# Blended Learning In A Graduate Accounting Course: Student Satisfaction And Course Design Issues

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## Abstract

This paper reports student perceptions from a traditional classroom section and a blended-learning section of an MBA accounting course. Blended learning course delivery offers an attractive mix between traditional classroom and purely online delivery by including a limited number of in-class meetings during a semester. The results suggest that tradeoffs continue to exist, but that blended learning may close some gaps between traditional and purely online delivery. For instance, blended-learning students had more positive group work experiences and had more positive perceptions of the instructor's feedback and responsiveness to questions outside of class. However, blended-learning still falls short in terms of sufficiency of interaction. Importantly, blended-learning students value having some in-class time and tend to believe that the benefits of having a few class meetings outweigh the costs in terms of time and energy. The study yields important initial information regarding the appropriate number of class meetings to include in a blended-learning course.

## Introduction

The internet explosion has resulted in a proliferation of distance-learning courses and programs over the past several years. It was projected that total university enrollment in distance learning would reach three million students by the fall of 2004 (Fisher, 2003). The relative convenience of this mode of course delivery now factors heavily into many students' decisions to further their education, and where to pursue such a goal (Rubenstein, 2003; Shanahan, 2003). In fact, college and university administrators in some cases now view offering distance education as a competitive necessity to maintain stable or increasing enrollments (Phillips, 2004; Fornaciari, Forte, and Mathews et al., 1999). The use of distance education at universities ranges from offering a segment of a course to offering programs that are completely online (Bryant, Kahle, & Schafer, 2005; Braun, 2003). In addition to universities, however, companies have increasingly used web-based training courses (Wood, Topsall, & Soutar, 2005).

The growth in online education has been accompanied by growing pains, however, due to a number of barriers for instructors and students (Crow, Cheek, and Hartman, 2003). Instructors incur significant "start-up" costs in teaching an online course for the first time. In addition, email becomes the primary means of communication and instructors may spend more time responding to individual emails than when teaching a traditional course. Compounding this problem is that students often expect fast response times on email messages (Keegan, 2002). Students also vary in their comfort levels with technology and frustrating breakdowns in the technology may lead to higher dropout rates (Bennett, 2000).

Research examining differences in learning outcomes between online and traditional classroom courses suggests mixed results (Sooner, 1999; Dellana, Collins, and West, 2000; Terry, Owens, & Macy, 2001). Crow et al. (2003) argue that distance learning researchers should look not only at learning outcomes, but also at inputs and processes. *Inputs* include such aspects as learning styles, computer knowledge, distance-learning technology, and methods of instruction and evaluation, while *process* refers to how the learning occurs. Students frustrated with these inputs and processes may blame the instructor for them and their evaluations of the instructor may reflect these frustrations. Any time technology is a central part of a course, for instance, breakdowns and frustrations are likely at some point. An understanding of students' perceptions of these inputs and processes may enable educators to continuously improve all methods of course delivery.

One form of online learning, sometimes referred to as "blended-learning" or "mixed mode", uses the Web as the primary instruction mode, but incorporates a limited number of face-to-face classroom meetings during the semester (Ward and LaBranche, 2003). This approach offers the convenience of a primarily-online course, but still provides some face-to-face interaction with an instructor. Therefore, blended learning promotes a social learning environment and helps to partially offset a primary drawback to totally online instruction (Jones, Moeeni, and Ruby, 2005). Relatively few studies have examined distance learning in technical courses such as accounting. Furthermore, the results of studies in nontechnical and nonquantitative disciplines may not necessarily apply to accounting (Arbaugh, 2005). Therefore, we surveyed students in a blended-learning section and a traditional classroom section of the same graduate accounting course to compare these two delivery methods in several important areas.

The results offer important evidence on the relative effectiveness of blended-learning and traditional classroom delivery in terms of student perceptions, and address some important course design issues. Although the results continue to suggest tradeoffs, blended-learning students actually indicated higher levels of satisfaction than their traditional classroom counterparts along a number of dimensions. For instance, these students find group work more palatable than do traditional classroom students despite questionable ultimate benefit from their perspective. Blended-learning students also tended to be more satisfied with student/instructor interactions *outside* of class. Additionally, we use the student feedback to obtain a preferred number of class meetings. In doing so, we provide evidence that students perceive benefit to having at least some classroom interaction, despite the personal costs. This feedback directly addresses an important question raised by Bryant et al. (2005) regarding the optimum mixture of face-to-face time and distance education.

**Prior Literature**

Studies of distance learning in other disciplines have yielded mixed results. Some researchers conclude that distance learning is at least as effective as traditional classroom learning (Dellana et al., 2000; Iverson, Colky, & Cyboran, 2005; Sooner, 1999; Jones et al., 2005). However, Terry et al. (2001) provided results suggesting that students in traditional MBA courses outperformed those in web courses. Similarly, Ponzurick, France, & Logar (2000) surveyed students in graduate marketing courses and found that effectiveness and overall satisfaction were lower for students in distance education courses than for students in a face-to-face course.

The literature in distance learning with respect to accounting courses has primarily focused on overall effectiveness and has related more specifically to courses offered completely online (Gagne and Shepherd, 2001; Vamosi, Pierce, & Slotkin, 2004). Vamosi et al. (2004) investigated students' satisfaction and perceptions in an undergraduate accounting principles course. Their students indicated that distance learning was less interesting and less efficient, which might be associated with lower overall course satisfaction than they had anticipated. Gagne and Shepherd (2001) examined MBA students in online sections and traditional face-to-face classes of financial accounting. Their results suggest insignificant differences for final grades and overall evaluations of the course and instructor.

Despite the growing use of the blended-learning method in both the corporate and academic world, little research has examined its effectiveness relative to traditional face-to-face instruction (e.g. Grandzol, 2004; Trasler, 2002). Grandzol (2004) investigated MBA student responses to blended learning and traditional methods of delivery in a statistics class.  That study was inconclusive about learning outcomes as measured by examination scores.  Grandzol also obtained students' perceptions of enthusiasm, preparation, grading, and clarity of instruction, and found that students' perceptions along these dimensions were similar for the two sections.  In a descriptive study, Trasler (2002) argues that key factors to attracting, retaining and motivating learners are flexibility, variety and adaptability, which suggests a benefit to blended learning.

While relatively little research has assessed blended learning, still less research has focused on technical topics such as accounting.  Therefore, the current paper extends the literature by presenting survey results relative to a graduate accounting course.  Because of the relative newness of the blended-learning method of delivery, this study is primarily exploratory and comparative in nature.  Specifically, we compare blended-learning with traditional classroom delivery along a number of important dimensions to assess the relative effectiveness and student satisfaction.  We then focus on blended learning students in an effort to address questions specific to that method of delivery.  We examine a number of areas related to two primary questions:

- How does blended-learning compare with traditional classroom delivery in terms of student satisfaction in an accounting course?
- What can we learn about course design issues going forward?

The next sections discuss our research methods and statistical results.  We then summarize our conclusions and the primary implications of the study.

## Methods

### Subjects
Students from two sections of the same MBA course ("MGT 521") participated in a survey aimed at assessing the relative effectiveness of blended learning vs. traditional classroom delivery across different dimensions.  The course included introductory material in financial and managerial accounting.  One section involved a traditional classroom setting (n=34), while the other section involved a blended learning approach (n=30).  Table 1 shows demographic information for the two delivery methods with respect to major, age, gender, undergraduate grade point average (GPA) and race.

As shown, all of the blended-learning students indicated they were "White, Non-Hispanic" and the majority the traditional classroom students did as well.  The average age of student participants was 31 years (SD=6.62) and their prior work experience ranged from 1 to 30 years, with a mean of 10.42 years (SD=7.08).  The average undergraduate GPA reported was 3.41/4.00 (SD=0.36).  There were no significant differences between the two delivery methods with respect to age, undergraduate GPA or years of prior work experience ($p > .4$ for all three variables).  We also analyzed, for each of our dependent variables of interest, the differences between males and females, accounting and non-accounting majors, and those above and below the median age.  We found no differences due to these three variables.  Therefore, they are not included as covariates in our analyses.

### Course Administration
In the blended learning section, there were four on-campus meetings during the semester, one of which was at the beginning of the semester.  All other "meetings" were online for two hours each week during the semester.  The traditional section met twice a week for 75 minutes each.  In order to "control" for differences due to instructor, the course selected was one in which the same instructor taught both courses.

## Table 1.  Demographic Information

### Panel A:  By Major, Gender, and Race

|                          | Traditional | Blended Learning |
| ------------------------ | ----------- | ---------------- |
| **By Major:**            |             |                  |
| Accounting               | 22          | 23               |
| Finance                  | 7           | 6                |
| Management               | 3           | 1                |
| Marketing                | 2           | 0                |
| Total                    | 34          | 30               |
|                          |             |                  |
| **By Gender:**           |             |                  |
| Male                     | 18          | 18               |
| Female                   | 16          | 12               |
| Total                    | 34          | 30               |
|                          |             |                  |
| **By Race:**             |             |                  |
| White, Non-Hispanic      | 30          | 30               |
| Black, Non-Hispanic      | 2           | 0                |
| Asian or Pacific Islander| 1           | 0                |
| Hispanic                 | 1           | 0                |
| Total                    | 34          | 30               |

### Panel B:  Age and GPA

|                   | Minimum | Maximum | Mean  | Median | Std. Deviation |
| ----------------- | ------- | ------- | ----- | ------ | -------------- |
| Blended Age       | 24      | 43      | 31    | 29.0   | 6.22           |
| Blended GPA       | 2.6     | 3.80    | 3.43  | 3.50   | 0.33           |
| Traditional Age   | 23      | 51      | 30.85 | 28     | 7.02           |
| Traditional GPA   | 2.50    | 4.00    | 3.39  | 3.50   | 0.38           |

The traditional and blended learning sections differed only in the method of delivery.  The sections were alike in terms of the factors that determined students' grades and the relative weight of each factor. The instructor conducted classes in the traditional sections using a combination of lecture and class discussions. The lecture primarily involved a summary of key issues related to a particular topic.  Discussions focused on illustrative examples from actual financial reports and cases that were assigned for a particular day.  In the blended learning sections, the instructor conducted the four in-class meetings in the same way as those for traditional classroom sessions. Online class meetings primarily focused on specific student questions e-mailed to the instructor prior to online meetings. Students in the blended learning section were required to participate during online class meetings.

The course grade for both sections was based on homework case performance (50%), examinations (40%) and class participation (10%).  The instructor assigned five homework cases to be completed in groups of four formed during the first class meeting.  Each group made a single submission for each case.  In the first meeting and in the course syllabus, the instructor told the students that they would fill out peer evaluations during the last class meeting to assess the relative contribution of each group member.  The instructor then adjusted individuals' grades based on these peer assessments.  The examination score consisted of two take-home examinations.

## Comparative Survey Results

### *Student Satisfaction – Instruction, Interaction, and Feedback*
We present comparative results regarding student satisfaction in two primary areas:  1) instruction, interaction and feedback, and 2) group work. The mean responses in these tables are based on a 1 (strongly disagree) to 5 (strongly agree) scale.  Table 2 shows the results related to instruction, interaction and feedback.  We assessed all comparative differences using independent t-tests.  This test was appropriate because the Levene test for homogeneity of variances revealed no significant difference in the variance between the two groups for any of the dependent variables of interest (p>.2 for all dependent variables).  Second, there were only two comparison groups.  Finally, no control variables were found necessary for inclusion in the model, as previously discussed.

Somewhat surprising from Table 2 is that blended-learning students believed more strongly that the instructor kept them informed of their progress than did those in the traditional section.  In a related item, blended-learning students were significantly more likely to indicate that the instructor provided prompt feedback outside of class.  The reason for this perception is not revealed definitively from the survey.  It is difficult to envision that the same instructor was simply more responsive to inquiries from one group than the other.  However, blended-learning students were significantly more likely to indicate that the instructor was available outside of class.  In a separate item not in the table, these students did indicate in general that they made significantly more attempts to contact the instructor outside of class "through e-mail, telephone, or office appointment" than the traditional classroom students (means of 6.0 times vs. 1.5 times for the semester).  Perhaps the sheer volume of contacts attempted by blended-learning students accounts for their relatively better perceptions.  Both groups seem reasonably pleased with the constructiveness of the feedback that they received both inside and outside of class from the instructor (Items 10 and 11), and the differences are not statistically significant.

A number of items from Table 2 suggest that blended-learning continues to fall short in some important areas.  With regard to student engagement, blended-learning students were significantly less likely to believe the instructor presented the material in an interesting manner.  Separately, the blended-learning students were also asked if the instructor seemed well-prepared for *online* meetings.  The mean response of 3.54 indicates a moderately positive mean response, although not overwhelmingly so.  However, they do appear to perceive the feedback received during online meetings to be reasonably constructive (mean of 3.75).

Often mentioned in education articles is the importance of interaction both with professors and fellow students (Roblyer and Wiencke, 2003; Vrasidas and McIsaac, 1999).  Neither group appears strongly convinced of the adequacy of in-class interaction between the professor and student, and there was no significant difference in this area (Item 2).  However, with respect to blended-learning, another item is perhaps even more of a concern.  When asked about the sufficiency of interaction between professor and students during the online meetings, blended-learning students responded in a rather "lukewarm" manner (Item 3).  There also appears to be a lack of interaction between students during online class meetings, likely due to the nature of these meetings. Therefore, they do not appear very satisfied with the interaction.  It is not clear whether the lack of satisfaction in this area is due to the non-personal nature of the interaction, the low volume of interaction overall, or some combination of these and instruction-related factors.  Blended-learning students were slightly more likely to find in-class interaction *between students* to be helpful for learning, but not significantly so (Item 8).

**Table 2. Satisfaction with Instruction, Interaction, and Feedback**

| | Mean Response* | | |
|---|---|---|---|
| **Items** | **Blended Learning** | **Traditional** | **t-statistics (p-value )** |
| 1. The instructor kept students informed of their progress. | 4.20 | 3.20 | 3.67 (0.01) |
| 2. The amount of in-class interaction between professor and students was sufficient. | 3.50 | 3.23 | 0.87 (0.35) |
| 3. The amount of interaction during the on-line meetings was sufficient. | 3.29 | N/A | N/A |
| 4. The instructor seemed well prepared for on-line meetings. | 3.54 | N/A | N/A |
| 5. The instructor explains the material in an interesting manner. | 2.88 | 3.70 | -2.74 (0.01) |
| 6. The instructor was available to answer my questions. | 4.45 | 3.45 | 3.36 (0.01) |
| 7. The amount of interaction between students during online meetings is sufficient. | 3.54 | N/A | N/A |
| 8. The interaction between students during in-class meetings is helpful for understanding concepts. | 3.66 | 3.40 | 1.01(0.29) |
| 9. The feedback from the instructor during online meetings is constructive. | 3.75 | N/A | N/A |
| 10. The feedback from the instructor during in-class meetings is constructive. | 4.08 | 4.20 | -0.52 (0.76) |
| 11. The feedback from the instructor outside of class is constructive. | 3.95 | 3.79 | 0.55(0.62) |
| 12. The instructor provided prompt feedback outside of class. | 4.33 | 3.18 | 3.41(0.01) |

*Based on a 1 (strongly disagree) to 5 (strongly agree) scale.

***Student Satisfaction Levels – Group Work***

Table 3 shows the comparative results relating to group work.  The table focuses on students' overall experiences with group work in the class, how they typically carry out group assignments, and their perceptions of benefits derived from the group work.

**Table 3. Satisfaction with Group Work**

| Items | Mean Response* | | t-statistics (p-value) |
|---|---|---|---|
| | **Blended Learning** | **Traditional** | |
| 13. I usually have face-to-face meetings to discuss group projects. | 2.54 | 3.40 | 3.66 (0.01) |
| 14. I usually use e-mail to communicate issues related to group projects. | 4.16 | 3.35 | 3.48 (0.01) |
| 15. I usually use phone calls to discuss group projects. | 4.25 | 2.60 | 6.48 (0.01) |
| 16. The group decision-making process is usually dominated by one or two members. | 3.45 | 2.40 | 3.62 (0.01) |
| 17. The interaction among group members is effective in achieving group goals. | 4.08 | 3.21 | 2.63 (0.01) |
| 18. The group project's output is of good quality. | 3.91 | 3.17 | 2.42 (0.01) |
| 19. The group decision-making process is efficient. | 3.95 | 2.90 | 3.16 (0.01) |
| 20. Overall, the benefits of group work exceed the personal costs. | 3.20 | 3.00 | 0.71 (0.40) |

*Based on a 1 (strongly disagree) to 5 (strongly agree) scale.

Overall, blended-learning students found group work to be more satisfying than did their counterparts in the traditional class.  They find the decision-making process to be more effective and believe more strongly that the interaction is effective in achieving group goals.  Importantly, they indicate more strongly that the group's output is of good quality.  The reason for this latter result is unknown.  It is possible that their relatively better satisfaction with the process affects their perception of the quality of the end product, resulting in somewhat of a "halo effect".  That is, a favorable perception on one dimension affects perceptions on other dimensions (Cooper, 1981).

Not surprisingly, blended-learning students tend to rely more on e-mail and less on face-to-face meetings to discuss issues with fellow group members than do their counterparts.  The extent to which these students use phone contact compared with others is surprising, however.  Presumably, either group could choose to use phone contact, and would find it useful to avoid the necessity of arranging a face-to-face meeting.  One possible explanation for the difference is that blended-learning students are clearly more reliant on e-mail and simply do not have the opportunity to conduct face-to-face meetings.  This is particularly true at schools where distance learning students are physically located at different parts of the country and travel to the campus only for the few times that class is held on campus.  Some issues are more difficult and time-consuming to resolve by email and may be handled much more quickly by phone.

Other aspects of group dynamics are interesting as well.  One surprising response is that blended-learning students indicated a *stronger* belief that the group decision-making process is dominated by one or two members.  We expected that, if anything, blended-learning would reduce such tendencies due to the greater reliance on email and less reliance on face-to-face meetings.  When meeting face-to-face, one person will often "take charge".  The others

will either acquiesce to the preferences of this dominant member, or spirited discussions will develop between two or more members who have disparate opinions on the direction the group should take.  The fact that those less involved in the process are present at the meetings and voice their agreement perhaps indicates at least some belief that their group members will perceive them as participating.  Their relative lack of participation will often not be documented, especially in a student group.  When using email, however, disagreements do not have to be voiced in a face-to-face meeting, where confrontation may be more likely.  All input (or lack thereof) is documented.

Perhaps the "litmus test" for students' perceptions of group work is whether or not they ultimately view group work as offering sufficient benefits to offset the personal "costs" of participating in groups.  Interestingly, neither the blended-learning nor the traditional classroom students appear to see benefits that are significant enough to offset the costs of participation (Item 20).  The difference is not statistically significant.  This finding suggests that, while blended-learning helps to reduce some of the pain along the way, students still do not ultimately perceive sufficient value in group work.

**Student Satisfaction Levels - Technology**

In any web-based course, the technology used is important.  Positive or negative experiences with the technology could affect not only students' perceptions of the course and instructor, but also their decision to take additional courses of this type.  Table 4 shows the responses to three technology-related items.

**Table 4.  Satisfaction with Technology (Blended-Learning Only)**

| Items | Mean Response* |
|---|---|
| 21. I feel comfortable asking questions during online meetings using Blackboard. | 3.18 |
| 22. The required Discussion Board participation was useful in enhancing my understanding of accounting concepts. | 3.20 |
| 23. I felt comfortable using the computer prior to enrolling in this course. | 4.79 |

*Based on a 1 (strongly disagree) to 5 (strongly agree) scale.

Students do not appear overly impressed with certain functionality aspects of the technology.  For instance, they do not have an impressive level of comfort in asking questions during online meetings.  In addition, most students did not appear to believe very strongly that the required "discussion board" participation was useful in enhancing their conceptual understanding.  Since many students taking distance learning courses prefer as much autonomy as possible, instructors should consider whether the pedagogical benefits of requiring discussion board participation exceed the "costs".

In this course, students have 1.5 hours of training on Blackboard during an orientation.  However, as in many training courses, students may forget information they do not use immediately.  In this MBA program, they have had two classes using Blackboard prior to taking this class.  Therefore, they are not first-time users, and their responses indicate room for improvement in technology.

One implication from this study is that comfort in using a computer does not appear to be a factor in choosing between primarily-online and traditional classroom delivery.  The last item shown in Table 4 was also asked of

traditional classroom students.  Both groups indicated they were quite comfortable in using a computer prior to enrolling in this course.  The mean responses were nearly identical.

**Course Design Issues**

We also sought to pinpoint areas in which instructors could improve course design in the future.  Table 5 presents the comparative mean responses, again using a 1 (strongly disagree) to 5 (strongly agree) scale.

**Table 5. Course Design Issues**

| | Mean Response* | | |
|---|---|---|---|
| **Items** | **Blended Learning** | **Traditional** | **t-statistics (p-value)** |
| 24. The group size (4 members) is appropriate. | 4.08 | 3.78 | 1.05 (0.29) |
| 25. The class size is appropriate (25-30). | 4.29 | 3.90 | 2.26 (0.02) |
| 26. I would prefer to have more in-class meetings (currently 4 meetings). | 3.04 | N/A | N/A |
| 27. I prefer to have no in-class meetings with the instructor. | 2.58 | N/A | N/A |
| 28. The benefits of attending in-class sessions outweigh the personal costs. | 3.83 | 4.00 | -0.80 (0.62) |

*Based on a 1 (strongly disagree) to 5 (strongly agree) scale.

As shown in Table 5, both sections of students indicate some agreement that a class size of 25-30 is appropriate.  In addition, both sections appear to believe that a group size of four is appropriate for the group exercises in this course.  Neither of these differences is statistically significant.  Therefore, neither the class size nor group size appear to present problems for either method of course delivery.  Also important is that both groups perceive the benefits of in-class sessions as outweighing the personal costs of attending.  Again, this difference is not significant.

Two items are not included above because they were not answered using a scale.  First, an important issue going forward is whether or not students would choose to take another accounting course using the blended-learning method.  Out of 30 students enrolled in that section, twenty-seven indicated that they would take another accounting course if offered.  A particularly important issue for blended-learning is that blended-learning students indicated a mean of slightly under three meetings (mean of 2.78) as the desired total number of class meetings on average.  Further analysis revealed that 70% indicated that they prefer three meetings, while approximately seven percent prefer two and another ten percent prefer four meetings.  No respondents indicated zero or more than four meetings.  The latter is notable when one considers that the vast majority of distance-learning students at the school represented live within approximately 100 miles from campus.

We asked students in both sections about the desirability of other types of media in addition to their existing course materials. Table 6 shows the rankings.

**Table 6. Perceived Desirability of Supplementary Multi-media**

| Rank | Type of Media |
|------|---------------|
| 1 | The ability to download from the web video recordings of lectures |
| 2 | CDs containing lectures |
| 3 | Videotapes of lectures |

As shown in Table 6, the top three rankings were dominated by the ability to obtain lectures in which they can see the professor, but at the convenience of the student. Also included in the rankings were live television airing on a particular channel and interactive television allowing two-way communication. Interestingly, neither of these was considered desirable in comparison with the top three. Therefore, as expected, convenience and flexibility appear to be key criteria for students taking web-enabled courses. Autonomy has been noted in earlier papers as an important factor for students taking these types of courses (Muirhead, 2002; Kearsley, 1996). Clearly, they like the idea of being able to view lectures and to do so on their own time. The preferences were similar in both sections, indicating that even the traditional students would perhaps see benefit in being able to download lectures. At the same time, however, those same students may then lean more on downloaded lectures and less on class attendance.

We also solicited students' views on the relative effectiveness of different delivery methods, apart from whether they were taking a traditional class or a web-enabled class. Table 7 shows the relative rankings.

**Table 7. Perceived Effectiveness of Methods of Course Delivery**

| Rank | Method of Delivery |
|------|--------------------|
| 1 | Traditional in-class delivery |
| 2 | Online class meetings with some in-class meetings |
| 3 | Online class meetings with no in-class meetings |

Out of 64 participants between the two sections, 58 (90%) favored traditional in-class delivery. Again, the results are similar between sections. Next in line was blended-learning, followed by strictly online courses with *no* class meetings. These results suggest that students still see traditional in-class delivery as superior in terms of effectiveness, despite the common belief that any form of medium is equally as effective as another (Bryant et al., 2005). Even the blended-learning students strongly favor the traditional classroom setting in terms of maximum effectiveness. However, if they lack the time and/or the desire to take traditional classes, they clearly favor having at least some class meetings over having none. These rankings provide further support for the notion that students attach incremental benefit to having a few class meetings rather than carrying out courses strictly online. However, given that some simply don't have the time and/or ability to attend any class meetings, online classes will continue to be a popular option. In their defense, instructors at many schools have become quite proficient at delivering material online.

**Conclusions and Recommendations**

This study offers important and timely evidence on blended learning as this type of delivery method grows in popularity. On a basic level, while we do not use purely online delivery as a comparison point, we provide some evidence of incremental benefit to blended learning over strictly online course delivery. There will likely continue to be tradeoffs between traditional in-class sessions and blended-learning. However, the latter appears to offer an attractive alternative and, in some areas, may offer even higher levels of student satisfaction and effectiveness. We will summarize below what we consider to be the main implications in terms of student satisfaction and course design issues.

### Student Satisfaction

The weight of the data from this survey suggests that, while blended-learning continues to be regarded as somewhat less effective in some areas, the perceived deficiencies are partially offset by positive perceptions in other areas.  For instance, these students were considerably more pleased with the availability of the instructor to answer questions and the promptness with which they received feedback outside of class.  We see no discernible reason for the latter; however, these are the students' self-reported perceptions.  In any case, it is likely that the convenience of distance education will continue to outweigh any perceived shortcomings (Bryant et al., 2005).  Blended-learning appears to be a desirable solution going forward for many schools.  Even though this is the only accounting course required in the MBA program at the participating university, twenty-seven of the 30 blended-learning students indicated they would take another accounting course using this method, if offered.

Despite the wide use of group work in classes across the country, few studies have offered evidence regarding student perceptions of group work dynamics, especially in the context of comparing distance education with traditional delivery.  We find that blended-learning students overall were somewhat more satisfied with the quality of the group output, the efficiency of the group decision-making processes, and the effectiveness of the interaction among group members.  However, while they may be more satisfied with the process, they are not significantly more likely to agree that the journey is really worthwhile.

Neither the traditional nor blended-learning students, on average, indicated very strongly that the benefits of group work outweigh the personal costs.  In many cases, there may be significant educational benefits that students simply do not perceive because they have not yet gained practical experience.  For example, they gain experience in cooperating with others to put together a product on a deadline and monitor its quality along the way.  In addition, many companies now require employees to operate as virtual team members on a regular basis.  If the benefits are there beyond the significant personal investment, however, these students do not perceive them. Considerable anecdotal evidence from multiple schools and instructors suggests that this is not an isolated case.  Companies need to achieve employee "buy-in" if they are to achieve success with management initiatives such as the balanced scorecard and others (e.g. Niven, 2005).  Likewise, educators who incorporate group work may need to make more effort to achieve "buy-in" from students if they are to accomplish the learning objectives for which the group work is used.

Students overall seem to indicate that there is room for improvement in the technology used. In addition, they did not find the required discussion board time to be of considerable value.  Therefore, we recommend weighing the expected benefits of requiring discussion board use against the "costs" of doing so.  Universities should ensure that they have sufficient help available for trouble-shooting and getting beyond obstacles to reduce students' frustration, so that they are able to concentrate their efforts on learning the material.

Blended-learning students were not highly satisfied with the amount of interaction afforded on average, either with the professor or with other students. The lack of interaction may be related to the lack of comfort in asking questions during online meetings, as evidenced in Table 4 and in an earlier section.  A number of articles suggest that it is important to establish a social learning community, especially for online teaching, in order to motivate students and keep them interested (Jones et al., 2005). The students in this survey indeed do not appear to have had their interest level stimulated during the online presentation of the material.

### Course Design Issues

In their review of the available literature in distance education, Bryant et al. (2005) pose the question of whether there is an "ideal mix" of distance education and face-to-face meetings.  They further appropriately question whether it is important to have at least one face-to-face meeting.  We offer initial evidence that directly responds to these questions.  When asked directly how many they prefer, none of the blended-learning students believed that there should be *no* in-class meetings during the semester, despite the personal cost of coming to class. The majority of the

respondents in this group indicated three meetings.  They also indicated fairly strongly that the benefits of having in-class sessions outweigh the personal costs.  Therefore, they appear to perceive benefit to having at least some classroom interaction, thereby offering a strong endorsement of the blended-learning approach.  While these survey results do not offer a definitive answer as to the "ideal mix", it would appear that having three meetings provides a good starting point for consideration.  To have more than four meetings might indeed defeat the purpose of offering convenience through primarily-online delivery.

One caveat is in order here about the number of class meetings.  If the instructor has fewer than four meetings, careful planning of class time becomes of paramount importance.  Students who have "saved up" their questions for class time may not feel that everything was cleared up if they sense that the quality of interaction is sacrificed for quantity of issues addressed.

## Limitations And Future Research Avenues

The use of students at one school is sometimes viewed as a limitation in surveys.  However, we were interested in examining perceptual differences between students in a blended-learning and a traditional course while holding other conditions constant.  We had the opportunity to survey students from the same course in which the instructor and grading methods were common to both groups.  The only difference was in the delivery method.  In this way, although the study is not an experiment, we were able to "control" for differences due to instructor, grading methods, technology and school, thereby enhancing the ability to make meaningful comparisons in a relatively new area of research.

One improvement that could have been made in this study is with regard to group size.  While students tended to agree that the group size of four was appropriate, future studies could add a more direct question and ask students what they consider to be the "optimum" group size.  This information, coupled with the item used in the current study, would perhaps provide more useful evidence for instructors planning to use group work in their courses. Future research should be performed at other universities to see if the results observed in this study hold in other environments.  In addition, future studies should compare strictly online courses with the same course offered using blended-learning.  The current study offers strong initial evidence that students perceive benefit to having some in-class sessions, but we do not make a direct comparison between blended-learning and strictly-online courses. Finally, an interesting observation was that all of the blended-learning students indicated they were "White, non-Hispanic".  If this disparity exists on a large scale, then perhaps those attempting to increase enrollments through their distance learning programs should consider how they could market their programs effectively to those of other races.

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