USING A FINANCIAL TRADING ROOM TO FACILITATE AN INTERDISCIPLINARY, LEARNER-CENTERED PARADIGM: ONE SCHOOL’S EXPERIENCE

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ABSTRACT

The traditional finance course is often one of learning formulas, applying financial concepts to problem sets, and significant classroom reliance on Power Point presentations. The learner-centered paradigm offers a different approach that has greater acceptance in today’s environment. This paper discusses the development of a technology-based financial trading room (FTR) to enhance student learning while using dynamic information. We address the expected value-added by the FTR with respect to student learning, team-work, internship/permanent placement, and student recruitment. After two years of use, the results of student survey data indicate generally favorable attitudes to the FTR and greater use is encouraged.

INTRODUCTION

The educational paradigm of the 20th century—the instruction paradigm—has undergone a radical shift. Administrators, accreditation associations, and faculty today embrace an understanding that their mission is not one that produces teaching, but
one that produces learning (Barr & Tagg, 1995). As colleges and universities strive to reach the goals of the learning paradigm, they must support institutional change, create learner-centered communities, and enhance faculty development (Buckley, 2002). The learning paradigm motivates an environment that encourages faculty to work across disciplinary boundaries and integrates technology, and real-world experiences into the classroom. In an age of “digital” learners, prospective students and parents are attracted to institutions that embrace the learning paradigm that engages students as interactive participants in the learning experience.

Over the last eight years, the School of Business and Economics has been at the forefront of observing and participating in this paradigm shift at North Carolina A&T State University (A&T). In 2005, the School began to evaluate the implementation of a financial trading room to offer students across the school and the university greater financial education and exposure to the operations of financial markets. The initiative responded to a rapidly changing university and management education environment. In 2001, faculty, staff, and students at A&T were engaged in a visioning process to address the long-term direction for the university.

Through this FUTURES program, the vision and mission of the university was revised to encourage all academic programs toward an interdisciplinary focus. The vision statement specifically referred to the university as a “learner-centered community” with guiding principles that support the integration of learning, discovery, and engagement. During this period of campus-based change, the School’s accrediting body, the Association to Advance Collegiate Schools of Business (AACSB), approved new accreditation standards, with a similar focus on learning. The most significant change in the AACSB standards relates to processes for the “assurance of learning,” which requires direct evidence of the educational achievements of students (Thompson, 2004).

The following paper represents a case study of the decision-making process used by the School in assessing the value of the trading room for our students and stakeholders. We begin by
describing the University and School, and the existing financial trading room. Next, we review the propositions that guided our decision to pursue this project. We present results of an early survey of the attitudes and perceptions of students who witnessed the development and implementation of the facility. We conclude the paper with a discussion of lessons learned from this endeavor and recommendations for others that choose to venture down this path.

THE UNIVERSITY AND SCHOOL ENVIRONMENT

North Carolina A&T State University, a public, 1890 land-grant university, is a constituent of the University of North Carolina System and is located in Greensboro, North Carolina. The university is recognized in the Carnegie classification system as a high research activity institution. With an enrollment of nearly 11,000 students, A&T is the third largest historically black college or university (HBCU), and it offers degree programs at the baccalaureate, master’s, and doctoral levels. The university is widely known and respected for its academic programs in business, engineering, agriculture, and technology. A&T also has recognized programs in the arts, journalism, and the sciences. The historic legacy of the university is a source of significant pride for its alumni, students, and friends.

The School of Business and Economics offers programs at the undergraduate and graduate levels. Major degree programs are offered through five departments: Accounting, Business Education, Economics and Finance, Management, and Marketing and Transportation/Supply Chain. Graduate degree programs include the Master of Arts in Teaching (MAT) – Business Education and the Master of Science in Management (MSM), with concentrations in Human Resources Management, Management Information Systems, and Supply Chain Management. The School is housed in two adjoining buildings that were constructed and renovated in 2004 and 2006, respectively. In addition to over 70 doctorally-qualified faculty members in their respective disciplines, the School is supported by other highly-qualified administrators and professional staff. The School is also supported by a high profile Executive Advisory Council.
comprised of national and international business and governmental leaders. Students are nationally recruited for internship and permanent placement opportunities.

The School has an enrollment of approximately 1,400 students. The UNC System requires constituent universities to limit out-of-state enrollment to a maximum of 18% of the overall student population, therefore most students are from North Carolina. The School uses scholarship incentives to recruit high-caliber students and all students meet the minimum admission standard of a 2.5 high school grade point average and competent SAT performance. The university is primarily a residential campus; however, approximately 30% of the students live in near-by off-campus housing accommodations.

Construction on the financial trading room (FTR) began in the spring of 2006 and completed in the late fall of 2007. The 32-seat facility is located on the second floor of Craig Hall. Café A la Carte, operated by University Food Services, is adjacent to FTR and was reconfigured with a one-way glass wall to facilitate external observation of activities conducted in the trading room. Stock tickers, which are visible from the front and rear entrances of the School, are positioned inside the classroom and along the exterior walls. Four monitors are located near the exterior ticker, with constantly running CNBC reports and other School-related news.

Data licenses secured for use in the FTR include FactSet and Telemet Orion (20 years of corporate financial data used for analytics and portfolio analysis), Financial Trading System (web-based software that facilitates real-time interactive student trading), Bloomberg terminal and Crosstec (used to monitor student workstation activity). The School continued its license agreements with Compustat and Crystal Ball (financial and optimization software).
FINANCIAL TRADING ROOM EVALUATION PROCESS

In 2005, the School, along with several other HBCUs, was invited to a financial markets seminar at Bentley University (Massachusetts). The visit was arranged by the Management Education Alliance (MEA), a non-profit organization with a mission to assist and enhance minority-serving business schools. The MEA’s areas of support are directed toward faculty development, curriculum innovation, and other programs to support institutional policy. Bentley was one of the early adopters (Carnegie Mellon University was the first to develop the concept) of technology-enhanced learning platforms and has one of the longest records of curricula development in financial simulations. To effectively evaluate the feasibility of implementing such a facility at A&T, three persons from university made the trip to Bentley; the School’s Associate Dean was accompanied by the University Director of Physical Plant and the a Project Manager from the Office of the University Engineer.

Based on the evaluation by the technical staff and the University Engineer, it was determined that Craig Hall was electronically-outfitted to support such a facility with minimal structural change. The School’s administrators and faculty were tasked with evaluating the benefits to the students and other stakeholders. This evaluation process considered four primary areas: the value of enhanced access to financial market data for students and faculty, the impact of the facility on curriculum development, opportunities for student placement, and student recruitment and retention.

Student and Faculty Access to Financial Market Data

The primary mission of the FTR is to provide an experiential learning environment in which students can observe the interaction of market concepts and behaviors through simulated trading and analyses. Based on the visit to Bentley, research on the topic, and conversations with other universities in North Carolina and around the country, it was found that such facilities had broad use in business schools (Shinn, 2003; Alexander, Heck, & McElreath, 2001).
Individuals responding to questions about such facilities indicated that the immediacy of stock and global news information adds realism to the classroom. Through team-based and individual study, students gain a greater understanding of how financial markets respond to new information. As students experience the impact of global currency fluctuations, variances in governmental policy, and corporate and individual decision-making, the sense of a “global economy” expands beyond that of a textbook discussion to one that is more attuned with the way 21st century students learn. These perceptions lead one to anticipate the following proposition:

**Proposition 1.** Learner-centered instruction in technology enhanced financial laboratories improves student skills and retention of dynamic content knowledge.

From a research perspective, the FTR offers broad opportunities for interactive faculty and student collaborations. The ability to quickly access and assimilate current and historical financial data significantly supports quantitative faculty research, while also providing learning opportunities for students who assist in extracting the required information. Further, because A&T is a land-grant institution with a large research-oriented agricultural program, access to commodity and financial data creates opportunities for interdisciplinary collaborations at the undergraduate and graduate levels. The prospect for interdisciplinary faculty and student interaction suggests the following propositions:

**Proposition 2.** Learner-centered instruction in technology enhanced financial laboratories improves faculty and student interaction and student learning.

**Proposition 3.** The accuracy and immediacy of data in a technology enhanced financial laboratories improves opportunities for faculty research.

**Proposition 4.** Learner-centered instruction in technology enhanced financial laboratories improves supports interdisciplinary collaborations.
Curriculum Development

During the process of evaluating the implementation of the FTR, meetings were held with the chairpersons of each department and selected faculty within the departments. Based on the nature of the facility, it appeared natural that faculty members from finance, accounting, and economics would readily envision opportunities for curricula integration. The facility would be important in all areas of finance; news stories and historic financial data readily supported economics; and financial statement analysis, access to SEC filings and footnote information appeared to be of direct value to accounting classes. This lead to the following proposition:

Proposition 5. Using the FTR would assist faculty in finance, economics, and accounting in the process of developing curricula to effectively assess student learning

Faculty members in management, marketing, and business education did not immediately identify specific uses for the facility within the existing curriculum, and did not indicate a desire to explore areas for innovative curricula redesign. The evaluation team believed that having faculty from three departments was sufficient to continue consideration.

Student Placement and Professional Certifications

The evaluations of student placement opportunities that may result from having experienced study in the FTR were based primarily on discussions with external stakeholders. The concept was presented to the School’s Executive Advisory Council and to recruiters that visit the School multiple times annually. All parties believed that students’ exposure to the FTR would enhance financial knowledge and would add to soft-skill development with respect to team-work, critical analysis, communication, and technological skills.

External partners and supporters also expressed a belief that the FTR fit well with the School’s mission of responding to the “diverse backgrounds and abilities of students.” Many of the students
from North Carolina resided in small and rural environments, and many were eligible for Pell grants and other financial-aid support. Faculty members and recruiters had observed that students learned the calculations associated with finance and accounting, but many of the concepts remained rather abstract. Observations by faculty and recruiters indicated that the business relevance of these abstract concepts often did not become apparent to students until an industry internship experience. Weimer (2002) emphasizes this point by noting that learner-centered courses enable faculty to change “from covering content to using content.” Weimer further notes that content use improves students’ self-awareness of their learning. Halpern and Hakel (2003) address the importance of teaching and learning in an even more direct manner. These researches insist that “the purpose of formal education is transfer…. We need to always remember that we are teaching toward sometime in the future when we will not be present—and preparing students for unpredictable real-world “tests that we will not be giving” (p. 38).

As firms move to leaner staffing, they seek interns and new-hires who can make immediate contributions in the workplace. It is important for the academy to create real-world teaching environments that engage students in interactive learning. Therefore, we suggest the following propositions.

**Proposition 6.** Learner-centered instruction in technology enhanced financial laboratories improves students understanding and application of financial concepts to real-world businesses.

**Proposition 7.** Exposure to and classroom instruction in the technology enhanced financial laboratories improves students’ overall learning and access to internship and permanent placement opportunities.

**Proposition 8.** Student engagement in projects requiring the use of the FTR will enhance soft-skill development.
Student Recruitment and Retention

The FTR supports the tenets of the learner-centered paradigm through active learning experiences, faculty interaction, and collaborative learning. The process of student engagement within this facility is also expected to positively influence student recruitment and retention. BusinessWeek’s review of universities that implemented financial trading rooms noted the use of these facilities for marketing, development, and recruitment (Miller, 2003). Weimer’s (2002) research of active student engagement contrast this form of instruction with the lecture-style of delivery, and notes that passive learning often fails to stimulate student motivation, confidence, and enthusiasm. Her research further finds that active-learning and student-centered pedagogy improves student attitudes and student performance. Therefore, we propose the following:

Proposition 9. An environment of active student engagement contributes to greater satisfaction with the process of instruction, increases student retention, and enhances the opportunity to recruit of new students.

STUDENT SURVEY RESPONSES CONCERNING THE ATTITUDES AND PERCEPTIONS

One hundred sophomore-senior students were surveyed in introductory economics, finance, and business management courses. Students were from all disciplines in the School, and some students were non-business majors. The survey instrument asked 12-structured questions regarding similar courses taken in high school (economics, finance, and accounting), general knowledge and/or use of the FTR, effectiveness for career opportunities, prior awareness of the stock market, the FTR’s effect on their knowledge base. Students were also asked if the facility increased their pride in the School.

The students’ responses to the questions supported the positions anticipated by the FTR evaluation/implementation team. Less than 30% had taken courses in high school related to economics, finance, and accounting. With respect to career opportunities and
interaction with professors, 57% felt that the FTR would favorably influence career opportunities, and 78% believed that the FTR would increase interaction with professors. Twenty-eight percent of the students indicated that the stock market had been discussed in their homes prior to them entering college. Seventy-five percent of the students agreed or strongly agreed that the facility increased their pride in the School. Nearly all of the students, 97-100, responded to all of the survey questions.

Open-ended comments were also sought from the students. Only 32 students elected to provide comments. The responses were categorized in the following manner:

(1) 64% responded that the FTR is beneficial (placement, hands-on learning, and more classes desired in the trading room)

(2) 6% indicated an interest in becoming a member of “Young Investors Club”

(3) 24% had never been to the FTR. Two students indicated that they thought the FTR was for faculty only and another suggested that the facility was only for aesthetics purposes. One student comment was deemed non-responsive.

LESSONS LEARNED

The addition of the FTR has proven to be a principal investment in facilitating the learner-centered paradigm. Students are engaged and invested in their learning process, technology is actively incorporated into the teaching process, and students and faculty have access to historic and current data and information for research and decision-making. Over the two years of use by students and faculty, the FTR has become an essential tool in students’ understanding of financial markets and the market’s effect on the global economy. Next we discuss several observations and lessons learned regarding the use of the FTR, including using the facility as a recruitment tool, for constituent learning (further investing in the learner-centered paradigm), and for research.
Recruitment Tool

Observation 1 – Student interest in the FTR is created through the physical location. The glowing ticker of the NASDAQ and the NYSE are visible from both entrances to Craig Hall. Students are able to quickly ascertain pertinent information on stock prices.

Observation 2 – As evidenced in the survey results, students show interest in and are influenced by their friends’ discussion and use of the FTR.

Observation 3 – The School has hosted multiple visits by high school and middle school students. More University and community activities need to be held in conjunction with the FTR to increase the interest of other potential users.

Learning

Observation 1 – Continue to encourage and support faculty interest in integrating the FTR in their courses should be increase. Workshops and seminars should be conducted to showcase functionality of resources and how these resources can enhance learning/teaching models. Additionally, these workshops should be archived as tutorials for self-paced exploration and integration into courses. Tutorials should be available for both faculty and students.

Observation 2 – Cases that integrate across disciplines and real-world scenarios should be developed/used to teach financial and other discipline-specific content.

Observation 3 – Today’s students actively use resources that are accessed using the latest technology to inform their decisions regarding school, work, and leisure. Technology integration is their “norm” and students’ interest in learning complex subject-matter increases with the use of technology.
Research

Observation 1 – Students and faculty perceptions of the ease of use of the FTR for research are encouraging. One faculty member has made extensive use of the Bloomberg for scholarly research. Several faculty members have incorporated research projects into their courses. Faculty have addressed the Executive Advisory Council and to the UNC Board of Governors on the positive outcomes class experiences using the FTR.

CONCLUSION

The experiences associated with developing and implementing the FTR have been rewarding. Anticipated positive outcomes have been realized across all of the areas selected for study. Program expansion, however, to the broader campus and in the community remains a significant work-in-progress. This paper has not discussed the cost of implementation, and it should be noted that to build a facility such as this generally requires a significant initial capital outlay to develop the FTR and continuing annual expenses for product licensing. The primary determinant of cost is related to the size of the FTR and the range of financial products selected for use by students and faculty.

The establishment of the Young Investors Club was the result of grass-root student action based on the availability of the FTR. This unexpected outcome draws over 30 students to the FTR weekly for guest speaker presentations and informal learning opportunities. The use of the facility by secondary schools was also more a hope than an expectation. When it was realized, all parties were pleased. Today, more than 1,000 students participate in activities in the FTR annually and we anticipate increasing use. The results of our experiences suggest that the learner-center paradigm works effectively in the trading room environment and we strongly recommend that others consider this as a means of increasing student learning.
REFERENCES


AUTHORS

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