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REPORT OF THE DEPARTMENT OF BUSINESS
OF THE SCHOOL OF PROFESSIONAL STUDIES
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THE PEDAGOGICAL ADVANTAGES OF ONLINE INSTRUCTION

INTRODUCTION

In 2009, members of the faculty of the Business Department of the School of Professional Studies (the "Department") at New York City College of Technology (the "College") of the City University of New York ("CUNY") undertook a study to determine and report on the pedagogical advantages of online instruction that distinctly serve to benefit students in ways that either replicate or surpass those possible in the traditional classroom. That study resulted in the following Report.

Department research for the Report included an in depth review and analysis of the available published academic literature and professional research on online instruction and learning. It also included an internal survey and review of how the faculty apply the principles and best practices set forth in the research to online instruction in the Department.

PART ONE

BACKGROUND: DEMOGRAPHIC TRENDS FOR THE FUTURE

The growth of online instruction in the United States is rapidly changing the nature and mission of the academy (Jones, 2002). Today, the so-called "Net Generation," those students who grew up with information technology as a part of their life experience, have developed aptitudes, attitudes, expectations and learning styles reflecting the technological and interactive environment in which they were raised, one that is markedly different from that which existed when current faculty and school administrators came of age (Oblinger, 2005). Indeed, "today's students are different; they're much more technosavvy in their lives, but still like personal contact. Both can be accommodated with the thoughtful use of technology in learning" (Holbrook, 2005).

Online instruction enables the availability of meaningful, interactive learning opportunities for students on demand at any time of the day in any location where they can log on to the Internet. Studies support that the effectiveness of online instruction is consistently similar and often better in results to those reported under traditional in class instruction methods (Yelon, 1996; Jones, 2004; 2008 NSSE; Berman, 2009; Means, 2009; Lohr, 2009). Moreover, studies also indicate that the attitudes of "Net Generation" students about online instruction are generally positive because of these attributes (Ibid.; see also USDLA, 2004)[1].

[1] For example, a professor in the Department recently received the following student e-mail: "Hi. I have just registered for your fully online course for Business Math next semester. The class hours are from 7:30- 8:45 p.m. The reason I am writing this e-mail is because I wanted to know how you are planning on running the course because I work, play on the

These trends are forecast to accelerate. For example, more than 2 million pre-Kindergarten through 12th Grade students are currently enrolled in some form of online instruction (Nagel, 10.5 Million, 2009). Over the next five years, the number of students taking online classes will jump to more than 10 million by 2014 (Ibid.). Consequently, "21st century learning is not an option; it's a necessity for students who must go out and compete on a global level" (Nagel, 21st Century Learning, 2009).

The single most significant effect cited in the studies of online instruction concerning these developments is that it is radically shifting the focus of educational theory and practice from one that historically was almost exclusively teacher-orientated to one that is profoundly student-centered (Bradford, 1999; McCombs, 2000).

Although online education need not replace traditional modes of instruction, it is clear that it is becoming a necessary component among the multiple alternatives for enabling interaction among students and teachers as society becomes more interconnected over the Internet (Hanna, 2003; Cornwell, 2009). Consequently, the Department is of the opinion that online instruction is a critical factor in the pursuit and accomplishment of its pedagogical mission for the 21st Century (Ibid).

PART TWO

THE RESEARCH:
HOW STUDENT LEARNING IS ENHANCED BY ONLINE INSTRUCTION

According to a 1999 landmark study published by the National Academy Press entitled How People Learn: Brain, Mind, Experience and School (Bransford, 1999), online instruction supports, deepens and extends student learning beyond the traditional classroom setting in no less than five significant ways:

1. It brings exciting curricula into the classroom that is based on real-world problems that involves students in finding their own problems, testing ideas, receiving feedback, and working collaboratively with other students or practioners beyond the school classroom[2];

2. It provides tools and scaffolds that enhance learning, support thinking and problem solving, model activities and guide practice, represent data in different ways, and are part of

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men's basketball team @ City Tech and am a full time student. Some professors say that for some online courses the students must sign on during the class hours listed. This concerns me because the reason I'm taking this online course is because I need to be able to do my work at various times during the day. I can't attend school or sign onto an online database at those times, so if you can give me some information on how the online course is going to be run I will be able to make a judgment to see what is best for me." The professor was able to immediately e-mail a response to this student addressing his concerns.

[2] For example, both the "External Links" and "Scholar" features in Blackboard Version 8.0 allow students to locate and utilize online resources for study and research as well as interact with other students, scholars and professionals outside the classroom through online blogs, wikis and other highly interactive Web 2.0 and New Media online forums.

a coherent and systematic educational approach[3];

3. It provides students and teachers more opportunities for feedback, reflection, and revision, including those where students evaluate the quality of their own thinking and products, have opportunities to interact with working professionals, receive feedback from multiple sources which include their peers, and experience cognitive tutors and coaching where improvement is needed[4];

4. It builds local and global communities that are inclusive of teachers, administrators, parents, students and practitioners, and other interested community people, expanding the learning environment beyond school walls[5]; and

5. It expands opportunities for teacher learning that include helping teachers to think differently about learners and learning, reduces the barriers between students and teachers as learners[6], creates new partnerships among students and parents, and expands communities of learners that support ongoing communication and professional development.[7]

Moreover, a study conducted in 2000 found that in addition to the five modalities outlined above that "highly interactive technologies such as the Internet also make it possible to support learners and learning in recursive processes of exploration that are non-linear and congruent with natural motivation and learning processes" (Carroll, 2000). The study concluded that to support this complex non-linear thinking, "it is necessary to 'think outside the box' of traditional education with its focus on knowledge conservation versus knowledge production" (Ibid).

Both of these studies were cited with approval in a report issued by the United States Department of Education in 2000 by The Secretary's Conference on Educational Technology entitled Assessing the Role of Educational Technology In the Teaching and Learning Process: A Learner-Centered Perspective (McCombs, 2000). In that report, the author outlined the following learner-focused assessment strategies and best practices that

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[3] Indeed, most textbook publishers now provide access to companion Web sites that are easily accessed through the provision of a hyperlink in the "External Links" feature of Blackboard Version 8.0. These publisher Web sites offer, among other learning and developmental tools, (a) Audio Chapter Reviews with MP3 Downloadable Files; (b) Online Self-Tests; (c) Online Flash Study Tutorials; (d) Internet Exercises; (d) Company Links; (e) Online Glossaries, Chapter Summaries and Flashcards; (f) Industry Study Worksheets and White Papers, including Best Practice Resources; and (g) Career Centers (see, e.g., <http.www.pride-ferrell.com>).

[4] Ibid. In addition, the blog, wiki and discussion board features in Blackboard Version 8.0 allow both students and instructors to interact and assess student work product in a highly interactive manner that permits both the refinement of the students' analysis, interpretation and reporting of data as well as enhancing the ability to master the subject matter in a course.

[5] See Note 2, supra.

[6] Because online instruction is essentially learner-centered, as opposed to teacher-focused, the perspective that informs the teacher of online classes is that of the learner, whose perspective is the best predictor of learning outcomes. See text, infra, at pp. 4 et seq.

[7] See Note 2, supra.

are uniquely possible in technology-based learning:

1. It includes the perspective of the learner as the one closest to the learning process and outcomes and whose perspective is the best predictor of learning outcomes;

2. It is built in ways for learners to co-create assessment experiences, thereby developing personal responsibility for their own learning and learning outcomes;

3. It collects self-assessment information that informs instructional design and the selection of technology tools that are used to meet learner and learner needs; and

4. It includes multiple outcome measures and types of outcome categories that include content and skills as well as affective, motivational, and attitudinal outcomes.

(Ibid. at 9).

A study of the results of these strategies and practices in online instruction was conducted in the 2008 National Survey of Student Engagement ("2008 NSSE"). The 2008 NSSE included, for the first time, demographic items that allowed the 2008 NSSE to compare the engagement of students in classroom and online learning. The survey found that, on several of the indicators of engagement, online students reported significantly better results than their in class peers. Perhaps most surprisingly, the 2008 NSSE found that on no indicators did classroom students do so (2008 NSSE).

The 2008 NSSE also found that, in comparison to classroom students, online students were significantly more likely to report that they:

- Very often participated in course activities that challenged them intellectually;
- Very often participated in discussions that enhanced their understanding of different cultures; and
- Very often discussed topics of importance to their major (Ibid.).

The results of the 2008 NSSE study were noted with some interest by online educators and prompted further research by academics in the field of education. For example, in the fall 2009 Review of Educational Research, Bob Bernard, Phil Abrami and colleagues from Concordia University found that while online education is being quickly adopted by more and more educational institutions for various pedagogical, institutional and administrative reasons, it was nevertheless necessary to investigate the conditions within this mode of instruction that seem to account for the better outcomes cited by studies like that conducted by the 2008 NSSE. Accordingly, the Concordia research team decided to focus on interaction types and, as result, found that student-student, student-teacher, and student-content interactions accounted for significant differences in the quality of learning outcomes in online instruction. The study concluded that when online instruction focuses on increasing or enhancing interaction, outcomes improve above those attained in classroom instruction (Bernard, 2009).

Significantly, in April 2009, the United States Department of Education released again another major study entitled Evaluation of Evidence-Based Practices in Online Learning. The study reported the results of a meta-analysis of more than 1,000 empirical studies comparing online and in class instruction and covered a twelve-year span selecting what the

authors considered to be only the best evidence: 99 studies employing experimental or quasi-experimental methods (the "2009 USDE Study"). The 2009 USDE Study found that online students perform significantly better than their classroom counterparts on outcomes of learning measured in the studies (Ibid.).

For example, on average, the 2009 USDE Study found that students completing some or all of their courses online rank in the 59th percentile in tested performance as compared with the average classroom student scoring only in the 50th percentile (Ibid.). While statistically that difference may be modest, it is nonetheless significant. Indeed, according to Barbara Means, the lead author of the 2009 USDE Study, "The study's major significance lies in demonstrating that online learning today is not just better than nothing – it actually tends to be better than conventional instruction" (Lohr, 2009). Others agree.

Education Secretary Arne Duncan remarked, "This new report reinforces that effective teachers need to incorporate digital content into everyday classes and consider open-source learning management systems, which have proven cost effective in school districts and colleges nationwide" (Cornwell, 2009). Lawrence N. Gold, the director of higher education at the American Federation of Teachers said, "This report correctly recognizes that online learning and blended learning are growing components of higher education and, employed properly, can play a significant role in promoting student learning. Further public investment in experimentation and technology is certainly warranted" (Ibid.).

In addition, John R. Bourne, the executive director of the Sloan Consortium, stated, "Those of us in the business have thought these things for some time, but we have had enormous trouble convincing some folks about the quality of online education. I think this will give more credibility to the things that have been said (Ibid.; see also Allen, 2008). Finally, Diana G. Oblilnger, president of Educase, commented, "It gives people greater opportunity for flexibility, for experiential learning, for illustrating things in multiple ways such as visualization" and concluded "What the study demonstrates, is that colleges need to think broadly about using online education, and not be 'artificially limited' to face-to-face instruction" (Cornwell, 2009).

The findings and enthusiastic reception of the 2009 USDE Study by a diverse assortment of stakeholders in education should not, however, be taken at face value. There is a danger in misinterpreting its findings. Importantly, the 2009 USDE Study clearly states that "the meta-analysis findings do not support simply putting an existing course online, but they do support redesigning instruction to incorporate additional learning online" (2009 USDE Study at p. 51). Nevertheless, although "[t]hat caution applies well to the findings of this meta-analysis, which should not be construed as demonstrating that online learning is superior as a medium. . . . it is [rather] the combination of elements in the treatment conditions, which are likely to include additional learning time and materials as well as additional opportunities for collaboration, that has proven effective" (Ibid.).

Accordingly, it is the ability and skill set of the online educator to design and incorporate a "combination of elements in the treatment conditions" of online instruction that is at the heart of the 2009 USDE Study, and not that online instruction is per se superior to in class or any other mode of instruction (Ibid., citing Clark, 1983). Accordingly, proper instructor training, preparation and support is critical to the success of online instruction, as it is to any other pedagogical medium, as conditions "may vary with respect to a whole set of instructor and content variables" (Ibid. at p. 51; see also Abel, 2005).

PART THREE

APPLYING THE RESEARCH:
ONLINE INSTRUCTION IN THE DEPARTMENT OF BUSINESS

A. FACULTY RESOURCES IN THE DEPARTMENT OF BUSINESS.

1. Expert Faculty. Each of the faculty members in the Department who teach online courses are certified in using Blackboard Version 8.0 (hereinafter referred to as "Blackboard"). Each received their certification after extensive training provided by the College. Indeed, faculty who teach online classes in the Department were again recently recertified by the College to insure that they are using the most recent best practices in teaching online with Blackboard. As such, they are exceedingly well-trained and versatile online instructors with the requisite skill set to provide the best online instruction to their students.

a. *Sloan Grant Recipients.* Both Professor Reinig and Professor Winston received Sloan Foundation Grants requiring them to develop their skills in online course development and instruction. As Sloan Grant Recipients, they are uniquely qualified to assist and mentor other faculty members in the Department who are engaged in teaching online and developing online curricula.

b. *The CUNY Online Degrees in Business.* For the past two and a half years Professor Reinig has served as the only faculty member of the College on the Business Consortial Faculty of the School of Professional Studies at the CUNY Graduate Center ("SPS") for the B.S. and M.S. Degrees in Business. Over the course of that time Professor Reinig developed six unique online courses for both programs that he both teaches and mentors with adjunct faculty teaching those classes at SPS. In addition, as a member of the Consortial Faculty he routinely reviews and votes on the approval of new online course offerings for the degrees and is responsible for observing and reporting on the online classroom instruction of other faculty teaching at SPS.

In addition, to Professor Reinig, Professor Carroll also teaches online classes at SPS as do several members of the Department's adjunct faculty. Clearly, the Department has among its faculty some of the most well-trained and proficient online instructors in the College. Accordingly, they each bring to the learning experience of the Department's students a wealth of experience, knowledge and expertise from which the students can best benefit in an online class environment.

2. WEB ENHANCED LEARNING. In addition to using Blackboard, many professors in the Department use the Web sites developed by the publishers of the textbooks which they use in their classes. Not only do these sites enhance student learning, but they can either be utilized as a compliment to Blackboard or as a totally separate platform to which students can have access 24/7.

B. ONLINE PEDAGOGY APPLIED.

1. Developing Individual Student Critical Analytic, Interpretation

and Reporting Skills.

The “Discussion Board” in Blackboard is an ideal environment for students to develop individual critical analytic, interpretation and reporting skills. It is also an ideal forum for developing writing and assessment skills.

For example, one online learning activity that fosters these skills is a requirement for students to post every week a brief summary of an article of the student's own choosing that appears in professional publications accessible though hyperlinks posted by the professor in “External Links.”

In today’s highly global, online and interactive business environment, nearly every industry and discipline has online trade or professional publications, many of which offer free online Internet subscriptions to e-Newsletters of interest to members of the trade or profession. Fundamentally, the e-Newsletters are offered for free because they are marketing research tools for the sites to collect data about members of their target market. Nevertheless, they offer a wealth of information concerning current industry developments and practice that are useful both for seasoned practioners and students new to the field.

The article chosen by the students need not necessarily focus on a topic currently being studied in the course, but may concern material either already studied or that will be covered in the course in the future. These weekly “Article Comments” must include the following: (1) the name, date and author of the publication from which the article was chosen; (2) a posted hyperlink to the article; (3) a summary, in the students' own words, of what the article is about; and (4) the relationship between the topic of the article chosen and a topic or topics being studied in the course. Most importantly, in addition to each student posting their own "Article Comment," every student is also required to briefly comment on no less than three (3) of the postings of their fellow classmates, especially if other students chose the same article as the student.

The use of e-Newsletters is very useful for students for a number of important reasons. First, they reinforce concepts learned in the textbook chapters and delivered in online or in class lectures. Second, the e-Newlsetter articles are always cutting edge and provide students with an appreciation of emerging trends in industry. Third, reading the articles from the e-Newsletters in order to post the weekly “Article Comment" assignment requires students to make the connection between what is learned elsewhere in the class and what is actually happening in industry. Fourth, the requirement that each student comment on a few of their fellow classmates' weekly “Article Comment" postings fosters a level of critical assessment not possible in a time-constrained classroom environment and also, to some extent, replicates an in class discussion on the course material but in a more thoughtful and at a deeper level than possible within the time-constraints of a traditional in class session.

Finally, the professor may comment individually on every student’s "Article Comment" in a forum that is also instructive to the other students participating in the online class; it is not a private but public and group learning opportunity. Although that is much more time consuming for the instructor, it allows the professor to provide individual attention online for each student and develop a relationship with him or her that is otherwise difficult to achieve on an individual basis in a traditional classroom setting. Indeed, students find this individual feedback to be invaluable as it permits the professor to monitor, reinforce or correct understandings of the course material not only for the individual student but the class as a

whole as the course progresses through the semester.

Because this exercise is substantially completed in an asynchronistic online learning environment where there is no particular time or day of the week by which the assignment need be completed except for the posting deadline, it uniquely enables students to thoroughly research, choose, analyze and report on important industry developments and trends while allowing critical self and group assessment that is deeper and richer than that conducted in a traditional one hour and fifteen minute classroom session. It is also worth noting that this activity of analyzing and reporting on the interpretation of a text in a written format is precisely one of the discrete skill sets tested on the CUNY Proficiency Exam (CPE) required for graduation from the College.

2. Developing Group Collaboration, Problem-Solving and Assessment Skills.

The "Discussion Board," as well as other interactive features of Blackboard, such as blogs and wikis, provide unique and ideal tools for developing group collaboration and assessment skills. One online learning activity that supports the development of these skills is the formation of student "working groups" in which collaborative problems solving and assessment is fostered.

For example, at the beginning of the semester the professor may assign individual students to a "Research Firm" in the "Group Pages" feature of the "Communication" hyperlink in Blackboard. Following the formation of the Firms, the professor can designate on a rotating, weekly basis one member of the Firm to act as the Firm Leader. Each week, under the direction of the Firm Leader, members of the Firm can collaboratively analyze and post to their own private "Discussion Board" responses to questions assigned by the professor for that week. Once posted, all members of the Firm can then read, assess and comment on the postings of their fellow classmates. Throughout this collaborative process the professor can monitor and, as warranted, shape and direct the efforts and contributions of the students to the group effort. The final step is for the Firm members to assist their Firm Leader in drafting a final set of responses to be posted on whatever interactive forum the professor has chosen for this exercise where all members of the class, as well as the professor, can read, assess and comment on the final work product.

Indeed, one possible pedagogical choice for the professor in Blackboard is to let students “grade” each other’s work posted on the main “Discussion Board” with a one to five star rating. This feature can also be applied to the assessment of the weekly “Article Comments” discussed above.” Again, as with the weekly “Article Comments,” this collaborative group work is asynchronistic; each member of a Research Firm can log into their Research Firm’s group forum at any time of any day of the week and respond to the postings of fellow Firm members provided they do so by the deadline set by the Firm Leader for the final submission of all responses. Consequently, the online format allows students time to read, analyze and respond to the weekly questions and the responses of their fellow group members in an intensive and reflective manner that is simply not possible in a one hour and fifteen minute class format.

3. Developing Communication, Leadership and Professional Skills.

Significantly, online group collaboration develops leadership skills and fosters cooperation among peers. It builds time management skills and instills the tolerance, exchange and acceptance of various and divergent viewpoints, all conducted in a virtual environment. Significantly, these are among the professional skills that are expected in a global, highly connected and interactive business environment. They cannot be taught, let alone mastered by students, in a static, linear, traditional classroom format. Accordingly, online instruction is critical to our students’ future professional as well as academic success.

CONCLUSIONS

1. Online courses delivered in either a fully or hybrid online format enhance student learning by enabling a transition from a teaching-focused paradigm to one that is centered on learning.

2. Online students are more actively engaged in the learning process than in a traditional classroom setting where information is passively received from an instructor.

3. The use of group forums, interactive blogs, wikis and discussion boards not only enhance the active learning process but afford students a unique opportunity to collaborate and assess their contributions and work product in an environment that is not bound by the constraints of time and physical space.

4. The hybrid online format in particular permits the instructor to use in class time more efficiently to cover more content and use activities to encourage both critical and quantitative reasoning in assessing and building upon work completed online.

5. Online courses can reach a population of students who have outside commitments, such as employment and family obligations, who would otherwise not have the opportunity to pursue their education in a traditional in class format.

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