conclusion. Recommendations are consistent with the results obtained. Results and recommendations are presented in a coherent and logical manner with complete sentences; appropriate grammar, spelling and/or use of quantitative data.</td>
<td>Recommendations are understandable but not always consistent with the results obtained. There are minor problems with organization, composition, and/or use of quantitative data.</td>
<td>Student uses no quantitative data to support their conclusion. Recommendations are inconsistent with the results obtained and poorly communicated.</td>
</tr>
<tr>
<td></td>
<td>28 students = 80%</td>
<td>5 students = 14%</td>
<td>2 students = 6%</td>
</tr>
<tr>
<td><strong>OVERALL</strong></td>
<td>86% (8-9 total score) = 30 students</td>
<td>14% (5-7 total score) = 5 students</td>
<td>0% (total score &lt;=4) = 0 students</td>
</tr>
</tbody>
</table>
APPENDIX C: Assessment Outcomes Data - Fall 2009 - FIN 341 (Objective Portion)

Learning Outcome: Students demonstrate foundational knowledge and skills in the field of finance.

Performance Criteria (Components):
A. Students can identify bond risk characteristics and calculate bond values.
B. Students can calculate stock values.
C. Students can solve time value of money problems.
D. Students can distinguish between various types of risk and calculate required returns given appropriate risk measures.
E. Students can calculate costs of capital or solve capital budgeting problems using the cost of capital.

Methodology:
Course-embedded assessment occurred in all 5 sections of FIN 341 offered Fall 341 with an attempt to assess 100% of all business students and finance majors enrolled in this course. Data was collected from 208 business students, among which were 32 Finance Majors, and 57 non-business students. Two multiple choice questions were used for each of the performance criteria for a total of 10 questions.

Results:

<table>
<thead>
<tr>
<th>Performance Criteria</th>
<th># correct Finance</th>
<th># correct Business</th>
<th># correct non-Business</th>
<th>% Correct Finance</th>
<th>% Correct Business</th>
<th>% Correct Non-Business</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.1</td>
<td>28</td>
<td>175</td>
<td>41</td>
<td>88%</td>
<td>84%</td>
<td>72%</td>
</tr>
<tr>
<td>A.2</td>
<td>28</td>
<td>186</td>
<td>42</td>
<td>88%</td>
<td>90%</td>
<td>74%</td>
</tr>
<tr>
<td>A. Averaged</td>
<td></td>
<td></td>
<td></td>
<td><strong>88%</strong></td>
<td><strong>87%</strong></td>
<td><strong>73%</strong></td>
</tr>
<tr>
<td>B.3</td>
<td>30</td>
<td>192</td>
<td>47</td>
<td>94%</td>
<td>92%</td>
<td>82%</td>
</tr>
<tr>
<td>B.4</td>
<td>29</td>
<td>194</td>
<td>52</td>
<td>91%</td>
<td>93%</td>
<td>91%</td>
</tr>
<tr>
<td>B. Averaged</td>
<td></td>
<td></td>
<td></td>
<td><strong>92%</strong></td>
<td><strong>93%</strong></td>
<td><strong>87%</strong></td>
</tr>
<tr>
<td>C.5</td>
<td>32</td>
<td>209</td>
<td>49</td>
<td>100%</td>
<td>100%</td>
<td>86%</td>
</tr>
<tr>
<td>C.6</td>
<td>30</td>
<td>184</td>
<td>50</td>
<td>94%</td>
<td>88%</td>
<td>88%</td>
</tr>
<tr>
<td>C. Averaged</td>
<td></td>
<td></td>
<td></td>
<td><strong>97%</strong></td>
<td><strong>94%</strong></td>
<td><strong>87%</strong></td>
</tr>
<tr>
<td>D.7</td>
<td>21</td>
<td>152</td>
<td>36</td>
<td>66%</td>
<td>73%</td>
<td>63%</td>
</tr>
<tr>
<td>D.8</td>
<td>20</td>
<td>154</td>
<td>37</td>
<td>63%</td>
<td>74%</td>
<td>65%</td>
</tr>
<tr>
<td>D. Averaged</td>
<td></td>
<td></td>
<td></td>
<td><strong>64%</strong></td>
<td><strong>74%</strong></td>
<td><strong>64%</strong></td>
</tr>
<tr>
<td>E.9</td>
<td>23</td>
<td>162</td>
<td>37</td>
<td>72%</td>
<td>78%</td>
<td>65%</td>
</tr>
<tr>
<td>E.10</td>
<td>27</td>
<td>165</td>
<td>38</td>
<td>84%</td>
<td>79%</td>
<td>67%</td>
</tr>
<tr>
<td>E. Averaged</td>
<td></td>
<td></td>
<td></td>
<td><strong>78%</strong></td>
<td><strong>79%</strong></td>
<td><strong>66%</strong></td>
</tr>
</tbody>
</table>