IMPROVING THE ALIGNMENT BETWEEN AN INTEGRATIVE BUSINESS SIMULATION AND A CHANGING MBA CURRICULUM – PART 4

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Abstract

This paper is part four of a series of papers discussing how to better align an integrative business simulation with an evolving MBA curriculum. The curriculum is dynamic and has been changed to an MBA with concentrations. In the previous studies (Parts 1, 2, and 3), the authors have: 1. Identified and aligned the major concepts required for the Capstone Business Simulation and the content of a changing MBA program. 2. Identified concepts necessary for the effective participation in the simulation that need instructional improvement in the MBA curriculum. 3. Compared MBA team scores from the simulation with computer team scores to assess performance and identify areas for improvement in the curriculum.

Specifically, this paper will examine how the three authors, who are members of the College of Management and Business at National-Louis University (NLU), are using information from their previous studies (Parts 1, 2, and 3) to assess and improve the MBA program. The goal of this paper is to provide ideas and methods and for other users of simulations and case studies to engage in similar evaluative and curriculum improvement efforts. The initial results of this study were presented at the 2004 WACRA conference in Buenos Aires. The part two results were presented at the 2005 WACRA conference in Brno, Czech Republic. Part three results were presented at the 2006 WACRA conference in Brisbane, Australia.

KEYWORDS: Strategic management, MBA, evaluation, assessment, business simulation

INTRODUCTION

The College of Management and Business, National Louis University, developed an MBA program in 1999. The program’s design is based upon NLU’s experience in using adult learning principles that appeal to and meet the needs of adult students. The program currently consists of twelve courses taught in a cohort model. The program has undergone extensive review and revision since its inception as detailed in previous WACRA presentations including a report presented at the 2005 WACRA conference in Brno, Czech Republic [Weis and Schreder, 2005]. One of the key focuses of the program is the hands-on application of learning. For this reason, a business simulation, Capstone (by Management Simulations of Northfield, Illinois), was selected for the program. The simulation is Web-based and is designed to be an integrative experience, combining the application of key MBA program concepts with strategic and operational decision-making. Classroom teams compete by running rival businesses for five to six sessions during the last course of the program, Strategic Management. Along with the classroom teams,
the simulation has provided the opportunity to use computer teams that are programmed to compete with the classroom teams. The use of the Capstone simulation has been found to be both beneficial and challenging to students. Student teams are required to apply previously learned business concepts from courses as disparate as Economics, Finance, Organizational Behavior, and Human Resources.

Student success in the simulation is considered to be a strong indicator of student success in the overall MBA program. Currently, the authors are comparing the scores of classroom teams as compared to computer teams to assess student performance and to identify areas for improvement in the curriculum. The methodology to revise a specific course(s) is explained in the next section.

**RESEARCH STEPS AND METHODOLOGY**

**RECAP OF PARTS 1, 2, 3**

The initial research results providing the basis of this study were presented in a series of three papers at previous WACRA conferences [Kerrigan and O'Neill, 2005] [O'Neill and Kerrigan, 2005] [O'Neill et al., 2006]. This research can be summarized as having:

- Identified and aligned the major concepts required for the Capstone Business Simulation and the content of a changing MBA program
- Identified concepts necessary for the effective participation in the simulation that need instructional improvement in the MBA curriculum
- Compared MBA team scores from the simulation with computer team scores to assess performance and identify areas for improvement in the curriculum.

Currently, information from an analysis of MBA team scores compared to computer team scores is being used to improve specific courses in the MBA program. The methodology being used is discussed next.

**ANALYSIS OF SIMULATION SCORES**

From an analysis of MBA team and computer team scores, there were four areas in which student teams had the lowest percentile scores compared to the computer teams:

- Market share
- Working capital
- Profits
- Customer satisfaction

In terms of the number of student teams that beat or equaled the average score of the computer teams, the two weakest areas as identified in Capstone Analyst Reports were financial structure (only one student team beat the computer team) and working capital (only two student teams beat the computer team). See attached “Exhibit 1” for a copy of the above referenced Analyst Report results from the previous paper in this series [O'Neill et al., 2006].

Based on this analysis, we determined that the area of working capital (since it fell into both of the “lowest” or “weakest” categories) would be a good initial area to work to improve. In addition, since the area of financial structure was both closely related to working capital and was the weakest in terms of the team results (as discussed above), we felt that financial structure should also be included in this initial effort.

Next, the authors examined the way that the scores for each of these areas were derived and determined that the relevant content for both of these areas is covered in one course in the MBA program: MBA 518 – Financial Management.

Our previous research identified a number of “Capstone concepts” in MBA 518 [Kerrigan and O'Neill, 2005]. They are:

- Financial Statements
- Working Capital
- Loans and Debt Management
- Financial Ratios
- Corporate Strategy on Wealth Distribution
Comparing the composition of the above Capstone Analyst Report areas to the concept list, there were two obvious concepts that needed to be improved in the teaching of MBA 518: “Financial Structure - Debt/Equity” and “Working Capital”. In addition, there were several other related concepts that also should be improved: “Financial Statements”; “Loans and Debt Management”; “Financial Ratios”; “Capital Acquisition”; “Credit Practices”; and “Cash Flow”. Each of these should be taught with stronger applications towards their use in improving an organization’s financial structure and its working capital.

COURSE IMPROVEMENT

We next set out to improve the course curriculum guide. An experienced MBA 518 course instructor was selected to redevelop the weak areas of the course. This instructor first became familiar with the Capstone simulation by reviewing participant guides, by participating in a “live” orientation to Capstone at the web site, by working through related tutorials, and by reviewing our analysis of the student Capstone teams. The instructor next worked with one of the authors to restructure the course curriculum guide and add several new exercises, all designed to strengthen needed aspects of the course.

We then scheduled a meeting with all instructors of the MBA 518 course. To prepare for the meeting, the instructors became familiar with Capstone in the same manner as had been done by the course developer. In the meeting, we briefly reviewed the Capstone framework, but spent most of our time on the new curriculum guide. The instructors compared ideas on how they were planning to use the guide to improve their teaching of the course. They even suggested some additional activities, which were subsequently added to the guide.

One of the suggested activities was to use a survey to assess the students’ knowledge of accounting. If the students had an inadequate knowledge of income statements, balance sheets, and cash flow statements, the instructor could then spend additional review time on these foundational items. The students would then be much better prepared to understand more complex concepts such as financial structure and working capital.

NEXT STEPS

Our next step will be to evaluate the Capstone scores for student teams that have completed the revised MBA 518 curriculum. We anticipate seeing a noticeable improvement in the relevant areas of the simulation.

Another possible step would be to systemically assess the student’s foundational accounting knowledge after completing the MBA 514 Managerial Accounting course. Students must have sufficient knowledge of managerial accounting concepts in order to fully understand concepts in the MBA 518 Financial Management course. It may be that that at some of the cause of the shortcomings identified in our study comes from the teaching of the MBA 514 course.

As part of overall university assessment efforts, the MBA program was recently chosen as a model in the university to showcase outcomes based assessment. The quantitative performance measures as provided by the Capstone Analyst Report and MBA program improvement measures now underway as described in this paper will assist in continuing assessment initiatives in the college and university.

ANTICIPATED IMPROVEMENTS ARISING FROM THIS STUDY

As a result of this ongoing evaluation, the following improvements are expected to be made in the MBA Program generally, and the Capstone simulation specifically:

1. The MBA curriculum will be more complete and cohesive.
2. The MBA curriculum will better identify and teach the required simulation skills.
3. The College of Management and Business will be better able to assess student and program performance.
4. Students will be better prepared for the MBA program and simulation.
5. Students will be better able to transfer learning derived from the simulation to their own organizations.

CONCLUSION

This paper demonstrates how data derived from an integrative business simulation can be used to improve an evolving MBA curriculum. The authors hope that the methodology and processes used in this evaluation/development effort will assist other course developers and instructors faced with similar curricular challenges.

REFERENCES


# APPENDIX 1

## Student Teams versus Computer Teams

<table>
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<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Average score - class teams</td>
<td>207</td>
<td>328</td>
<td>511</td>
<td>317</td>
<td>236</td>
<td>174</td>
<td>42</td>
<td>374</td>
<td>392</td>
<td>434</td>
<td>3016</td>
</tr>
<tr>
<td>Highest score - class Teams(^1)</td>
<td>389</td>
<td>572</td>
<td>600</td>
<td>500</td>
<td>600</td>
<td>395</td>
<td>230</td>
<td>574</td>
<td>550</td>
<td>600</td>
<td>4284</td>
</tr>
<tr>
<td>Lowest score - class teams</td>
<td>52</td>
<td>8</td>
<td>250</td>
<td>100</td>
<td>0</td>
<td>20</td>
<td>0</td>
<td>183</td>
<td>100</td>
<td>71</td>
<td>905</td>
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<tr>
<td>Standard deviation - class teams</td>
<td>84</td>
<td>156</td>
<td>92</td>
<td>104</td>
<td>164</td>
<td>85</td>
<td>50</td>
<td>90</td>
<td>97</td>
<td>139</td>
<td>766</td>
</tr>
<tr>
<td>Average score - computer teams</td>
<td>272</td>
<td>481</td>
<td>598</td>
<td>469</td>
<td>397</td>
<td>199</td>
<td>62</td>
<td>447</td>
<td>507</td>
<td>504</td>
<td>3937</td>
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<tr>
<td>Highest score - computer teams(^1)</td>
<td>441</td>
<td>598</td>
<td>600</td>
<td>600</td>
<td>575</td>
<td>299</td>
<td>189</td>
<td>547</td>
<td>600</td>
<td>600</td>
<td>4461</td>
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<tr>
<td>Lowest score - computer teams</td>
<td>128</td>
<td>300</td>
<td>550</td>
<td>300</td>
<td>100</td>
<td>0</td>
<td>322</td>
<td>350</td>
<td>386</td>
<td>3352</td>
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<tr>
<td>Standard deviation - computer teams</td>
<td>94</td>
<td>88</td>
<td>11</td>
<td>87</td>
<td>147</td>
<td>57</td>
<td>53</td>
<td>64</td>
<td>81</td>
<td>64</td>
<td>319</td>
</tr>
<tr>
<td>Student average to computer average scores - percentile</td>
<td>76%</td>
<td>68%</td>
<td>85%</td>
<td>68%</td>
<td>60%</td>
<td>88%</td>
<td>68%</td>
<td>84%</td>
<td>77%</td>
<td>86%</td>
<td>77%</td>
</tr>
<tr>
<td># Student teams that beat or equaled average score of all computer teams</td>
<td>6</td>
<td>7</td>
<td>11</td>
<td>2</td>
<td>3</td>
<td>11</td>
<td>9</td>
<td>7</td>
<td>1</td>
<td>10</td>
<td>2</td>
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</tbody>
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1. Note: The highest possible score for each performance category would be 600 (100 each round times 6 rounds).