

**Developments in Business Simulation & Experiential Learning, Volume 27, 2000**  
**EXPERIENTIAL LEARNING ACROSS DISCIPLINES: MIXING INTERNATIONAL**  
**BUSINESS AND ACCOUNTING**

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**ABSTRACT**

Most simulations and experiential learning exercises are anchored in a specific discipline though such disciplinary limitation does not fit well beyond the academic environment. Therefore, students must be provided with multi-disciplinary experiences which transcend these artificial curricular boundaries.

International business, by both content and operation, requires a truly multidisciplinary perspective. Using the international business course as an initial platform, a capstone planning exercise was developed to expose students to this multi-disciplinary perspective. But the inherent dichotomy between qualitative and quantitative presentation resulted in major difficulties for students, essentially disguising the multi-disciplinary perspective in a series of reporting problems. A readily available solution to unmask these difficulties existed in another discipline, but one with which most students would not generally be acquainted.

This paper describes that solution and its effectiveness as seen from the student perspective. Using self-reporting, students demonstrated that crossing disciplinary boundaries greatly improved their product quality, while significantly contributing to their general knowledge, and increasing both their inter group and inter-disciplinary communications skills.

**INTRODUCTION**

Traditionally, the curricula has been organized by separate disciplines with compartmentalized courses in which there is minimal integration, if any, with related areas of study outside the disci-

pline. In contrast, a defining characteristic recognized in the literature of the field of international business is an emphasis on integration of a wide range of multidisciplinary influences (Behrman, 1984; Dunning, 1989, 1993; Boddewyn, 1993). This integration is evident in the linkages between the international business curriculum and language training (Grahn & Vanden Bloomen, 1995) among others. Coincidentally, the accounting profession has increasingly recognized the need for internationalization of both the profession and the supporting academic curriculum (Stout & Schweikart, 1989; Agami, 1991; Bandy, 1994; Bazaz & Parameswaran, 1994; Mueller, 1994; Wells, 1994). Not only is the international business course suited well to contribute to an international focus in the curriculum, but because it is inherently multidisciplinary, the course is also a natural platform for building learning experiences that mitigate the effects of segregation of related disciplines.

**THE INTERNATIONAL BUSINESS  
PLANNING PROJECT**

In an effort to realize the benefits of the multidisciplinary scope of international business, an international business planning exercise was developed and used during six semesters as a capstone experience for management majors. The planning project provided a comprehensive framework for integrating many of the separate subjects to which students had been exposed previously, while addressing the international aspects of each separate subject. Organized in teams of three, international business students were required to do extensive research as a basis for developing a five-year formal business plan for a start-up import/export firm which included forecasted financial state-

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ments on a quarterly basis for the first year, and annually for the next four years (Morse, 1992). Each team was also required to make an oral presentation, with the objective of convincing an outside funding source of the viability and superiority of their prospective operation. This realistic, problem-based realistic planning exercise required students to utilize knowledge and capitalize on experiences gained throughout their academic careers. These were desirable outcomes, particularly as they relate to critical management skills (Houle, 1981; Schon, 1988).

Although students reported<sup>1</sup> positive outcomes as a result of this exercise, a recurring problem became evident, i.e., most management majors found it very difficult, and some failed entirely, to accurately prepare the complete set of required financial statements.<sup>2</sup> In many cases, it simply became too difficult to translate verbal assumptions, analyses and conclusions into matching financial projections. This discontinuity between verbal and quantitative presentations rendered the resulting plan useless for its intended purpose – to persuade an investor to part with venture capital to support the start-up firm.

Ameliorating this difficulty created the impetus for inviting accounting majors enrolled in an auditing course to participate in the planning exercise. They were to advise and assist management majors with translating the planning assumptions into financial statements, and to provide an attestation report on the forecasted statements. While the primary objective of co-operative work was improved forecasted financial statements, an additional presumption was that opportunities for improving skills and broadening the scope of learning experiences for both the international

business and accounting students would occur. Thus, the single project took on a multi-disciplinary flavor in both administration and evaluation.

### Method for assessing increased consistency

Based on an independent review<sup>3</sup> by two accounting faculty members not involved in teaching either the international business or the auditing course, the co-operative exercise was a success in achieving the primary objective of improving the quality and accuracy of the financial statements (Morse, Laschenski, Bossung, 1997). Inclusion of an attestation function significantly reduced, though did not eliminate, the discontinuity between qualitative assumptions, analyses and conclusions and the accompanying quantitative financial statements. Also, informal discussions between instructors and students, and written comments by students on peer evaluations, indicated that management and accounting majors perceived other positive learning outcomes based on their participation in the co-operative project.

To further probe student perceptions, goals were developed as follows: the cross-disciplinary, multi-course exercise will improve: 1) the quality of forecasted financial reporting in international business plans; 2) students' communication skills and the quality of cross-disciplinary interactions; 3) students' appreciation for the competencies/needs of associates from other disciplines; 4) the realism-level of the learning experience, particularly for accounting majors; 5) exposure, for accounting majors, to analyses necessary for reporting on international business plan financial statements; and for management majors, to analyses needed for preparation of prospective financial statements.

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<sup>1</sup> Both anecdotally and in written "end of course" evaluations.

<sup>2</sup> In fact, one student specifically stated "If I wanted to do accounting, I would have been an accounting major".

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<sup>3</sup> Both were provided with four different plans written without the assistance of accounting students, and four similar plans written with the assistance of accounting students for comparison.

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Reviews of the international business<sup>4</sup> and accounting literature<sup>5</sup> provided limited information about specific tools for formal evaluation of goal achievement in cross-disciplinary projects. While the education literature contained much broad discussion relevant to evaluating complete programs or institutional performance<sup>6</sup>, and evaluating individual faculty performance<sup>7</sup>, but there was minimal useful assistance, although some similar work was being done concurrently, with similar limitations (Clairefont-Hunot, 1996).

### Method for eliciting student responses

To supplement past anecdotal reports, a survey instrument was developed for the next semester, designed to elicit quantitative and qualitative responses, on a voluntary and anonymous basis, from international business students and participating accounting majors. The wording of the survey for both groups of students was parallel, although modifications were made to reflect the reciprocal responsibilities of each group. The survey used ten scaled questions, each of which asked respondents to rate an aspect of the cross-disciplinary project. The appendix contains a full listing of items subject to evaluation. The survey also asked respondents to identify the two “most” and “least” valuable aspects of the co-operative project, and whether or not the project should be continued in future semesters. Eleven of the 17 international business teams, and 17 of the 28 accounting majors completed the survey, a response rate of 65% for international business teams and 61% for the accounting majors—sufficient that

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<sup>4</sup> Especially The Journal of Teaching in International Business, and The Journal of International Business.

<sup>5</sup> Especially Issues in Accounting Education.

<sup>6</sup> I. e., Cave, Hanney & Kogan, 1991; Kells, 1992.

<sup>7</sup> I. e., Braskamp, Brandenburg & Ory, 1984; Abrami, 1985; Ory, 1991; Cashin & Downey, 1992; Stringer & Finley, 1993; DeMong, Lindgren & Perry, 1994; Marsh, 1994.

responses were representative of all students participating in this exercise.<sup>8</sup>

### ASSESSING GOAL ACHIEVEMENT

Based on the data collected through this survey instrument, achievement of each of the five goals were evaluated. In the discussion, note that the questions refer to those in the appendix, and are grouped by associated goal, rather than numerical appearance in the appendix.

#### Goal 1)--improve financial statements

As evidenced by students' responses and ratings on scaled questions 6, 9 and 10, which probed their assessment of accountants' assistance with financial statements, both international business teams and their accountants perceived that co-operative efforts led to improved financial statements, although the level of positive responses on scaled questions was consistently higher for the accounting majors. This assessment is consistent with previous observations regarding this multidisciplinary exercise.

Question 6 probed the perceptions of the level of understanding and usefulness of advice received by international business teams from their accountants. International business teams rated the “overall level of usefulness of the advice” received; accountants rated their respective international business team's “overall level of understanding of the advice” given. With a scale of 1 to 5, where 1 = minimal, 3 = adequate, and 5 = very good, international business teams' responses averaged 3.09; the mean of accountants' responses was 3.65. All but one of the accountants rated their international business team's understanding

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<sup>8</sup> In addition, results of peer evaluations completed by all international business and participating auditing students were included as a component of the grading base in both courses. A systematic comparison of relevant responses on peer evaluations with those on the cross-course survey revealed no major inconsistencies.

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of their suggestions at adequate or better, while seven of the eleven international business teams rated the usefulness of their accountant's advice as adequate or above.

Questions 9 and 10 expanded data collected in Question 6 by addressing the quantity and quality, respectively, of accountants' assistance as follows: planning assumptions, each of the financial statements, and financial disclosures. The questions required a rating on a 3 point scale, with 1 = very little quantity or very low quality, and 3 = very large quantity or very high quality. Means for accountants' responses were consistently higher than those of international business teams, e.g., while both groups rated assistance with cash flows statements highest compared to assistance with other statements, the means for quantity of assistance were 2.71 and 1.91, and for quality were 2.65 and 2.09, respectively, for the accountants and international business teams.

Overall, the range of differences between the higher means for accountants compared to international business teams is relatively consistent for all subsections of Questions 9 and 10: for quantity of advice, the range is approximately 40-55%, and for quality, the range is approximately 25-35%. The accounting majors clearly held their contributions in greater regard than did international business teams, although international business teams discriminated between the quantity versus quality of advice, rating quality higher than quantity for most items. These findings on differentials in the cross-group assessment of the value of seeking/providing external assistance corroborated earlier findings (Morse, Laschenski & Bossung, 1997, 109-110).

### **Goal 2)--improve communication skills and quality of group interactions**

Many students commented that effective cross-disciplinary communication was critical to achieving a successful business plan. They found that the project created challenging and productive opportunities for improving communication

skills.

Questions 7 and 8, respectively, required rating the amount of and satisfaction with communication. The means of responses to both questions support the positive assessment of communication reflected in written comments, although they indicate that accountants were more satisfied. Question 8 had a five-point response scale with 1 = very dissatisfied, 3 = satisfied, and 5 = extremely pleased. The means were 3.09 and 3.47 for international business teams and accountants, respectively, with 36% of international business teams and 18% of accountants rating communication below 3. Question 7, regarding frequency of contact, had the following rating scale: less than once a week = 1, once a week = 2, and more than once a week = 3. While 45% of international business teams and 41% of accountants rated contact at once a week, the means for international business teams and accountants were 1.82 and 2.47, respectively, reflecting a notable difference between the "less than" and "more than" responses of the two groups, e.g., only 18% of international business teams, but 53% of accountants, rated contact at more than once a week. While a definitive explanation for this difference is not within the scope of this discussion, it is possible to conjecture that it results from the consistently negative ratings given by three international business teams to the cross-course aspects of the project, as indicated not only in their responses to Question 8, but also to Question 6 as well, and in their written comments. This dissatisfaction may be attributed, at least in part, to the mandatory rather than voluntary participation in the project by international business students compared to the accounting majors, and the tendency for a few international business teams to persist in the expectation, despite guidelines to the contrary, that their accountants would take exclusive responsibility for preparing financial statements.

### **Goal 3)--improve appreciation for competencies/needs of associates from other disciplines**

By the completion of the learning experience,

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most international business teams and their accountants believed that the business plans were improved significantly by the cross-course collaboration: they appreciated the different but valuable expertise that each group brought to the project. This did not mitigate the tendency for both groups to rate their own contributions higher compared to the assessments of those efforts by their cross-disciplinary counterpart. This tendency, noted previously in discussing responses to Questions 6, 9 and 10, is discussed here in relation to responses to the first three questions on the survey. Questions 1 and 2 required ratings of the amount and adequacy, respectively, of the initial assumptions given by international business teams to their respective accountants. Each question had a five point rating scale, with 5 as the highest rating. All international business teams rated the amount of initial information at least at 3; the mean of their responses to both questions was 3.36. Accountants' ratings were considerably lower, with no accountant rating the adequacy of information above 3, and with means of responses at 2.29 and 2.26, respectively, for Questions 1 and 2. On Question 3, students assessed the level of difficulty or ease experienced by accountants when they attempted to understand their international business team's initial assumptions. The question had a five point scale, with 1 = impossible to understand, and 5 = easy to understand. The means were 3.24 for accountants and 3.82 for international business teams, indicating that accountants had more difficulty in comprehending the assumptions than was perceived by their international business counterparts.

It may be surmised that the differential ratings on Questions 1, 2 and 3 reflect the cross-group discord that occurred during the initial phase of the project. Since the project's milestones and deadlines had been set purposefully to encourage early cross-group interactions, it is not unexpected that cross-group differences emerged early in the life of the project. In addition, responses to the first three questions lend support to a finding from prior iterations, i.e., that international business students tend to underestimate the importance of

well-developed and realistic assumptions as the foundation for consistency between the text of their plans and their financial forecasts (Morse, Laschenski and Bossung, 1997, pp. 106-107).

### **Goal 4)—improve realism-level of the learning experience**

When asked to describe the most valuable aspects of the cross-disciplinary project, many accounting majors stated that, notwithstanding the challenges inherent in seeking effective means for assisting their international business teams, they nevertheless valued this opportunity to take on the role of professional accountants, upon whom clients depended for expertise and advice. Some students stated explicitly that the need to confront and overcome certain logistical problems, particularly concerning conflicting study/work/social schedules among participants, added to the realism of the project.

International business students commented that the cross-disciplinary requirements, such as having to obtain a report from their accountants, added to the realism of the project, although a few international business teams viewed working with accountants primarily as an added burden and complication to an admittedly difficult project.

### **Goal (5)—improve exposure to analyses for reporting on financial statements or preparing prospective financial statements.**

Questions 4 & 5 asked participants to consider the project's effects on advancing their understanding of financial statements with attestation reports, and of international business, respectively. Questions 4 & 5 had identical 1-5 measurement scales, with 1 = not at all, and 5 = a lot.

On Question 4, no international business team or accountant chose 1; one international business team chose 2, "less than somewhat", while all of the accountants selected 3, "somewhat", or higher. The mean of responses was 4.12 for accountants and 3.82 for international business

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teams. On the fifth question, regarding advancing their understanding of international business, the international business teams' responses averaged 4.18, with all teams choosing a rating of at least 3, and nine of the eleven teams selecting 4 or 5, an outcome to be expected in an international business course. On the other hand, accountants' responses had a mean of 3.06, with thirteen of the seventeen respondents selecting 3 or above, and of those, six chose 4 or 5, indicating at least some advance in international business knowledge. Given the interests and expertise of the international business teams and the accountants, the differences in the means for these questions are not unanticipated.

### CONCLUSIONS AND IMPLICATIONS

Overall, the survey results indicate that the international business teams and their accountants assessed the cross-disciplinary aspects of the project in a positive manner. To summarize: a) international business students clearly perceived that their financial statements were improved considerably through consultation with accounting students; b) generally, both groups of students perceived that the project provided rich opportunities for improving communication and team-building skills;<sup>9</sup> c) both groups expressed appreciation for the specific expertise and insight that each group contributed; d) Many participants concluded that the cross-disciplinary interactions required by the project added realism to their study and provided valuable career preparation.

Collectively, the results support a conclusion that most students perceived the project as conducive to advancing their learning. However, these results are limited to that general conclusion, and

should not be interpreted as a specific measure of that increase, if any, in knowledge.

While these outcomes are consistent with favorable impressions garnered on an earlier informal basis and suggest that this type of interdisciplinary project has promise, nevertheless, implications are necessarily limited since the outcomes are based primarily on a survey instrument administered at the end of one iteration of a learning experience conducted at one university.

Although limited, the results permit some consideration of wider implications for the business, as well as the broader, curriculum. Extending prior efforts to achieve cross-disciplinary integration using the international business course, such as combining the study of foreign languages with the course, this project's outcomes support the assertion that the international business course serves well as a vehicle for extending the integration of learning experiences within the business curriculum, perhaps through co-operative projects with business communication courses, or with other management and/or marketing courses that rely on integrative materials, such as courses that develop managerial negotiation skills. Additionally, the platform develops not only a student focussed cross-disciplinary perspective, but at the same time facilitates both cross-disciplinary understanding and co-operation at the faculty level as well. Finally, the outcomes bolster the contention that the broader curriculum would benefit from increased emphasis on implementing effective multidisciplinary programs, given their potential for enriching learning experiences.

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<sup>9</sup> Two interesting student comments illustrate the breadth of this appreciation: from an international business student; "It was quite difficult to get the auditors to agree with our figures, unless we could demonstrate their accuracy"; from an accounting student; "it was much different working with a group who could ignore your advice!"

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## References upon request

### APPENDIX

SCALED QUESTION	ITEMS SUBJECT TO EVALUATION	SCALE	MEAN (see note)
1	amount of initial information and assumptions from ib team	1 = low 5 = high	Act. = 2.29 I.B. = 3.36
2	adequacy of initial information and assumptions from ib team	1 = low 5 = high	Act. = 2.24 I.B. = 3.36
3	difficulty or ease experienced by accountants in attempting to understand the initial information from ib team	1 = low 5 = high	Act. = 3.24 I.B. = 3.82
4	project's effect on advancing understanding of <ul style="list-style-type: none"> <li>• attest function (accountant perspective)</li> <li>• financial accounting (ib team perspective)</li> </ul>	1 = low 5 = high	Act. = 4.12 I.B. = 3.82
5	project's effect on advancing knowledge of international business	1 = low 5 = high	Act. = 3.06 I.B. = 4.18
6	level of ib team understanding of advice (accountant perspective), and usefulness of advice (ib team perspective)	1 = low 5 = high	Act. = 3.65 I.B. = 3.09
7	frequency of contact between cross-course groups	1 = low 3 = high	Act. = 2.47 I.B. = 1.82
8	satisfaction with cross-course communication	1 = low 5 = high	Act. = 3.47 I.B. = 3.09
9	amount of accountant assistance with specific types of financial information	1 = low 3 = high	
a	• assumptions		Act. = 2.12 I.B. = 1.36
b	• balance sheets		Act. = 2.71 I.B. = 1.73
c	• income statements		Act. = 2.24 I.B. = 1.60
d	• cash flow statements		Act. = 2.71 I.B. = 1.91
e	• financial disclosure		Act. = 2.06 I.B. = 1.33
10	quality of accountant assistance with specific types of financial information	1 = low 3 = high	
a	• assumptions		Act. = 2.29 I.B. = 1.82
b	• balance sheets		Act. = 2.59 I.B. = 1.91
c	• income statements		Act. = 2.53 I.B. = 2.00
d	• cash flow statements		Act. = 2.65 I.B. = 2.09
e	• financial disclosure		Act. = 2.35 I.B. = 1.75

NOTE: Act. = Auditing course participants  
I.B. = International Business course participants