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**Myrtle Beach, South Carolina  
April 7-11, 1999**

## **Academy of Educational Leadership**

## **Proceedings**

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# **Proceedings of the Academy of Educational Leadership**

**April 7-11, 1999  
Myrtle Beach, South Carolina**

**Jo Ann and Jim Carland  
Co-Editors  
Western Carolina University**

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# **FINANCE STUDENT PERCEPTIONS AND ATTITUDES ABOUT DISTANCE & FLEX-TIME LEARNING EFFECTIVENESS**

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## **ABSTRACT**

*On August 25, 1997, Florida Gulf Coast University (FGCU) – the 10<sup>th</sup> university in the State of Florida University system opened its doors to new students in Southwest Florida for the first time. In order to secure funding for its creation, the Florida State Legislature mandated that as part of its mission FGCU would be devoted to the development and implementation distance learning. In keeping with this mission, the College of Business at FGCU created a curriculum that is very reliant on the internet and email for delivery of instruction and to maintain student contact. This approach to teaching was new and challenging not only for faculty at FGCU, but for students as well. As a result, the authors decided in September 1997 to survey (see attached) our finance and economics students about their initial perceptions of the advantages, disadvantages, successes, and limitations of distance and flex-time learning. One year later, we used the same instrument to survey our students to see if time and experience with various distance and flex-time learning methods had any impact on these perceptions. The results of this study focus both on student perceptions about distance & flex-time learning and on the extent to which these perceptions have changed between 1997 and 1999.*

## **INTRODUCTION**

Florida Gulf Coast University, the 10<sup>th</sup> university in the Florida State University System, opened its doors in August 1997. As part of the mission of the university, innovative teaching techniques and utilization of technology were encouraged. The Department of Finance in the College of Business supported this mission. The marriage of technology and finance is continually strengthened as new information technologies are continually integrated into the financial markets.

One component of the University Mission was to deliver distance courses to 25% of the students enrolled at FGCU. The Department of Finance accepted this challenge, realizing it needed to overcome significant barriers to effectively teach finance in a distance setting.

In implementing distance courses at FGCU, however, it was imperative that both its prospects and problems be examined prior to implementation. It was important to identify the advantages and disadvantages of a distance learning delivery system.

The first obvious advantage of distance learning is that courses otherwise unavailable on-site because of low enrollments or instructor availability can be made available to interested students. Second, there is a natural constituency of potential students for whom actual class attendance is difficult or impossible. Examples would include students that live far from campus, students with physical disabilities, and students whose work schedules do not allow them to attend class regularly.

Potential hurdles to the development of distance education included a lack of training on the part of faculty, unfamiliarity on the part of both students and faculty with required technology, and a potential reduction in faculty-student interaction and communication.

A number of universities are currently offering or are preparing to offer courses using distance or flex-time delivery. This approach to teaching is new and challenging not only for many faculty, but for most students as well. The primary goal of this research is discover potential problems that the students themselves foresee with the uses of these forms of delivery. A secondary goal is to determine the relative propensity of various sub-groups within the student population to register for classes that utilize distance and flex-time delivery. Finally, this paper investigates the extent to which student perceptions about distance and flex-time instruction have changed since the University's inception.

## LITERATURE REVIEW

In our review of the literature, we chose to focus our research efforts on the mathematics literature. We chose mathematics because of its similarity to finance with respect to its requirements for intensive problem solving and analysis on the part of students, and because of the lack of scholarly articles in the finance literature.

Wilson (1997) examined an early distance learning program initiated by the North Carolina School of Science and Mathematics (NCSSM). Established in 1980, the NCSSM was nation's first statewide residential public high school for 11<sup>th</sup> and 12<sup>th</sup> grade students with potential talent in science and mathematics. Administrators of the NCSSM distance learning program have found that to perform well in a distance learning course, a student must be highly motivated, self-disciplined, and able to work independently without constant supervision. Furthermore, teachers should possess certain qualities, including: the need to be flexible to cope with lapses in technology; the ability to develop assignments designed to foster both individual and cooperative behaviors conducive to learning; and the ability to think linearly in order to organize the material clearly for presentation.

In the spring semester of 1998, the Department of Mathematics at the University of Colorado offered two courses over the internet as the first stage in its distance learning program. According to Adams (1998), a distinguishing feature of the program was the incorporation of traditional classroom elements into the presentations. This was done because of the belief that the two most important components of teaching mathematics was both the visual transmission (using some sort of "chalkboard") and the voice/words of the instructor to describe and explain the material. The University of Colorado created the "internet" portion of the course using an audio and "whiteboard" conferencing system called Rendezvous by VisualTek Solutions, Inc. In addition, they selected Microsoft's NetShow application to deliver the audio feed of lectures over the internet.

In a study to determine the effectiveness of using distance technology to teach mathematics, Larson and Bruning (1996) used qualitative research methodology to explore the perceptions of

students and teachers participating in an interactive collaborative satellite-based mathematics course. Results showed that the distance learning format gave teachers access to more resources, was useful for underachieving students, and was an effective way to implement national curriculum and instruction standards.

Sener (1996) studied a Northern Virginia Community College (NVCC) distance learning program created for mathematics, science, and engineering courses required to complete an entire Associate of Science degree in Engineering. The results indicated that students achieved completion and grade distribution rates comparable to on-campus offerings of the same courses.

In a study comparing the scores of on-campus and off-campus students taking a common final examination in similar graduate education courses at Nova Southeastern University, McFarland (1996) found that 36 off-campus students had higher average scores on the 30 common examination questions than their 25 on-campus counterparts.

Finally, at California State University at Northridge, McCollum (1997) divided a statistics class, teaching one group traditionally in class and another in an online version of the course using a World Wide Web site, electronic mail, and an electronic chat. On both midterm and final exams, the online group performed significantly better.

### **DISTANCE LEARNING IN THE DEPARTMENT OF FINANCE**

One example of a distance learning course in the Department of Finance at FGCU is Finance 3240, the introductory undergraduate finance course. The Web page for a sample course is located at <http://www.tmag.com/sgarrison>

Finance 3240 is taught both in-class and at a distance. The distance version of the class has been taught three times to good reviews from the students who completed the course. The attrition rate is high in the course (27%). However, this compares favorably to the attrition for distance courses university-wide (32%).

In “walking through” the Finance 3240 web page there are a number of items to note. First, there are a number of “topic overviews” which give a thumbnail overview of the topic at hand. These are designed to explain some of the theoretical concepts in simpler terms, and to add practical applications that employers desired.

There are also a number of tutorials to give students “hands-on” financial training. Some of the tutorials cover the basics of using financial spreadsheets, the basics of working with time value of money, and how to use spreadsheets in valuing corporate securities.

The course page contains the syllabus for the course, as well as some general materials that we developed such as sample exams and various tutorials. We also have a page devoted to each chapter in the course textbook.

The materials that we have for each chapter are objective-driven. We have learning objectives listed for each chapter and all subsequent materials derive from those objectives. We also include a chapter outline, solved problems, and a “Web Site of the Day.” In addition we allow students to review the PowerPoint slides that we use in our classes. These are viewed using a PowerPoint animation player. We purposely do not put the actual PowerPoint slides on the page to minimize download time. Also, we have observed students in university classes printing out PowerPoint slides



in the lab. We thought that this was not a good use of university resources, particularly when in our class we have the chapter outlines available for student note taking.

Perhaps the most important feature of the page is the Feedback Form. We decided that we could not wait until the end of the semester to make course improvements. Rather our goal was to make continuous improvement. To that end, we give students the opportunity to provide us with feedback every lesson. Most of the time, the comments have been fairly gratifying. Occasionally, we get a good suggestion that we can use to immediately improve the course. For instance, the first semester we taught this course, we made e-mail assignments due on Fridays. A couple of students wrote to us, suggesting that we move the due dates to Sundays at midnight. This gave them the opportunity to work on assignments over weekends. Many of our best "Web Site of the Days" are forwarded to us by students. By responding to suggestions such as this quickly, we feel that we are treating students as stakeholders in the course.

## **DATA AND METHODOLOGY**

This survey was first conducted in September 1997, just after the first classes began at Florida Gulf Coast University. The same survey was then conducted again in January 1999, three full semesters after the first classes began. A total of 80 students were surveyed in 1997, and 73 students were surveyed in 1999.

The survey instrument we used to evaluate student perceptions contained questions that can be divided into two categories. The questions in the first category profile the respondents. The questions in the second category were designed to uncover the factors that impact the propensity of students to enroll in distance or flex-time courses.

### **A. Distance & Flex-Time Learning Defined**

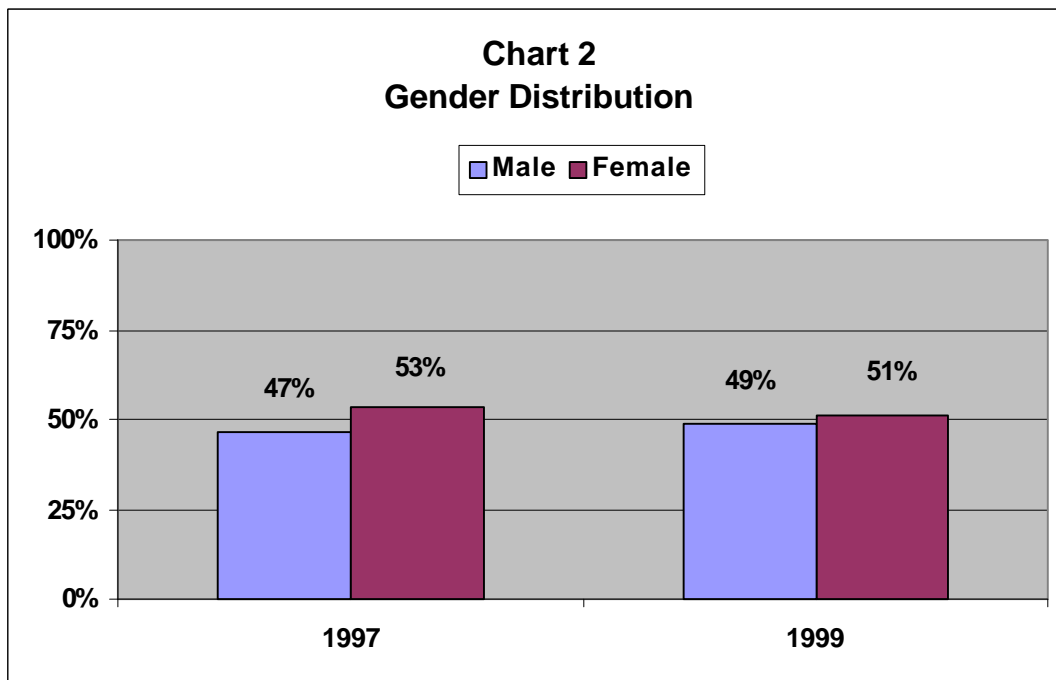
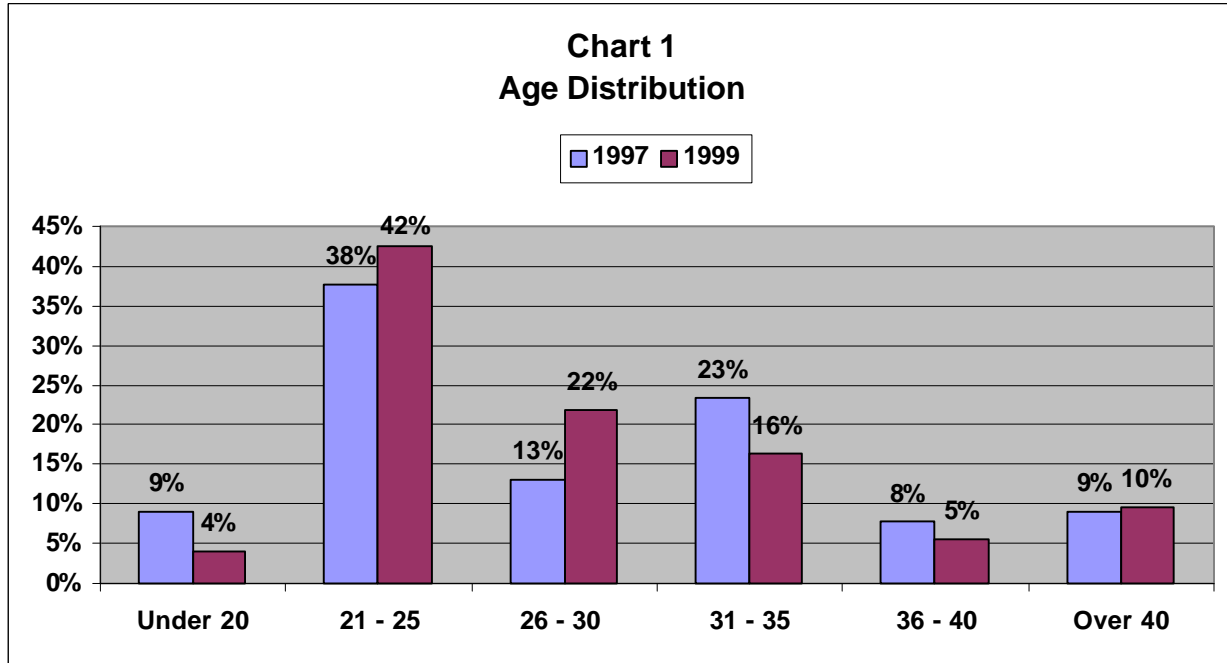
The survey instrument included definitions for distance and flex-time learning taken from Rumble. Distance education was defined as a process of teaching and learning in which the learner is physically separated from the teacher. Flex-time learning was defined as asynchronous distance learning utilizing tools such as videotape, Internet, or e-mail.

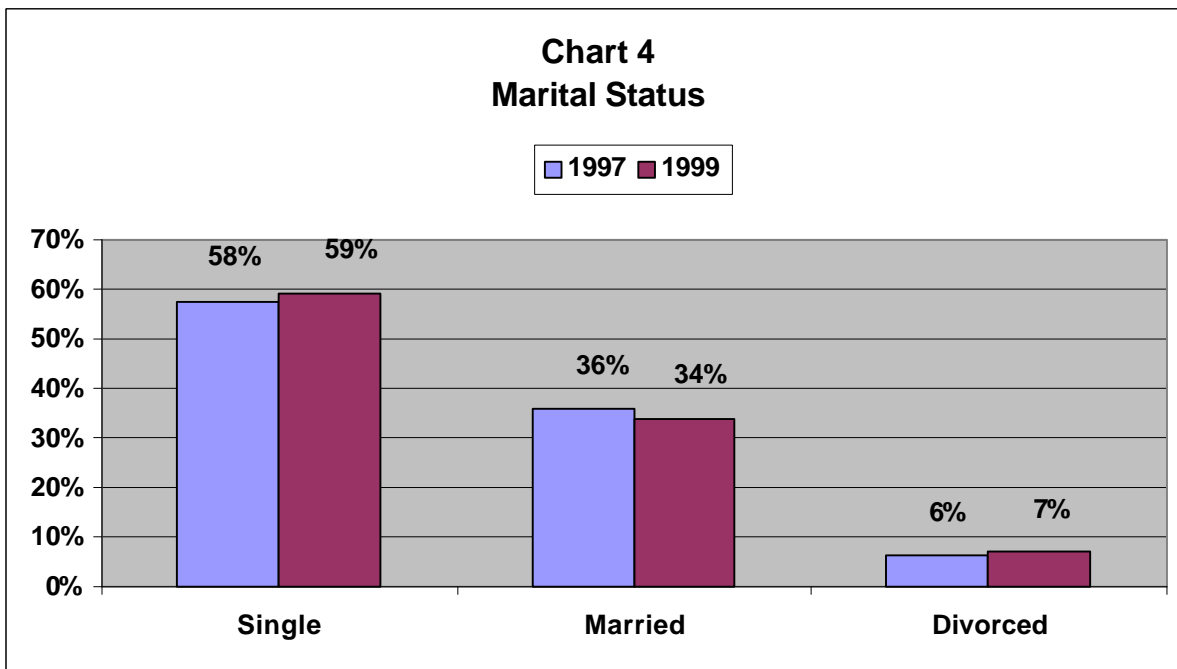
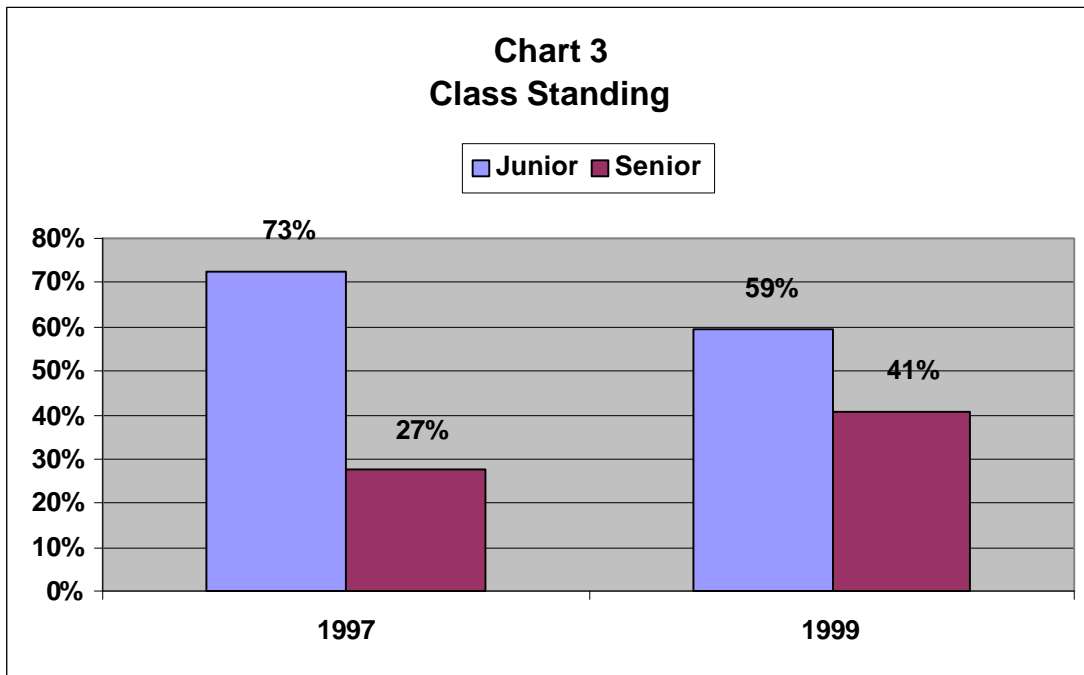
### **B. Sample Demographic Characteristics**

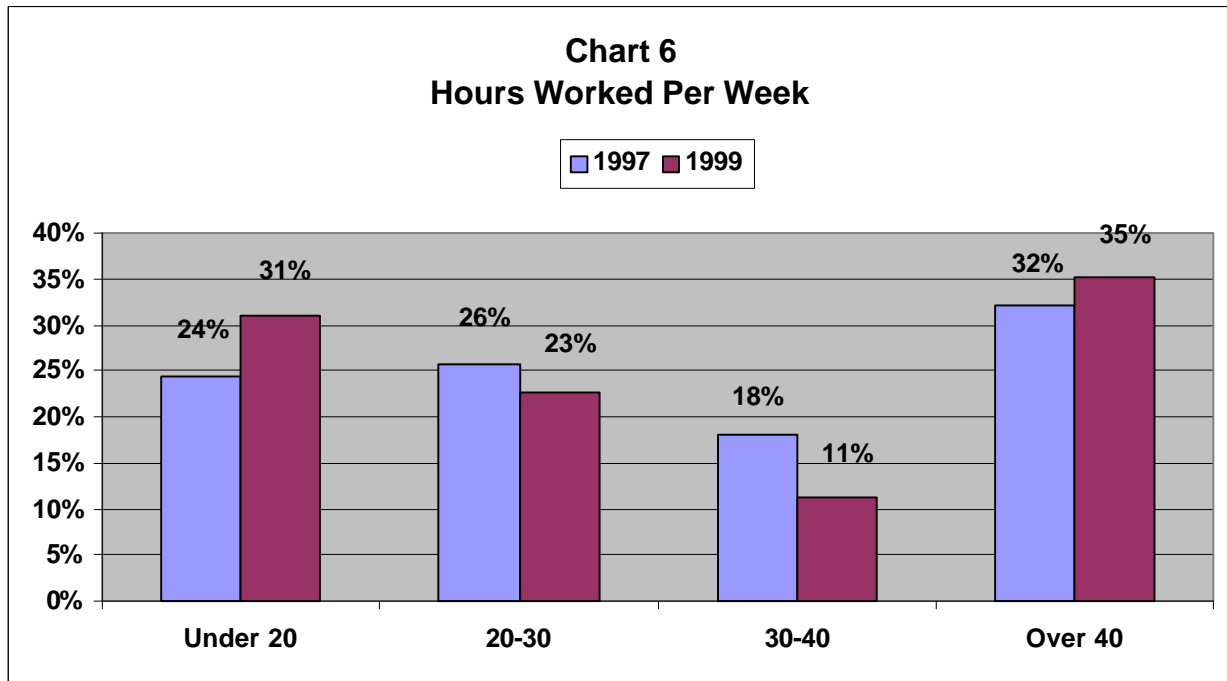
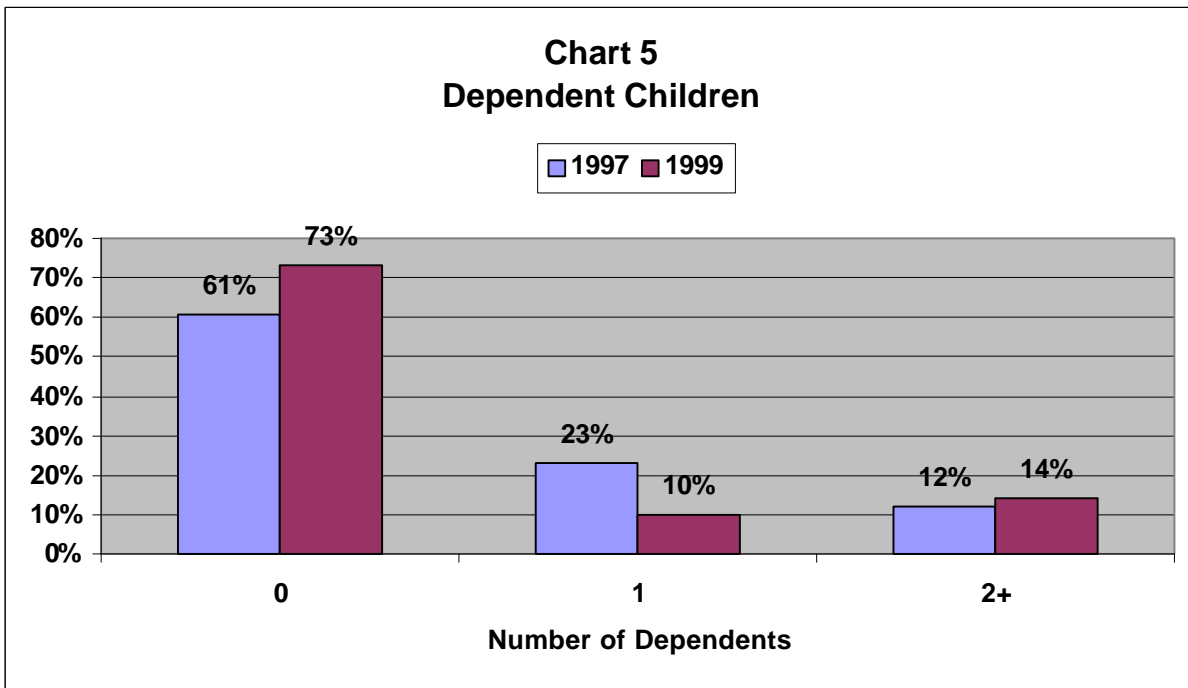
To gauge the level of personal commitments respondents had in addition to education, students were surveyed as to their age, marital status, number of dependent children, and number of hours worked per week.

Chart 1 indicates that a majority of students are in their early twenties. It also shows that significant proportions are in their late twenties and early thirties. Chart 2 shows that roughly half of the students sampled were male and half were female. Chart 3 shows that the students sampled consisted of Juniors and Seniors. Underclassmen were not represented since students must attain Junior-level standing in order to enroll for classes in the College of Business. Chart 4 shows that roughly 40 percent of students surveyed were either married or divorced. Chart 5 shows that while most students have no dependents, 25 percent or more do, again reflecting the "non-traditional"

nature of FGCU's student population. Finally, nearly all students surveyed were employed and Chart 6 shows that fully 75 percent of students worked more than 20 hours per week and more than 30% worked more than 40.







In summary, the survey sample is composed primarily of non-traditional students who would be likely candidates for enrollment in distance or flex-time courses since most are older and working, and many are married with dependent children.

## RESULTS

Our initial intention for conducting a follow-up survey in 1999 was to determine the extent to which students' perceptions about distance and flex-time learning effectiveness had changed between 1997 and 1999. However, an independent sample t-test conducted on both sets of data indicated that student perceptions had not significantly changed over the course of time. As a result, our analysis will focus only on the 1999 survey data responses.

### A. Students' Attitudes Toward Technology

It was suspected that the students' opinions regarding their willingness to learn new technology and their degree of computer expertise would impact the decision to enroll in a distance or flex-time course. Table 1 presents the questions and responses to three questions designed to address these issues. The responses to the questions in Table 1 indicate that students consider themselves as having average computer knowledge/experience. However, it also indicates that they feel they learn quickly and enjoy learning about technology.

Table 1

#### Students' Attitudes Toward Technology

	Strongly Agree	Neutral	Strongly Disagree		
I learn new technology quickly.	28	21	8		
I enjoy learning new technology	36	21	4		
	Non- user	Novice	Average	Advanced	Expert
I consider myself to be a computer user.	0	3	36	27	7

### B. Frequency of Computer & Internet Use

The students were also surveyed regarding their frequency of computer usage and level of access to the Internet. Fifty percent of respondents indicated they always utilize a computer in performing their usual job tasks with 88% indicating that they at least occasionally utilized a computer in performing their usual job tasks. 34% of the respondents indicated that they had used e-mail more than 50 times during the current semester with only 1.4% indicating that they had not used e-mail during the current semester. Similarly, 35% of the respondents indicated that they had accessed the Internet more than 50 times during the current semester with only 1.4% indicating that they had not accessed the Internet during the current semester. Eighty-four percent of the respondents indicated they had access to a computer and the Internet at home, 89% indicated they had access at the university, and 51% indicated they had access at work. Hence, most of the

respondents seem to be relatively frequent computer users with a relatively high level of access to the Internet.

**C. Student Experience With Distance & Flex-Time Learning**

Table 2 summarizes students' responses indicating the extent to which they had experience with distance learning and flex-time delivery. The responses in Table 2 indicate that only 36% of these students had never participated in a distance-based course while 58% had never participated in a flex-time course. Of the respondents who indicated that they had taken a distance course, 59% indicated that they had done so more than once. Of the respondents who indicated that they had taken a flex-time course, 34% indicated that they had done so more than once. This indicates that a majority of the students surveyed had participated in a distance course and not quite half had participated in a flex-time based course.

\*\*\*\*\*  
Insert Table 2 here  
\*\*\*\*\*

**C. Factors Affecting Student Participation in Distance & Flex-Time Courses**

The remaining questions attempt to uncover factors that impact the propensity of students to enroll in distance or flex-time courses. These questions may be divided into two sets. The first set was intended to uncover the concerns and expectations of students when considering enrollment in a distance or flex-time course. The second set of these questions was intended to look more directly at the propensity of students to enroll in a distance or flex-time course.

Table 3 presents the responses to those statements in the survey that deal with student expectations. The responses given to the first statement do not seem to indicate a significant impact of the use of new technology on the decision to enroll in a course. The responses given to the second and third statements reflect typical student responses to any given assignment. The fourth statement reflects the respondent's confidence with regard to learning to use the Internet and e-mail. The responses to statement five and six do not seem to reflect a significant level of confidence on the part of the respondents. However, when the responses are considered more closely, one must note that approximately 37% of the respondents gave better than neutral responses for statement five. Similarly, approximately 33% of the respondents gave better than neutral responses for statement six. These results indicate that a significant portion of the respondents were at least relatively confident that they could succeed in a distance or a flex-time course.

\*\*\*\*\*  
Insert Table 3 here  
\*\*\*\*\*

**D. Student Comfort With Distance and Flex-Time Courses**

Table 4 presents the responses to survey statements that consider factors that may impact the level of comfort students have when enrolling in a distance or flex-time course. Although not shown in the table, each of the statements begins with “I would feel more comfortable about taking a distance or flex-time course if...”. The responses reported in Table 4 indicate that for these respondents the level of confidence of success in a distance or flex-time is relatively high. However, casual empiricism seems to indicate that much of this confidence depends upon the availability of continuously available support contact for the students.

\*\*\*\*\*  
Insert Table 4 here  
\*\*\*\*\*

**E. Perception of Distance & Flex-Time Course Quality & Value**

Table 5 presents the responses to three questions. The first two questions address the issue of perceived quality of distance and flex-time based courses. The responses to these questions indicate that students believe that the quality of courses offered using distance and flex-time modes of delivery would be lower than the quality with traditional modes of delivery. The third question presented in Table 5 addresses the question of perceived value of distance and flex-time courses relative to traditional courses. The responses to this question reinforce the responses given to the first two questions. Students feel that the relative value of distance and flex-time based courses is lower than the value of traditional courses.

\*\*\*\*\*  
Insert Table 5 here  
\*\*\*\*\*

Table 6 presents four questions and responses. The first question examines the anticipated impact of delivery mode on the student’s work habits. The majority of the respondents indicated that they felt their propensity to procrastinate would increase if they were enrolled in a distance or flex-time course instead of a traditional course. The second question looks at student perceptions of the amount of learning that takes place in the classroom versus outside the classroom. The majority of the respondents indicated that they felt that at least 50% of learning takes place in the classroom. The final two questions in Table 6 examine the propensity of students to enroll in distance and flex-time courses when a traditional course is offered as an alternative. While a large segment of the students indicated that they would not enroll in a distance or flex-time course when a traditional course was available, the majority of the students responded with at least a “maybe” response. This indicates that despite anticipated increased propensity to procrastinate and a perceived reduction of in-class learning the majority of the respondents might enroll in a distance or flex-time course.

\*\*\*\*\*  
 Insert Table 6 here  
 \*\*\*\*\*

**E. Propensity to Enroll in Distance Courses Given Course Type**

Table 7 presents responses to four questions that examine the relative propensity of students to enroll in distance or flex-time courses when taking quantitative and descriptive courses. The first two questions consider the propensity of students to enroll in quantitative courses using distance or flex-time modes of delivery. The majority of the respondents indicated that they would be at least “somewhat apprehensive” when enrolling in a quantitative course using distance or flex-time delivery. In contrast, the respondents indicated significantly lower levels of apprehension when enrolling in a descriptive course using distance or flex-time delivery. Hence, there may be significant differences in enrollment patterns for quantitative and descriptive courses offered in distance and flex-time modes.

\*\*\*\*\*  
 Insert Table 7 here  
 \*\*\*\*\*

**F. Effects of Reduced Levels of Human Interaction**

Table 8 reports the responses to four questions that examine the impact of reduced interaction with professors and classmates on the decision to register for a distance or flex-time course. The first two questions look at the impact of reduced interaction with the professor. In each case, over 50% of the respondents indicated that the reduced level of face-to-face interaction with the professor would negatively impact their decision to register for a distance or flex-time course. The final two questions deal with the impact of reduced levels of interaction with classmates in the decision to register for distance or flex-time courses. In both cases, the results are slightly weaker but similar to those for reduced interaction with the professor. Therefore, the reduced level of interaction with the professor and classmates appears to be interpreted by students as a weakness of distance and flex-time offerings.

\*\*\*\*\*  
 Insert Table 8 here  
 \*\*\*\*\*

**F. Importance of Convenience for Enrolling in Distance Courses**

Table 9 presents the responses to four questions that surveyed students opinions regarding the importance of convenience in registering for a distance or flex-time course and whether or not they would have registered for any of their current courses in a distance or flex-time mode. The first two questions address the issue of convenience in registering for a distance or a flex-time course. In



both cases convenience appears to be a significant factor when deciding to register for a distance or flex-time course. The third and fourth questions ask students if they would have enrolled in any of their current courses if they had been offered in a distance or flex-time mode. While only 19 respondents indicated that they would have taken a course in which they are currently enrolled if it had been offered in a distance mode, 23 responded "maybe" and 31 responded "no." When this is considered in conjunction with the responses to the first two questions, one might conclude that most students would prefer to register for a traditional course but that they would consider enrolling in a distance course due to convenience. The responses for the fourth question were similar.

\*\*\*\*\*  
Insert Table 9 here  
\*\*\*\*\*

**SUMMARY AND CONCLUSIONS**

Based on the results of the survey, the following conclusions can be drawn.  
Students were relatively confident that they could succeed in a distance or a flex-time survey.  
Student confidence could be greatly improved by increasing the level of the students' awareness of support mechanisms and familiarity with the technology and professor involved with the distance and flex-time offerings.  
Students feel that distance and flex-time courses offer lower quality and reduced value for their educational dollar.  
Despite anticipated increased propensity to procrastinate and reduced levels of in-class learning the majority of the respondents might enroll in a distance or flex-time course.  
There may be significant differences in enrollment patterns for quantitative and descriptive courses offered in distance and flex-time modes.  
Students see the reduced level of interaction with the professor and classmates as a weakness of distance and flex-time offerings.  
Most students would prefer to register for a traditional course but they would consider enrolling in a distance course due to convenience.

**IMPLICATIONS**

There are several implications for educators offering distance or flex-time courses. First, fear of the unknown could have a negative impact on enrollment. Attempts should be made to familiarize students with the professor, technology, and support mechanisms for distance and flex-time courses. While it may be difficult to increase the familiarity of students with the professor, providing detailed descriptions of the technology to be utilized in the course and the support mechanisms that will be in place can be easily accomplished. It may be worth considering an initial face-to-face meeting thereby allowing students to increase their level of comfort with both the course and the professor.

Perceptions of lower quality and increased propensity to procrastinate are closely related and can be addressed simultaneously. Professors should take care to clearly describe how the course will progress and how students can be involved throughout the course of the term. For example,

demonstrating the successful use of WWW boards and electronic communication to facilitate round-table discussion of topics would show students that they would be involved with the professor and their classmates through the term.

Finally, administrators must realize that some courses may be better suited for distance or flex-time delivery than others. Therefore, a review of the curricula should be conducted in order to determine the courses that are best suited for distance and flex-time delivery. The requirements of the curricula should be considered in terms of student needs so that a combination of suitability for distance and flex-time delivery as well as convenience can be used to determine which courses will be offered using these modes of delivery.

Editor's note: Tables available from authors

# UTILIZATION OF THE INTERNET IN TEACHING BUSINESS COURSES

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## ABSTRACT

*This study investigated the use of the Internet as an instructional tool by Wisconsin public high school business teachers. The purpose of the study was to identify the extent to which the Internet was used in business courses and whether or not the size of the school and years of teaching experience were determinants in using the Internet as a teaching and learning tool. Current use, what teachers liked and disliked, and obstacles in using the Internet were identified. A mailing of 404 questionnaires to public high schools resulted in 196 usable responses.*

*When categorized by school size, the responses were representative of the enrollment size of all public high schools in the state. A majority of the respondents were extensive computer users with the Internet being used both at school and at home. More than one-half of the business teachers reported using the Internet in teaching business courses. When combining all responses, the size of the school and the number of years of teaching did not affect Internet use. Current information and student motivation were the most-liked features of the Internet; controlling what students view and difficulty of accessing sites were the least liked features. The top-ranked obstacles to using the Internet were insufficient numbers of computers and the speed of required access time.*

*This study needs to be replicated in light of rapid advances in Internet resources. Increased availability of computers, as well as support programs and services, is needed to aid business teachers in using the Internet effectively.*

## INTRODUCTION

Growth in the size and use of the Internet over the past several years is impressive and generally well known. Message traffic across one part of the Internet is estimated to have grown from 85 million packets (a packet is approximately 200 bytes) in January, 1988 to more than 60 billion packets in January, 1995. (McAndrews, 1997) Personal and business applications and uses of the Internet are many and varied. However, hard data on growth and extent of the network of computers that comprise the Internet are scarce. Among reliable estimates is one that reports that the number of computers linked to the Internet increased from 213 in August, 1981 to 9,472,000 in January, 1996. Fruehling and others (1997) reported that people have begun to connect to the Internet in record numbers. They indicated that 11.7 million people in the U. S. were expected to go on-line in 1997 to add to the 47 million Americans already connected to the Internet.

The Internet has existed for over four decades (Matyska and Zelif, September, 1996), but only recently has its use extended to personal and educational arenas. Microcomputer technology

and graphical user interface operating systems have facilitated this extended use. The Internet has become a "household word."

Accessibility to the Internet does not automatically translate into its effective use in classrooms. Matyska and Zeliff (December, 1996) observed that the Internet brings with it a new perspective of the teaching and learning process. They further note that this will require teachers to adapt their teaching skills and techniques that they now use.

The potential widespread use of the Internet in education should become a reality. Teaching and learning should be enhanced when the needed equipment is available and functioning and teachers have the desire and skills to take advantage of this potential. Internet resources and procedures also will have to be fitted into the instructional framework and plans of the teacher. Use of the Internet may require some significant adjustments in a teacher's style of teaching and in the students' modes of learning. (Matyska, 1995)

It has been noted (Ramey and Barton, 1997) that about one-third of the nation's schools have access to the Internet; yet only 5% of the classrooms utilize it for instruction. Grabe (1998) observed that changes in pedagogy may be required, allowing technology to become the method and the classroom teacher to become the "facilitator of learning."

Limited use of the Internet may be due in part to the size of the school population. Personal comfort levels with the technology and the extent of training received may be among other reasons why the Internet is not used as a teaching learning tool by some business teachers.

## **PROBLEM STATEMENT**

The purpose of this study was to identify the extent of Internet use by business teachers in the public high schools of Wisconsin. This investigation further sought to determine whether enrollment size of school and years of teaching experience were related to computer use by business teachers and their use of the Internet as a teaching and learning tool. In addition, the study inquired as to what business teachers liked or disliked about using the Internet, how students were monitored, and what obstacles, if any, were present in using the Internet as a teaching and learning tool. The study was conducted as part of a research project for the Beta Theta Chapter of Delta Pi Epsilon.

## **METHODOLOGY**

A total of 404 survey questionnaires were mailed to Wisconsin public high schools. Two of the mailings were returned undeliverable, and two were duplicate mailings to the same school district. Of the remaining 400 survey questionnaires, 196 were returned resulting in a 49% response rate.

## **CONCLUSIONS**

The data in this study generally support the conclusion that business teachers in a majority of Wisconsin public high schools use the Internet as an instructional tool in their business courses. It also points out, however, that there continues to be a large number of public high schools in which the Internet is not used as an instructional tool in business courses. When combining all responses, the size of the school and the number of years of teaching did not affect Internet use. Business

teachers who currently use the Internet as an instructional tool appear to be seeking additional Internet resources for use in teaching their business courses.

### **DEMOGRAPHICS**

Based on the data provided by the Wisconsin Department of Public Instruction on enrollments in Wisconsin public high schools, the respondents to this study were deemed to be reflective of the total population of public high schools in the state. Wisconsin has a majority of small high schools, and a majority of respondents were teachers from small high schools. The percentage of small-school respondents and the percentage of small schools in the state were comparable. Percentages of respondents in medium and large schools also mirrored the percentages of those public high schools in the state. Therefore, the conclusions in this study were considered to be generally representative of business teachers in public high schools of Wisconsin.

### **COMPUTER USE BY TEACHERS**

Almost all the respondents considered themselves to be "extensive" or "above average" in terms of their use of computers. More than one-half considered their use to be extensive." It appears, therefore, that Wisconsin public high schools employ business teachers who are sufficiently familiar with computer use to be able to utilize the Internet in teaching business courses.

The size of the school does not appear to be a significant factor in terms of the extent of teachers' use of computers. The assumption that business teachers in small high schools have lesser opportunities to use computer technology in their teaching is not supported by data in this study.

The number of years of teaching experience does not appear to be a factor in terms of extent of computer use. The general perception that it is the newer business teachers who are more likely to be involved with computer use than business teachers with more years of teaching experience is refuted by data in this study.

### **PERSONAL USE OF THE INTERNET BY BUSINESS TEACHERS**

Most of the respondents reported using the Internet for personal use in a variety of settings, including their schools. The size of the high school does not appear as a factor in the personal use of the Internet by respondents. The fact that there is more reported personal use of the Internet at school than at home suggests that many business teachers prefer or are dependent upon the capabilities of their high schools in terms of being able to explore and adapt the Internet for teaching purposes. The availability of computers in the school setting is important since exploring and adapting Internet resources for use in classroom teaching is considered to be basic to utilizing the Internet as a teaching tool.

## **USE OF THE INTERNET AS A TEACHING TOOL**

The use of the Internet as a teaching tool in business courses appears to be higher than the generally reported perception of its use for that purpose. Although there is a general presumption that the use of the Internet in schools is primarily as a basic reference source for teachers and students, more than one-half of the respondents reported using the Internet as a teaching tool in their business courses. On the other hand, there continues to be a large segment, almost one-half of the respondents, who do not use the Internet as a teaching tool in their business classes. (It should be noted that some respondents reported using the Internet as a teaching tool in non-business classes to which they were assigned.) Once again, neither the size of the school nor years of teaching experience were a determinant in this use. It appears, therefore, that business teachers in Wisconsin public high schools are making efforts to incorporate the Internet into their business courses; but there continues to be a large number of business teachers who appear to need encouragement, equipment, and/or assistance in utilizing the potential of the Internet in teaching business courses.

## **MONITORING STUDENT USE OF THE INTERNET**

The variety of methods used to monitor student use of the Internet in business classes suggests a diversity of high school environments and how the schools are administered. The most-often-mentioned method of monitoring student use through classroom observation places the responsibility for monitoring on the business teacher and/or his or her assistants. It is possible that classroom observation is used in conjunction with other methods, such as parental permission or an acceptable use policy. It would appear that a model for effectively monitoring student use of the Internet that incorporates ethics and Internet etiquette is needed for use by business teachers.

## **LIKED BEST ABOUT THE INTERNET**

Regardless of the size of the high school or years of teaching experience, many business teachers appear to be aware of a variety of benefits of using the Internet as a teaching tool in business classes. The need for the content of business courses to reflect the current state of the business world and up-to-date business practices very likely affected the choice by respondents of the ready availability of current information on the Internet as the best-liked feature. Neither the size of the school nor years of teaching experience were determinants in this choice.

The other characteristics that were features liked best (student motivation, linkages with other sites, ease of access, and international information), all of which received a good number of responses, do not point to any one conclusion. Student motivation is basic to effective instruction, and the employment of the Internet as a teaching tool was recognized by business teachers as enhancing students' motivation to engage in the learning process. Linkages with other sites and ease of access suggest that business teachers appreciate the capability of the Internet to provide extensive amounts of information about the ever-changing business world. The large number of responses to international information suggests that business courses are being adapted to include international teachings to reflect the increasing participation by U. S. businesses in the global marketplace.

## **LIKED LEAST ABOUT THE INTERNET**

Once again, neither size of the high school nor years of teaching experience were determinants in the identification of what was liked least about using the Internet as a teaching tool. The least-liked features were problems inherent to the Internet itself. The need to control what students view suggests that some Internet sites contain undesirable information or are recreational rather than instructional in nature. The difficulty of accessing certain sites may, be due to local limitations of computers or heavy traffic on the Internet for access to certain sites. The uncertainty of obtaining valid information is serious in light of the need to expose students to genuine, real-world business operations. Features inherent to the Internet that are deterrents to the effective use of the Internet as a teaching tool need to be addressed by those involved in providing Internet resources. There appears to be a need for an evaluative system of Internet sites to provide help for business teachers who must make decisions regarding what to use and not to use as Internet resources in their teaching of business courses.

## **OBSTACLES TO USING THE INTERNET FOR INSTRUCTION**

The size of the high school once again was not a determinant affecting responses to this query. Perceived obstacles to using the Internet as a teaching tool include a variety of obstacles that are beyond the control of the business teacher. The "insufficient number of computers available" for use in business courses, the number one obstacle identified, can be overcome when schools acquire equipment in sufficient quantities to permit widespread use of computers for instruction and can then allocate them to instructional areas with high potential Internet use, such as business courses.

Other perceived obstacles are inherent to the Internet itself and to some extent the computer technology available in a high school: speed, limited access, cost, and inaccessibility. These obstacles can be overcome when computers with higher speeds and faster access capabilities are acquired. There is an apparent need for Internet providers to enhance site availability at times of high usage by schools. Some of these may be current obstacles, however, that business teachers must learn to deal with as they utilize Internet resources in their teaching.

## **RECOMMENDATIONS**

In light of the many and rapid advances in Internet resources and computer technology, it will be desirable for this study to be replicated. Consideration should be given to including business teachers who teach in the private school sector. A sampling technique that would allow an in-depth analysis of Internet resources and how they are used to achieve instructional objectives should be considered.

Extensive listings of Internet resources and their applicability to specific business courses should be developed and made available to business teachers throughout the state.

Encouragement should be given to all business teachers to give serious consideration to the use of the Internet as an instructional tool in their business courses. Where needed, business teachers experienced with the use of Internet resources as a teaching tool could serve as models or resource persons to help others to make effective use of the Internet as a teaching and learning tool.

A sample student use policy and/or a model for monitoring student use of the Internet in business courses should be developed giving consideration to the data produced in this study including Internet etiquette and ethics. Guidelines for effective monitoring based on experiences of business teachers in different classroom or laboratory environments should be used in developing the sample statement and/or model.

An evaluative system for examining and rating Internet resources in terms of their appropriateness for use in business courses should be developed. The evaluative system should be tried out in pilot school situations, modified as necessary, and disseminated for general use by business teachers.

Experiences of business teachers who encountered obstacles in the use of the Internet and who overcame those obstacles should be published and/or shared in workshops and seminars.

The applicability of many Internet sites to business courses, including those in the non skill areas, should be made known to decision-makers who allocate computer technology and Internet access so that those courses might be enhanced through the utilization of the Internet as a teaching tool.

Lesson plans that show how to use the Internet effectively as a teaching tool in various business courses should be developed and made available to business teachers. These plans could be developed in seminars or workshops, tried out in one or more classrooms, and disseminated to business teachers.

Those involved in both pre-service and in-service education of business teachers should consider ways in which they can help to implement the recommendations in this study.

Professional organizations in planning meetings and conferences should give consideration to recommendations in this study and take steps to address them through speakers, workshops, and/or other programs

## REFERENCES

- Freuhling, R., Kerin J., and Sebastian, D. (1997, Spring). The information technology age and its impact on business and business education curriculums. *The Delta Pi Epsilon Journal*, 64-75.
- Grabe, M. and Grabe, C. (1998). *Learning with Internet Tools: A Primer*. Boston: Houghton Mifflin Company.
- Internet-getting caught up (The) (1996, September). Keying In, 8.
- Internet Policy and Plan, (The) (1997, May). Wisconsin Department of Instruction. (Online.) Available: <http://www.state.WI.US/agencies/DPI>; or email: [brocherf@mail.state.wi.us](mailto:brocherf@mail.state.wi.us), or [hansogp@mail.state.wi.us](mailto:hansogp@mail.state.wi.us).
- Matyska, R. Jr. (1995). Using the Internet to expand resources. *Business Education Forum*, December, 19-22.



Matyska, R. Jr. and Zelif, N. (1996, September). Opening minds to the power of the Internet, part 1. *Instructional Strategies*, 1-6.

Matyska, R. Jr. and Zelif, N. (1996, December). Opening minds to the power of the Internet, part 2. *Instructional Strategies*, 1-4.

McAndrews, J. (1997). Making payments on the Internet. *Business Review*, January/February, 3-14.

Ramey, P. and Barton, S. (1997). Emerging technology. *National Business Education Association Yearbook*, 35, 80-92.

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# **FACULTY ATTITUDES AND FACTORS AFFECTING ATTITUDES TOWARD ANNUAL EVALUATIONS: A STATISTICAL ANALYSIS OF THE SURVEY FROM ALLIED ACADEMIES**

**Michael J. Daniels, Columbus State University**

## **ABSTRACT**

*A survey concerning faculty evaluation practices was administered during the Spring 1998 Allied Academies meeting and subsequently, a revised survey was administered at Southeast Association for Information Systems. A statistical analysis of the survey reveals some interesting correlations in annual review practices and faculty satisfaction or dissatisfaction. Gender issues are also raised, as they were at the panel discussion held at our 1998 spring conference. This paper provides the results of the survey, as was promised to all participants. Beyond summative data, the paper also provides data on factors which affect attitude either positively or negatively. Practices employed to evaluate teaching, research, and service are detailed. Significant questions for further research are raised.*

## **ORGANIZATION ETHICS: AN INTERDISCIPLINARY STUDY**

**Frederick DiUlus, University of North Florida**

### **ABSTRACT**

*This is an advanced study which places special emphasis on exploiting applied ethics concepts which bring similar theory and applications to largely dissimilar disciplines. Special attention is paid to the evaluation of existing programs and the development of models for the teaching of Organization Ethics to college students. Also viewed in the development of Organization Ethics study are the strategies involved in teaching the subject and developing an ability to embrace divergent professional fields and academic disciplines.*

*This experimental course is among the first to concentrate exclusively on moving a traditional specialized applied ethics course, like Business Ethics to a new level. The course, as designed, therefore, is representative of an evolving field of study and teachable in literally all academic disciplines, under the descriptive name, Organization Ethics.*

*To document findings in order to measure results of a non field-specific, universally applied ethics course, the study demanded a continual examination, over four semesters, of upper division students with divergent interests in various major disciplines within the field of business. These core students surveyed students from other major fields in order to measure comparative similarities and differences in ethical attitudes. Further, the course was slightly modified each semester to effect the changes suggested by the results from previous student surveys and class experiences and learning. The sum of this on going study resulted in attempting to draw students to view ethics organizationally rather than personally in order to overcome resistance to personal value changes and moral challenges. Accumulating what appeared to be some extraordinary findings, the study exposed what appears to be a limited validation of the hypothesis that applied ethics "can not" be taught. The results also indicate the alternative, Organization Ethics can be taught. The study reveals why.*

# USING ASSESSMENT FOR VALUE ADDED MARKETING OF EDUCATIONAL TECHNOLOGY: A CASE STUDY

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## ABSTRACT

*Technology support groups may assume that technology is a sufficiently strong enough force that those delivering technology-related services do not have to justify operational existence. In such cases, technology support groups may focus on technology delivery and be unprepared for environmental changes that impact budgetary and organizational survival. The authors worked with a technology support group funded by the state to help them assess and articulate their mission, identify hidden gatekeepers and stakeholders, and reformulate organizational strategy for both technology delivery and organizational survival. The outcomes included better internal communication, an appreciation of the difference between consumers of services and service decision-makers, and strategies for improved visibility and economic viability. The strategies and tools used by the authors can be used to help technology-related groups build teamwork, organizational focus, and assess environmental threats and opportunities.*

## OVERVIEW

The authors were invited by a State-Funded Education-Technology support group (called SFET for reasons of confidentiality) to help develop a marketing plan. The administration, and members of the group, believed that their function (supporting teachers with appropriate technology) was in danger of either being eliminated from the state budget or being drastically reduced. Many members of SFET expressed the concern that their functions were little understood by their clients and external support was therefore weak. We were asked to help develop a marketing plan that would articulate the SFET mission and thereby improve external support. The sections that follow summarize the steps used by the authors to help SFET better understand their mission, publics, and role. The outcome desired by the group was improved client relations and improved probabilities of survival.

After initial conversations with group administrators, we were invited to an annual planning retreat. At that retreat were team administrators and staff. The discussion format at the retreat was a series of interactive questions posed by the authors. Group and individual participation was a key component in the success of the retreat. The discussions were open and lively and provided the facilitators with insights into the issues confronting SFET. The session also helped SFET members understand the environment in which a marketing plan could be developed and what a marketing plan could accomplish. The physical setting was in a rustic building with comfortable chairs and a

fireplace. The initial seating selection was purposely not specified. Seats were however in a semi-circle facing the authors and several easel boards.

**MISSION STATEMENT**

Our first step was to build an understanding of the SFET mission statement. Using the easel boards, we asked the entire SFET team to “define” their mission statement by using verbs and adjectives. The results appear below.

<p><b>Mission Statement</b>                      “You have a written mission statement. What does that statement mean?”</p>	
<p>Support Schools                      Community Services                      Training                      Computers and Computer Training                      Teaching Strategies                      Student Support Groups                      Students (Training; Conflict Resolution)                      Whole is greater than the sum                      Grant Writing &amp; Proposals Purchasing                      Services                      Violence Intervention and Prevention                      Day Care/Church                      Personnel Evaluation                      Repair and Maintenance of Equipment</p>	<p>Train Para-professional Staff                      Special Education Services                      Lead: Improved and New Directions                      Community Services                      Sexuality Education                      Collaboration                      Brokers                      Team Building                      Drug and Alcohol Education                      Repository (Institutional Memory)                      Classroom Management                      Parenting                      Discipline</p>

The SFET team was able to list a number of functions that the organization performed and some outcomes that might be measurable. The group had a hard time articulating the meaning of the mission statement in general terms, but clearly understood the functionality of the organization. If the mission statement specifies organizational functionality and eventually deliverables, that functionality must be delivered to some group or groups. We therefore asked the participants to list and rank the publics served by SFET.

**PUBLICS**

The participant seating arrangement was now restructured by assigning each member into one of three groups by “counting off” to assure that initial seating positions did not influence group alignment. This new group alignment was maintained for each of the succeeding questions. Each group was required to independently develop a ranked list. Note the variety of publics and differing rankings.

<b>Publics</b>		
“Who are the Publics you Serve in Rank Order?”		
1. Students/Learners 2. Educators 3. Community (BOC, Legislators, etc.)	1. Superintendents 2. Teachers 3. Administrators	1. Students 2. Parents 3. Teachers

The function of this exercise was to sensitize the participants to the variety of publics that an organization serves. While several participants wanted a definition of “Publics,” the facilitators encouraged each group to develop its own definition. Part of the post-ranking discussion included how various publics could influence funding decision-makers. For example, it is highly desirable for legislators to have a positive opinion of SFET. SFET may not be able to directly affect the opinion of legislators, but constituents (parents, teachers, etc.,) within the region do have a powerful voice. We pointed out that an effective marketing plan will require a refinement and clarification of the publics served by SFET.

### CONSUMERS

We next asked participants to list the consumers of services. Note the difference between those included in publics served and consumers of services. Consumers of services may not always be the publics served, yet where they overlap, they can be an important source of influence.

<b>Consumers</b>		
“Who are the Consumers of the Services you Provide in Rank Order?”		
1. Educators 1. Student 3. Business/industry employers	1. Teaching Staff 2. Support Staff 3. Administrators	1. School System Personnel 2. Communities (Parents, agencies etc., support students) 3. Public/Private Organizations

People, such as educators, students, parents, and administrators appear on the consumer and public lists. The facilitators pointed out that the functionality list from the mission statement discussion contains objects and organizations more than it does people while the above two lists focus on people who are the apparent beneficiaries/recipients of SFET’s mission. This could imply that the mission and delivery system are not completely synchronized.

Part of the discussion after the listing concerned how students fit into the consumer list. It seems apparent that students, one of the links in the beneficiary-influence chain appears indirectly in the mission functionality, but weakly in the public/consumer lists.

### SUCCESS

The issue of SFET success was now raised by the facilitators to assess whether the group had developed any subjective or objective measures of organizational success. Success stories can be part of a marketing plan and need to focus on highly ranked publics and consumers. It is also important for organizational members to have a ready response to the question, “What do you do?” The response should be more than “I work for SFET.” It should include, “and we kept x children off drugs last year.” Success stories are essential for morale and should help the organization internalize the mission and strengthen resolve to higher levels of achievement. Success was therefore discussed along two dimensions: A measurement process and then success stories.

<b>Success Measurement:</b> “How would you argue that you have succeeded in meeting the needs of your top ranked Public and Consumer?”		
We’ve provided teachers/educators with skills & abilities to be more effective working with students. We’ve kept on the cutting edge in innovative techniques / technologies.	We have responded to most requests and continued to provide existing and new programs with(in) budget and personnel constraints. Have provided requested and innovating services through center and site-based activities.	Our agency has improved your classroom experience through training and resources provided to your school system’s personnel.

<b>Success Stories:</b> “Tell us those success stories which make you proud.”		
Licensing and training teaching assistants. 100% response rate.	Reduced rate for occupational therapy; Cost savings on services. Model Teaching Program. Fiber Optic Infrastructure.	“Teacher to Teacher.” Open Door for Other Districts. Technology Lab. Teaching Strategies.

The group had a very positive feeling after this portion of the exercise; all participants had a positive feeling of self-worth and accomplishment. The facilitators encouraged the participants to use the success stories as part of their conversations with publics in formal and informal settings.

The group realized the importance of measurement relating to services provided; measurement that goes beyond enumerating the number of calls or sessions. The facilitators suggested using economic measures to determine regional impact. For example, technical services save funds.

**GATEKEEPERS AND BOTTLENECKS**

A marketing plan must focus on mission, determine publics and consumers of services, and inform constituents and stakeholders of successes. How publics, stakeholders, and consumers receive and know of services depends in great deal on the delivery channels. In those channels are individuals and procedures which can impede or expedite the message. This section was designed to uncover those procedures, individuals, or organizations who must approve or review any services or messages.

<p><b>Gatekeepers and Bottlenecks</b></p> <p>“Who are the gatekeepers or bottlenecks in getting information to publics/consumers. May be an individual through whom information must pass or an individual who can prevent or alter information. May cause delays.”</p>		
Principals Administrators Parent Groups	Special Interests (Religious Groups Mentioned) Board Members	Media (don’t print information) Agency Competition

Using the responses above as a guideline, the authors then interviewed representatives from the publics served.

**INTERVIEWS WITH SFET CLIENTS**

The client survey was a convenience sample and results cannot therefore be considered scientific or applying to the whole population. Questions asked included type of contact, frequency of contacts, date of last contact, last service provided, service quality perception, most important service, most important client, “Is there a Better Way to Manage SFET?,” and “Does Information get to those who need it?” We also asked the clients to identify any potential bottlenecks in the service delivery chain.

Most of the results of the convenience sample indicated that SFET had a positive image among its sampled client base. The survey also indicated that the clients were unfamiliar with many of the services provided by SFET.

**CONCLUSION**

SFET is similar to many other organizations that deliver services for which there is no transfer pricing or perceived cost or direct benefit of services. Those who receive the services may assume that those services are either always available or without cost. Those who provide the services are therefore in danger of losing support and funding in difficult financial times.

We believe that the process we started with SFET helped them identify their constituent base and improved their own internal view of their role in the organization. By being able to articulate their role and mission and by being able to provide examples of service benefits, they were in a better position to respond to questions concerning SFET functionality.



The interactive process used by the authors could also be used in other organizational situations where missions have become obscured or survival is threatened by external, uncontrollable forces. We are not, however, arguing that this process will save, or should be used to save, units whose functionality no longer meets the needs of the larger organization. However, we do argue that the process performed can alert members of such organizations whose mission has been subsumed to seek other viable alternatives.

## **TEACHERS' PERCEPTIONS OF THE TEACHING PROFESSION IN COMPARISON TO OTHER PROFESSIONS**

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**David O'Bryan, Pittsburg State University**  
**Jeffrey J. Quirin, Kansas State University**  
**Alice C. Sagehorn, Pittsburg State University**

### **ABSTRACT**

*The teaching profession has a continuing need to attract highly qualified students into the field. Many of the best and brightest students, however, seek careers in other professional fields. Research suggests that high school educators are second only to parents in the amount of influence they have on the career choices of their students. If high school teachers perceive that teaching is inferior to other professions, then they are less likely to advise their best students to enter the profession. The objective of this study was to identify high school teachers' perceptions of the teaching profession in comparison to accounting, engineering, law, and medicine on 24 attributes. Survey results from 128 high school teachers in 40 states reveal that teaching is viewed as significantly less desirable than the other four professions on the following attributes: advancement potential, difficult entry requirements, earnings potential, glamorous job, quality lifestyle, and social status. Teaching was perceived to be superior to the other four professions on the high level of interaction with others. The respondents viewed teaching as a less desirable career choice for honors students than engineering, law, or medicine. Teaching and accounting were perceived to be equally desirable career choices for honors students. The survey and personal interviews revealed a number of other important differences between teaching and the other professions and suggest that the teaching profession must first change its self-image before it can effectively recruit the best and brightest high school students into the teaching profession.*

# INTRODUCTORY ACCOUNTING CURRICULUM CHANGES: A SMALL COLLEGE'S FIRST YEAR EXPERIENCE

**Janice L. Klimek, Missouri Western State College**

## ABSTRACT

*The purpose of this study is to investigate the effects of changes to the introductory accounting curriculum on student retention, student course grades, student attitudes toward accounting and faculty attitudes toward the new teaching approach. The research investigates whether changes recommended by The Accounting Education Change Commission (AECC) have positively affected students enrolled in Introductory Financial Accounting and Introductory Managerial Accounting at a small Midwestern college. The AECC, appointed by the American Accounting Association, developed two statements on the future of accounting education. Position Statement Number One: Objectives of Education for Accountants set out the Commission's views on accounting education and provided a focus for the academic community. Position Statement Number Two: The First Course in Accounting outlined the knowledge, skills and orientation accounting students should possess to be successful. With guidance provided by the AECC's two position statements, the college developed a plan for revising the first two introductory accounting courses offered to all students majoring in a business related field.*

## OVERVIEW

The AECC's Position Statement Number Two states that the objective of the first course in accounting "is for students to learn about accounting as an information development and communication function that supports economic decision-making." The first course is intended to be an introduction to accounting as opposed to introductory accounting meaning that emphasis should be placed on how accounting information is used in decision-making and not on how such information is prepared. The AECC recommended that faculty use methods such as cases, simulations, and group projects to achieve this goal.

Colleges and universities across the country have made significant curriculum changes in an effort to adhere to the recommendations of the AECC. Our plan for change at a small Midwestern college began with a proposal that required the approval of a campus wide curriculum review committee, a full two-year process. Highlights of our plan are as follows:

1. Eliminate debits and credits from the first two introductory accounting courses.
2. Change content of first course to include only financial accounting topics.
3. Change content of second course to include only managerial accounting topics.
4. Change the method of teaching both courses to include oral and written communication assignments, cases and group projects.

5. Emphasize the importance of using accounting information to make decisions and de-emphasize the importance of preparing reports.

The accounting discipline received approval and began teaching using the new approach to introductory financial accounting in fall 1998. The faculty began teaching the new approach to introductory managerial the following spring. After two full semesters of teaching using the new approach, it is now time make a preliminary assessment of the effectiveness of making the change.

### **THE STUDY**

This study addresses several points important in assessing the initial success of our plan for revising the introductory accounting curriculum. It is important to keep in mind that this is an initial assessment and that other important variables must be added as students involved in the first year of change move through their advanced accounting and business courses. Now, emphasis is placed on the following important questions:

- I. Has the change in objectives from a preparer orientation to a user orientation increased retention in the introductory accounting courses?
2. Has the change in objectives from a preparer orientation to a user orientation increased average overall course grades in the introductory accounting courses?
3. Have student attitudes toward accounting changed for those students who took a new user-oriented introductory accounting course?
4. Have faculty attitudes toward teaching introductory accounting courses changed since implementation of the new user-oriented course?
5. Do students who have prior knowledge of accounting using debits and credits prefer the new user approach?

The questions above will be answered by comparing the number of withdrawals and average course grades for all sections of introductory accounting courses after the change to the number of withdrawals and average course grades for all introductory courses during a period of two years before the change. The current academic semester is not included. The sample will include approximately 15 sections of introductory financial accounting and 8 sections of introductory managerial accounting or approximately 500 students and IO accounting faculty. Results of attitude surveys administered to both students and faculty involved with the new courses will also be analyzed. Sample size with regard to the attitude surveys is dependent on the number of voluntary respondents who return surveys. Analyses will be completed by the end of March 1999.

## CONTRIBUTIONS

This study makes a significant contribution to the growing body of research on changes to the introductory accounting curriculum. It provides an initial assessment of basic education-related factors not specifically addressed in the AECC's Position Statements. Accounting faculty have been concerned for years over the significant number of below average grades earned by business students required to take introductory accounting courses as part of their major. Did students truly gain and retain knowledge of accounting that they later applied in professional settings using the old approach? Did students get sufficiently discouraged with the preparer-oriented focus of the old approach to withdraw from the course? Are faculty members really changing their approach to teaching accounting and, if so, do they see the benefit of such change?

Later, it will be essential to track students who learn accounting from a user orientation to determine if their attitudes toward accounting have improved and, more importantly, to determine if they have increased decision making abilities due to the change in approach. At present, it is too soon to assess these outcomes as students involved in the change at this small Midwestern college have yet to move into advanced courses or to graduate. This study's assessments emphasize the short-term educational issues present whenever a major curriculum overhaul takes place.

# **STUDENT INTERNET USAGE, PERCEPTIONS, AND TRAINING NEEDS: IMPLICATIONS FOR CAMPUS LEADERS**

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## **ABSTRACT**

*Although the use of the Internet is expanding rapidly on college campuses, little is known about student Internet use, how students perceive the reliability of Internet information, how successful they are in searching the Internet, and whether or not training would help them to increase the effectiveness and efficiency of their Internet use. This study reports on a survey of 289 students at a medium-sized Midwestern state university conducted to obtain student Internet usage information.*

*Results indicate that students are using the Internet for class assignments and research, in addition to e-mail and other personal activities, but many are not aware of potential information reliability problems and are not always successful in information searches. Most students indicated they had learned to use the Internet on their own. The students further indicated that training would help them use the resource more effectively, but would not increase the frequency of their Internet usage. The implication for librarians, technology specialists, and professors in campus leadership positions is that a proactive approach may be necessary in establishing and promoting Internet-related training for students.*

## **INTRODUCTION**

As Internet usage on college campuses escalates, many questions arise for those who are entrusted with the leadership role in training campus Internet users. At many universities, campus librarians assume this role (e.g. Pascoe, Applebee & Clayton, 1996; Cannon, 1996), while at other universities these duties may be assumed by technology specialists or left to professors to handle in their courses on an as-needed basis. For whomever assumes this role, several questions need to be addressed in regard to how the Internet is being utilized and what types of training are needed to improve the efficiency and effectiveness of Internet use. For example, are students primarily using the Internet for e-mail, or are they making use of Internet resources on the World Wide Web (WWW) for course assignments and research? How do students evaluate the reliability of information on the WWW? Would increased training encourage students to use the Internet more frequently or assist them in using the Internet more effectively?

Few studies have examined student Internet usage and perceptions of the value of Internet information. Accordingly, several studies (Perry, Perry & Curlin, 1998; Lubans, 1998; Tillotson, Cherry, & Clinton, 1995) have called for increased evaluation of student Internet usage. While the explosion of information resources on the Internet, the development of utilities such as Gopher, and especially the development of the World Wide Web increased the level of access to Internet information resources (Rosenthal and Spiegelman, 1996), prior studies indicate the Internet was used by college students largely to send and receive e-mail (Tillotson et al., 1995; Cannon, 1996; Perry et al., 1998). The literature also includes calls for increased student training on Internet usage (Tate, 1996; Pask and Snow, 1995; Cannon, 1996; Lubans, 1996; Malone and Videon, 1997). Given the rapidly increasing amount of information on the WWW and the apparent increase in student use of the Internet, it is critical for campus leaders to continuously monitor and assess student Internet use and training needs. This paper reports results of a survey designed to determine whether students are now taking more advantage of available Internet resources than evidenced in prior studies and to determine whether Internet related training is needed at the University level.

In the next section, prior literature regarding student Internet use will be discussed. Next, a discussion of the survey and data-gathering method will be presented, followed by results of the survey. Results are compared by class rank (i.e. freshmen) to determine if student Internet usage and training needs differ depending on the student's year in school. Lastly, implications of the findings for librarians, technology specialists, and professors are discussed.

## **EXTANT LITERATURE**

There are few published studies exploring the nature of student Internet use. Those studies addressing the types of activities students undertake via the Internet all indicate e-mail as the primary reason for students connecting to the Internet. For example, Tillotson, Cherry, and Clinton (1995) conducted an on-line survey at the University of Toronto. The majority of the 505 student respondents reported using the Internet for personal use (46 percent), with only 14 percent using the WWW for research and eight percent using it to complete other course assignments. Graduate students reported a higher usage for research compared to undergraduates. Cannon (1996) surveyed several hundred undergraduate students at the University of North Carolina at Chapel Hill and found that 52 percent used the Internet. Of those using the Internet, 73 percent used e-mail, while only 31 percent used the Internet for research. However, the more Internet experience students had, the more they used the Internet for research. Lubans (1998) surveyed freshman using an on-line questionnaire and found that, when asked how often they used the WWW compared to other reference sources, half of the students indicated they used the WWW 20 percent of the time and other resources 80 percent of the time, while 14 percent said they used the WWW 80 percent of the time and other resources 20 percent of the time. The WWW and other resources were used equally by 26 percent of the students. Perry, Perry and Curlin (1998) surveyed 548 undergraduates and found that 43.8 percent used the Internet at least once per week, with 80 percent using e-mail and 48.3 percent accessing information through the Internet.

In regard to students who use the Internet for research and assignments, extant research indicates problems in efficiency and effectiveness of Internet searches. Tillotson et al. (1995) found that students had limited success in finding the information they searched for on the Internet, with 46

percent finding nothing they were looking for, and only 23 percent finding at least a satisfactory amount of needed information. He and Jacobson (1996) randomly surveyed 96 Internet users at the State University of New York, Albany library. Those using the Internet for research were mainly searching for documents (76 percent). The majority of users found the Internet to be very useful (55 percent) or somewhat useful (42 percent). Only three percent did not consider the Internet useful. While 45 percent of all respondents indicated that they could find what they needed on the Internet, and only 36 percent of the participants cited the Internet as the most important resource. Lubans (1998) found that, when students were asked about how the WWW affected their research, 60 percent responded that the WWW increased the number of sources they found, while only 20 percent thought the WWW improved the quality of their work.

The lack of success in Internet information retrieval and the predominance of e-mail usage could point to a need for Internet-related training on college campuses. Cannon (1996) found that only six percent of students surveyed reported having formal training in Internet use. Kaczor and Jacobson (1996) also found that the majority of users (54 percent) learned the Internet by themselves, while only 14 percent reported having formal instruction on Internet use. Similarly, Lubans (1998) found that 88 percent of student respondents learned to use the Internet mainly by “surfing” on their own.

Other authors have noted a need for increased assistance in searching methods to prepare students to find needed information out of the vast amount of resources available through the Internet (Pask and Snow, 1995; Malone and Videon, 1997). Malone and Videon (1997) examined citation patterns in undergraduate papers and found evidence that students who took Internet training classes referenced more electronic resources in their papers compared to students lacking instruction, indicating that training might increase the students’ utilization of Internet resources.

A need for training students regarding accuracy of Internet information sources has also been strongly advocated in the literature. Several authors have argued for the need for training on how to assess quality in Internet-based information, since much of that information is not subject to any quality review prior to publication (Tate, 1996; Pask and Snow, 1995; Cannon, 1996; Lubans, 1996).

In summary, studies to date indicate that the majority of students taught themselves how to navigate the Internet and used the Internet primarily for e-mail or recreation. Also, students reported difficulty in finding what they needed when using the Internet to search for information. Additionally, studies have pointed to the need for training in improving effectiveness and also determining the reliability of information. With Internet usage increasing rapidly, this study seeks to determine if students now use the Internet more for research, how successful they feel they are in doing so, and whether they perceive that training would improve the effectiveness and efficiency of their Internet usage.

## **METHODOLOGY**

An original survey was developed, because there was no existing survey that addressed the extent and nature of student Internet usage as well as the need for Internet training. Ideas for several of the questions came from surveys by Tillotson et al. (1995) and He and Jacobson (1996). The



survey instrument was pretested by several librarians, graduate students, and undergraduate students and was revised based on their recommendations.

User characteristics and Internet activity were assessed using 24 questions. The questions included basic demographic information (class, status, major, age, and gender), as well as background information concerning the students' years of experience using the Internet. To determine the nature of Internet use by students, questions addressed their frequency of Internet use, the percentage of time the Internet is used as opposed to more traditional resources and why the Internet would be used instead of other resources. To determine if students question the reliability of Internet information, they were asked how satisfied they are with the information's reliability and how they determine if the information is reliable. Additional questions addressed the students' success in finding needed information on the Internet and their perceptions of the usefulness of the Internet as a resource. To address the issue of training, students were asked how they learned to use the Internet, their level of expertise in using the Internet, and whether training would increase the frequency or improve the effectiveness of their Internet usage. The survey questions are reproduced in the Appendix. As this study was intended to be an exploratory study for the purpose of information gathering only, no hypotheses are proposed.

During the spring of 1998, the surveys were distributed to students in preselected classes representing a wide range of disciplines. Unlike prior studies using on-line surveys, the surveys were completed during class time to allow non-Internet users and infrequent users to participate in the survey and thereby sample the student population as a whole rather than only Internet users. A total of 289 surveys were distributed and completed. Responses were summarized using SPSS for Windows software. Comparisons were made for responses by class rank using one-way Analysis of Variance for continuous variables and Chi-square analysis for categorical variables to determine if significant differences existed.

## RESULTS

### Demographics

Students were asked to answer questions regarding their gender, class level, major, years of Internet experience, frequency of Internet use, and means of accessing the Internet. Demographic details are summarized in Table 1. A slight majority of subjects in this study (57 percent) were female. As may be expected by the underlying student populations, the great majority of subjects (87 percent) were undergraduates. A portion of the students were enrolled in each of the existing colleges at the university, with the highest percentage coming from the College of Business.

	Number	Percent
Gender		
Female	166	57
Male	123	43
Class Rank		
Freshman	26	9
Sophomore	57	20

Junior	88	30
Senior	84	29
Graduate and Post-baccalaureate	34	12
College		
Business	109	37.7
Education	73	25.3
Social and Behavioral Science	49	17.0
Science, Engineering and Technology	30	10.4
Arts and Humanities	11	3.8
Allied Health and Nursing	5	1.7
Undeclared	12	4.1

As indicated in Table 2, 20 percent of the respondents had less than one year of Internet experience, while the majority (59 percent) had from one to three years of experience. One person had seven years of Internet experience. When asked about the frequency of their Internet usage, 35 percent of the students reported using it everyday, 30 percent reported using it several times a week and 18 percent reported using it once a week. Only one percent had never used the Internet. The most frequent method of accessing the Internet was from home via modem, followed closely by use of the academic computer center on campus. A small number of students (10 percent) gave a variety of other responses, which included accessing the Internet using a friend or relative's computer. Many students accessed the Internet from more than one location, so that the totals do not add to 100 percent.

### Internet Use

The students were asked which of several types of activities they used the Internet for, with the option to add other items not listed. They were instructed to check all items that applied. Of all the respondents, 83.2 percent reported using the Internet when completing homework assignments, 78.3 percent used e-mail for personal use, 71.0 percent used the Internet for recreation, 43.0 percent used e-mail for homework purposes, 39.5 percent searched for employment or career-related information, 28.3 percent downloaded software, and 13.3 percent used the Internet for a variety of other purposes. Chi-square analyses indicated that the only responses which differed significantly at a .05 level, based on year in school, were in regard to looking for employment and career-related information and the "other" category, which represented work and investment-related tasks. A higher percentage of seniors and graduate students indicated these activities, as compared to the underclassmen.

	Number	Percent
Years of Internet Experience		
< 1	57	20
1 - 2	84	30
2 - 3	88	29
3 - 4	38	13

4 - 5	11	4
5 - 6	7	2
7 or more	1	0
No response	3	2
Frequency of Internet Use		
Every day	101	35
Several times a week	86	30
Once a week	53	18
Once a month	15	5
Rarely	32	11
Never	2	1
Means of Accessing the Internet		
Via modem from home	174	60
Academic Computer Center on campus	152	53
Other campus computers	66	29
Computers at work location	40	14
Other	29	10

When seeking information for classroom assignments, the mean percentage of time various information sources were used was: Internet, 33.5 percent; books, 32.3 percent; journals, 27.9 percent; librarian, 3.8 percent; and other, 2.5 percent. ANOVA results indicated that the use of the Internet did not vary significantly by the students' year in school. However, seniors reported using books the least, while freshmen used them the most often ( $p=.008$ ). The reported use of journals was higher for upperclassmen and graduate students ( $p=.01$ ).

The students were asked why they use the Internet for research as opposed to other, more traditional information sources. The two major reasons for using the Internet were: (1) information is more current (chosen by 76.1 percent of respondents), and (2) information is easier to retrieve (71.6 percent). In addition, 37.4 percent indicated that Internet information is more comprehensive, 20.1 percent reported that information can be retrieved faster, and eight percent said they use the Internet because it is more enjoyable than using traditional sources. Chi-square analyses indicated no significant differences by year in school, although a slightly greater percentage of underclassmen thought the Internet information was more comprehensive, as opposed to the upperclassmen and graduate students ( $p=.06$ ).

The students were asked several questions eliciting their perceptions of the Internet's usefulness as a resource and their degree of success in finding what they need on the Internet. The responses are summarized in Table 3. All responses were based on a 7-point Likert scale, with a seven being the most positive response. Overall, students in all class levels considered the Internet a fairly important (mean = 5.43) and useful (mean = 5.09) resource, but did not indicate as strongly that the Internet was the most important resource (mean = 4.28). On average, students reported a moderate degree of success in finding needed information through the Internet, but these responses varied significantly by class level. There was a consistent trend whereby the reported degree of success in finding most of the information needed for assignments decreased by year in school, with the freshmen being most satisfied ( $p=.02$ ). The groups did not differ significantly in terms of their

ability to find specific information using the WWW search tools. Similarly, all groups were equally likely to use the Internet when faced with a difficult assignment.

Statement	Mean (Fresh )	Mean (Soph)	Mean (Juniors)	Mean (Seniors)	Mean (Grads)	Mean (all)
I consider the Internet an important information source.*	5.15	5.36	5.57	5.41	5.52	5.43
The Internet is useful to me for completing my research and/or homework.*	4.88	4.86	5.27	5.26	4.72	5.09
Data and other information on the Internet have become the most important resources for my research or assignments.*	4.12	4.35	4.24	4.37	4.14	4.28
I feel that I can find most of the things I need for my research or assignments on the Internet.*	4.81	5.00	4.99	4.67	4.16	4.79***
More often than not, I can find exactly what I want by using Internet search tools to find specific information.*	5.00	5.20	5.10	4.96	4.72	5.00
How often do you use the Internet when you have a difficult assignment or research topic?***	4.88	4.71	5.14	5.10	4.72	4.97
* On a Scale from One (Strongly Disagree) to Seven (Strongly Agree)						
** On a Scale from One (Never) to Seven (Always)						
*** Between-group differences significant at the .05 level						

When the students were asked to compare the time they spent searching for information on the Internet to that spent searching other sources, the results were: 46 percent spent less time, 32.2 percent spent the same amount of time, and 19.4 percent spent more time, while 2.4 percent did not answer the question. Results did not differ by year in school. This indicates that although the students were not always effective in finding what they wanted, they viewed the Internet as more efficient than other traditional resources.

### **Perceived Reliability of Internet Information**

The average satisfaction with the reliability of the information found on the Internet, on a scale from one (Very Unsatisfied) to seven (Very Satisfied), was 5.09, indicating moderate satisfaction. Although freshmen were most satisfied (mean = 5.29) and graduate students were least satisfied (mean = 4.87), the differences were not statistically significant. When asked how they determine Internet information reliability, 65.7 percent of the students said they determine the reliability of the information by the reputation of the organization that provides the information, 50.2 percent reported that they compare it with other data sources, 41.9 percent rely on their instructor to provide them with a reliable site, 21.5 percent always assume the Internet is reliable, and 3.8 percent gave

miscellaneous individual responses, none of which was repeated. The results differed significantly by group for the responses to “I always assume it is reliable ( $p=.01$ ), with the percentages lower for upperclassmen and graduate students than for underclassmen, and “by the reputation of the organization or source of the information,” with percentages increasing by class level ( $p=.01$ ). That is, underclassmen were more likely to always assume the information is reliable, whereas upperclassmen are more likely to look at the quality of the organization or source presenting the information.

### **Training, Expertise and Ease of Use**

The students indicated that they had learned most of what they know about the Internet by teaching themselves (87.2 percent), although 35.3 percent reported having some formal classroom instruction. Only 6.6 percent of respondents indicated receiving instruction by librarians and 1.4 percent received instruction from the academic computing center on campus, while 17.6 percent had received some assistance from friends or relatives. The groups differed significantly in terms of assistance from friends or relatives, with a much greater percentage of freshmen reporting assistance from those sources. The survey results indicate that 76.1 percent of the respondents perceived that additional training would result in more effective use of the Internet, while only 45.3 percent reported that additional training would encourage more frequent Internet use. Responses did not vary significantly by year in school. On a scale from one (Very Difficult) to seven (Very Easy), the mean was 5.27 for the ease/difficulty of learning to use the Internet. There was no significant between-group difference. The majority of the students (68.9 percent) ranked themselves as intermediate-level Internet users, while 21.8 percent indicated they were beginners and only 6.9 percent considered themselves experts (2.4 percent did not answer the question). There was no significant difference among class levels.

## **CONCLUSIONS AND RECOMMENDATIONS**

Based on the user population surveyed for this report, students were most apt to be using the Internet for their homework and research, whereas in past studies students were most apt to be using the Internet for e-mail only. While the majority of students do heavily use the Internet for e-mail and recreation, they are also using the Internet for homework and research because they view Internet-based information as more current and easier to retrieve than information from other sources, such as books and journals. These results, when compared to prior studies, suggest that students are now more aware of the resources available on the WWW. This result was consistent for all the students, indicating students are not increasing their Internet usage as they progress through school. When assignments require the students to do research, students use the Internet more often than any other resource, but only 33 percent of the time.

The students were moderately satisfied with the reliability of information provided on the Internet. While some students reported employing various methods of checking its reliability, such as knowing an organization’s reputation or comparing the information to other data sources, many are relying on the recommendations of their instructors, and an alarming 21.5 percent indicated they always assumed the information is reliable. This is cause for concern, since information posted on the WWW is not often subject to review for accuracy. Some students are apparently not aware that

they cannot trust all information on the WWW, and others simply rely on their instructors to tell them what is reliable. The degree to which a problem exists depends on the types of information students are extracting from the WWW. There are an increasing number of journals available on the WWW, and many libraries now offer access to their resources through the Internet. Since these types of resources involve an editorial process, reliability should not be an issue. However, anyone can post information to the WWW, regardless of their expertise. As students increasingly rely on the Internet for research, it is critical to increase awareness of potential problems with information reliability. Students need to be prepared to critically evaluate information to effectively utilize the WWW in their careers, when they will not be able to rely on instructors to tell them which sites are reliable. One positive result was that the upperclassmen and graduate students did not assume the information was reliable as often as the underclassmen did.

Most of the students in this study learned to use the Internet by themselves, thought it was fairly easy to learn, and considered themselves intermediate-level Internet users. Results indicated that the students need some assistance in becoming successful at finding needed information on the WWW. This was even more evident at the upper class levels, possibly due to those students having more complex or open ended assignments, as opposed to specific, directed assignments at the freshmen and sophomore levels. The majority of respondents indicated that additional training would not influence the frequency with which they use the Internet, but indicated that training would increase the effectiveness of their Internet usage. Another interesting finding was that, even though students did not report a high degree of effectiveness and efficiency in searching for information on the WWW, 46 percent reported that finding information on the Internet required less time than searching in more traditional sources. This suggests that students view the Internet as an efficient resource for information retrieval.

These results suggest that a proactive approach is needed in establishing Internet training at the college level. Merely directing students to make use of the Internet in completing course assignments may not prepare them to use the resources effectively and efficiently. However, prior research has indicated that even when training is offered on campus, students may not take advantage of it (Kaczor and Jacobson, 1996), so creative ways need to be employed to encourage or require Internet training. One method of doing so would be to incorporate Internet training into the curriculum. For this to be successful, there must be someone responsible for the leadership role on campus. Whether this is best done in a separate course taught by librarians or technology specialists, or incorporated into other required courses, is an area for future study. Regardless, librarians or technology specialists would be most likely involved at least in training of faculty, if not training of the students. Strong leadership is needed in order to ensure that all students and faculty are trained in efficient and effective use of electronic resources and in methods to critically evaluate the sources of Internet information. Without proper technology leadership, students may face the inefficiency of learning on their own, and may develop misconceptions about the quality of various Internet sources. The results of this study indicate that training is needed as early as the freshman year.

### **LIMITATIONS AND RECOMMENDATIONS FOR FUTURE RESEARCH**

Despite the fact that a multi-institution survey to assess students' Internet usage would be more comprehensive, this study was limited to one university. However, there is nothing to indicate

that students at this university differ from those at other four year public institutions. Additionally, since there was a 100 percent response rate, there is no nonresponse bias potential that is common with other surveys. Survey methodology elicits the perceptions of the respondents only; this study did not attempt to measure actual Internet use or training deficiencies of students. This study does not explore differences in Internet use and training needs based on other variables such as gender, age, or academic major. Further study of the benefits of different types of training, how it should be administered, and by whom, are warranted.

## REFERENCES

- Cannon, K. (1996). Undergraduates and Electronic Resources: Patterns of Usage and Understanding. Unpublished Master's Thesis, University of North Carolina, Chapel Hill.
- He, P. W., & Jacobson, T.E. (1996). What are they doing with the Internet? A study of user information seeking behaviors. *Internet Reference Services Quarterly*, 1 (1), 31-51.
- Kaczor, S. A., & Jacobson, T. E. (1996). Bibliographic instruction for the Internet: Implications of an end-user survey. *Research Strategies*, 14 (4), 214-223.
- Lubans, J. (1998, April). How first-year university students use and regard Internet resources. Duke University [Online], p. 14. Available: <http://www.lib.duke.edu/staff/orgnzt/lubans/firstyear.html>
- Malone, D., & Videon, C. (1997). Assessing undergraduate use of electronic resources: A quantitative analysis of works cited. *Research Strategies*, 15 (3), 151-158
- Pascoe, C., Applebee, A., & Clayton, P. (1996). Tidal wave or ripple? The impact of Internet on the academic. *Australian Library Review*, 13, 147-155.
- Pask, J. M. & Snow, C.E. (1995). Undergraduate instruction and the Internet. (The library and undergraduate education). *Library Trends*, 44 (2), 306-318.
- Perry, T. T., Perry, L. A., & Hosack-Curlin, K. (1998). Internet use by university students: An interdisciplinary study on three campuses. *Internet Research: Electronic Networking Applications and Policy*, 8 (2), 136-141.
- Rosenthal, M., & Spiegelman, M. (1996). Evaluating use of the Internet among academic reference librarians. *Internet Reference Services Quarterly*, 1 (1), 53-67.
- Tate, M. (1996). Teaching critical evaluation skills for World Wide Web resources. (includes informational Web page checklist). *Computers in Libraries*, 16 (10), 49-55
- Tillotson, J., Cherry, J., & Clinton, M. (1995). Internet use through the University of Toronto library: Demographics, destinations, and users' reactions. *Information Technology and Libraries*, 14 (3), 190-198.

**APPENDIX**  
**Survey Questions**

1. What is your academic status?  
 Freshman  
 Sophomore  
 Junior  
 Senior  
 Graduate Student  
 Other (please specify) \_\_\_\_\_
  
2. What is your major?  
\_\_\_\_\_
  
3. What is your age?  
\_\_\_\_\_
  
4. What is your gender?  
 Female  
 Male
  
5. How often do you use the Internet (e.g. e-mail, World Wide Web)?  
 Every day  
 Several times a week  
 Once a week  
 Once a month  
 Rarely  
 Never (Please skip the remaining questions)
  
6. Where do you access the Internet? (Please check all that apply)  
 Academic computer center  
 College/Departmental computer lab  
 Home, via modem  
 MSU Library  
 Work  
 Other (please describe) \_\_\_\_\_
  
7. How long have you been using the Internet?  
\_\_\_\_\_
  
8. Why do you use the Internet? (Please check all that apply)  
 To do my homework  
 To send e-mail for personal use  
 To send e-mail for homework or academic research



- Downloading software
- Recreation
- Looking for employment or career-related information
- Other (please describe) \_\_\_\_\_

9. How did you learn to use the Internet? (please check all that apply)

- Self-taught
- Classroom instruction
- One-on-one assistance from a librarian
- Session by librarian
- Academic Computing Center workshop(s)
- Other (please describe) \_\_\_\_\_

10. Please indicate the ease/difficulty of learning to use the Internet by circling the appropriate number on the following scale:

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>
Very						Very
Difficult						Easy

11. When seeking information for classroom assignments what percentage of the time do you use: (The sum total of all responses should be 100%)

- The Internet
- Books
- Journals, newspaper and magazines
- Librarian
- Other (please describe) \_\_\_\_\_

12. Why would you use the Internet instead of other information sources? (check all that apply)

- Information is easier to retrieve
- Information is more comprehensive
- Information is more current
- Information can be retrieved faster
- Retrieving information is more enjoyable
- Other (please describe) \_\_\_\_\_

13. How satisfied are you with the reliability of the information you find on the Internet?

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>
Very			Neutral			Very
Unsatisfied						Satisfied

14. How do you determine the reliability of the information you find on the Internet? (check all that apply)

- I always assume it's reliable
- If the instructor provides the site I assume it's reliable
- By the reputation of the organization or source of the information
- I compare it with other data sources
- Other (please describe) \_\_\_\_\_

15. Would additional training encourage you to use the Internet more frequently?

- Yes
- No
- Not sure

16. Would additional training help you to use the Internet more effectively?

- Yes
- No
- Not sure

17. What impact has using the Internet had on the time you spend searching for information compared to only using traditional search methods (e.g. on-line library catalogs, printed books and magazines)?

- More time
- Same time
- Less time

18. I feel that I can find most of the things I need for my research or assignments on the Internet.

- |                      |          |          |          |          |          |                   |
|----------------------|----------|----------|----------|----------|----------|-------------------|
| <u>1</u>             | <u>2</u> | <u>3</u> | <u>4</u> | <u>5</u> | <u>6</u> | <u>7</u>          |
| Strongly<br>Disagree |          |          | Neutral  |          |          | Strongly<br>Agree |

19. Data and other information on the Internet have become the most important resources for my research or assignments.

- |                      |          |          |          |          |          |                   |
|----------------------|----------|----------|----------|----------|----------|-------------------|
| <u>1</u>             | <u>2</u> | <u>3</u> | <u>4</u> | <u>5</u> | <u>6</u> | <u>7</u>          |
| Strongly<br>Disagree |          |          | Neutral  |          |          | Strongly<br>Agree |

20. I consider the Internet an important information resource.

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>
Strongly Disagree			Neutral			Strongly Agree

21. How often do you use the Internet when you have a difficult assignment or research topic?

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>
Never			Sometimes			Always

22. The Internet is useful to me for completing my research and/or homework.

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>
Strongly Disagree			Neutral			Strongly Agree

23. More often than not, I can find exactly what I want by using Internet search tools such as Lycos, Yahoo, or Infoseek to find specific information.

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>
Strongly Disagree			Neutral			Strongly Agree

24. How would you rate your expertise to use the Internet?

- Expert
- Intermediate
- Beginner

# **GOLD NUGGETS, SIGNAL EVENTS, AND CAUTIONARY TALES**

**Mike McCullough, University of Tennessee at Martin**

## **INTRODUCTORY NARRATIVE**

A few years ago my wife's two brothers, a mutual friend and I drove almost a thousand miles to see Johnny Bench inducted into the hall of fame. In the weeks prior to the trip, I had been reading *Zen and the Art of Motorcycle Maintenance*, by Robert Pirsig (1974). There is a passage in which the main character of the book first realizes that the fundamental basis for quality is an attitude of caring. In this case, the motorcycle rider found out the hard way that if he took his bike to someone who did not care, the service would be substandard, and it was unlikely he would ever find someone who cared as much as he did about his motorcycle. I sat in the back seat of the station wagon we had borrowed from a friend, looking out the window and musing about quality, about caring, and about the thrill it would be to see Johnny Bench inducted into the Hall.

The Hall of Fame was great and so was the ceremony. After the induction, on our way out of Cooperstown, New York, our little party of four was beset with an untimely flat tire. It happened in Utica on a Sunday afternoon when nothing was open. It took us so long to put the spare tire on that we decided to lay over and get the blown tire fixed early the next morning. One of my brothers-in-law and I, after a short search, found a gas station open at 6 AM on Monday morning. The name of the proprietor, printed above the main door, was Mike Papaglia. The name on the man's blue shirt was Mike, so I surmised that this must be the owner-operator of the station. What was remarkable about the station was how spic and span it was, just the opposite of the filthy motorcycle garage in Pirsig's book.

Mike himself was so positive in spirit, you got the feeling that Monday mornings were no different to him from say Friday afternoons. He was truly "Zen-like" in his approach to "now". Here was a man who had done a good deal of work on himself, and had reached that lofty ground beyond moodiness and negativity. He had a small radio in the garage playing classical music. A friend was shadowing him, in street clothes, clearly not a hired hand, rather someone hanging around to enjoy Mike's company.

He fixed the tire quickly and charged us only a few dollars, though we had violated the tourist's first law of communication with auto mechanics. We had spilled our guts and let it be known we were close to stranded several hundred miles from home, but rather than taking advantage of us, he offered us the attitude and service of a Good Samaritan. As we drove away, we both remarked on "what a refreshing experience that was", sort of a renewal of our faith in human kind. The reason for the positive experience was partially in Mike Papaglia's upbeat demeanor, but it was also in the fact that you could have eaten a white bread sandwich off the floor of his garage. I remember thinking I had come to New York to see one of my heroes inducted into the hall of fame, and during the process, had developed another hero, Mike Papaglia. Only this hero was not so much born of my admiration of skills, but of what he taught me about how to approach time, space and life.

## INFORMAL LEARNING

The point of this story is to illustrate what I believe are three components of informal learning. According to Marsick and Watkins (1990) as much as 80% of all organizational learning is informal. Dewey, (1938) pragmatist that he was, wrote on the subject of experiential learning, but there has been almost no scientific research on the subject. Most of what has been written is of a philosophical nature (Wain, 1987; Usher, 1993).

As aides to recall, I will label what I believe to be significant aspects of the informal learning process. The Gold Nugget was what I had carried away from Pirsig's book, the notion of quality being based in part on the premise of "caring". The Signal Event was the moment I associated what had just happened to the Gold Nugget. The Cautionary Tale was the entire episode of meeting a mechanic who provided the perfect opposite of the one in the book, who really did care about how he conducted himself, and who had prepared the environment for people such as me to visit and to receive quality car care.

Here is one possible version of what was going on in my thoughts. First, by reading Pirsig's book, *Zen and the art of Motorcycle Maintenance*, I gleaned at least one piece of insight. In retrospect, only one piece of insight came to be significant (it had a corresponding Signal Event), although there may have been many others that occurred while I was reading the book. Conditions that exist prior to "practice" or "interaction" with that to be learned (knowledge, sequence, process) can alter what happens during practice (Cannon-Bowers, Rhodenizer, Salas & Bowers, 1998). Existing knowledge "primes" and guides perception so as to optimize the time spent in the field of new knowledge. The information available prior to confrontation of the new situation was preparatory. The priming effect has been termed attentional advice or advance organizers (Cannon-Bowers et. al., 1998).

Neumann (1990) distinguished between the field of individual consciousness and the focus of consciousness. An apt analogy might be to consider the entire visual field, including the peripheral, as similar to the field of consciousness, whereas only that which is in the "fovea" is considered the focus of consciousness. It is being proposed here, that Signal Events operate to shift the focus of consciousness from one aspect of the field to another (Muller & Overton, 1998). This is consistent with Piaget's (Piaget & Inhelder, 1973) assertion that there are degrees of consciousness.

This pre-conditioning advice I term a "Gold Nugget", because the insight later proves to be valuable. The Gold Nugget is undiscovered or latent until the occasion of a "Signal Event". The Signal Event brings the Gold Nugget into focus, providing the other bookend for a learning experience that began earlier with the discovery of the Gold Nugget. Notice that it is only in retrospect that one can understand what was a Gold Nugget and what was not, or what primed learning or what did not. A Signal Event is what transpires or presents itself in the learning field that is connected to the pre-learning field context. Once this connection between the Signal Event and the Gold Nugget is made, learning is made complete by the attachment of a rule or what I call a "Cautionary Tale". The fashioning of this Cautionary Tale is what makes it possible for the person to generalize the knowledge gained in the learning field to other situations. It is in this fashion that informal, experiential learning occurs.

Reflecting back on the story, a few things become clear. What happened prior to my entering the "learning field" (the trip to New York, in this case), that is pre-learning-field thought, primed

(predisposed) my learning-field thought, which caused one aspect of the learning field to become a figure against a background. The connection between the figure perceived and pre learning-field advice, meant that the figure was in sharp contrast to the ground. Notice, however, that I am now reflecting on the connection between pre-advice (the Gold Nugget) and figure (Signal Event) against its background. My reflections on the connection between what I saw, what I was predisposed to see (without foreknowledge of this predisposition) and what led to my predisposition, have been called metacognitions (Paris & Winograd, 1990). In this case, I came away from this learning experience with a Cautionary Tale. This Cautionary Tale can be summed up in the homily, “I see what I want (am primed) to see.”

Another important piece of insight I gained was that without the priming, I might not have found meaning in Mike Papaglia’s neatly kept garage. What I seem to have hit on is a metacognition about one form of learning, namely that I learn more from situations as a result of the learning I have already done. Alexander (1996) concluded that knowledge enhanced attention during experience, and thus led to more learning. The old adage that it takes money to make money, might be perverted a little and applied here, into, “It takes knowledge to learn knew knowledge.”

According to the insight I gained from Pirsig’s Gold Nugget, quality is a manifestation of caring. Furthermore, a disorderly garage is a manifestation of not caring, and therefore an example of low quality. The Signal Event, Mike Papaglia’s garage became evidence of the obverse, the insight offered by the Gold Nugget, a possible example of a “real-life caring-to-well-kept-to-quality episode. The Cautionary Tale derived from this situation can have several variations, but one is more plausible than all others. A man becomes a mechanic. When he first starts in the business, he does not take pride in his work, he does not deliver a high quality of service to the customer, and he is constantly frustrated because his work-space is disorganized and messy. This man might well conclude that being a mechanic is not what he had anticipated it might be. He thus becomes messier because he comes to despise the job, and he despises the job all the more, as he looks around and sees the mess he makes.

On the other hand, another man, or a converted version of the same man (illustrated by the Mike Papaglia) becomes a mechanic. He takes pride in his work, keeps his shop clean, and renders the customer service of high quality. As he looks around his garage, he sees evidence of how much he cares for his profession and his customers, and this evidence also encourages him to be organized enough physically and psychologically, to continue rendering high quality service to his customers.

I saw a Cautionary Tale at the literal level, yes, but I saw higher-level, figurative ones as well. The literal tale had to do with garages, mechanics and quality service. The second-level Cautionary Tale was the metacognition that says knowledge causes increased attention, which in turn makes the learning of subsequent knowledge more likely. Notice a third Cautionary Tale. This third tale is at the level of insight about second-level metacognitions and first-level lessons about messy mechanics.

“...the construction of higher forms of knowing takes the form of becoming aware and reorganizing the knowledge organization of the previous knowing level within the framework of new and more powerful knowledge organization (Muller and Overton, 1998, p 77) Concepts constitute potential knowledge. It is not until these concepts are applied to the world that they represent full knowledge”. (Judge, 1985).

My capacity to absorb new knowledge (Cohen and Levinthal, 1990) as well as my perceived gap between current knowledge and possible knowledge (Lowenstein, 1994) play a role in how well I detect Signal Events.

“A fundamental premise of absorptive capacity is that an individual's ability to assimilate and use new information is largely determined by his or her storehouse of prior related knowledge (Cohen & Levinthal, 1990). In cognitive science, absorptive capacity has been demonstrated in studies that show that a person's learning rate is determined by the breadth and depth of his or her prior knowledge. The more objects, patterns, and concepts in one's memory, the more rapidly one acquires and uses new concepts (Bower & Milgard, 1981). People with diverse knowledge structures elicit more innovative ideas (Simon, 1985).” (in Burns and Gentry, 1998, p 136.)

Let's follow the levels of learning that have transpired here (as shown in Figure 1). First, my thoughts were shaped by the insight (Gold Nugget), i.e., “quality requires someone who cares.” Secondly, when I saw Mike Papaglia's clean garage (Signal Event) the connection between the Gold Nugget and the Signal Event became clear. This connection led to the articulation of a Cautionary Tale, having to do with prescriptions (what to do to get quality) and proscriptions (what to avoid to get quality) with respect to evidence of caring and quality. This whole episode became a Gold Nugget (notice this Gold Nugget is also comprised of a lower-level Gold Nugget, Signal Event and Cautionary Tale). This second-order Gold Nugget caused me to be more receptive to the connection between pre-advice, learning episode, and the inference of rules, so that when I read it in the literature, the connection was available to me, and I learned at one higher level. What I have just done is cognize about how I learned about learning from learning about quality. This means I have learned about learning about learning, because I learned about learning from learning about quality.

Gold Nugget #1	Quality = caring (Pirsig)
Signal Event #1	Evidence of caring leading to quality (Papaglia's garage)
Cautionary Tale # 1	Be warned that caring is associated with quality by recalling the contrast between the messy garage in Pirsig's story and Papaglia's clean garage.
Gold Nugget # 2	Gold Nuggets, Signal Events and Cautionary Tales
Signal Event #2	Knowledge shapes attention for the acquisition of new knowledge
Cautionary Tale # 2	The relationships between GN, SE and CTs are best expressed as pre-advice, learning event, and inference.
Gold Nugget # 3	Gold Nugget #1 & Gold Nugget # 2
Signal Event # 3	Insight that Gold Nuggets are combined and nested in higher-level Gold Nuggets
Cautionary Tale # 3	Be advised that learning is infinitely hierarchical

Figure 1. Three levels of informal learning

The foundations for a hierarchy of learning as proposed above are laid by our understanding of the biological. Morphogenesis is the process through which a single cell grows into highly complex, multi-cellular organization (Keijzer, 1998). Adaptive behavior is presumed to derive from the interaction between microscopic and macroscopic processes. Nature does not have a goal in mind during the process of evolution, but the illusion of a goal permeates consciousness. The present hypothesis of “infinitely-tiered” (arguably, an endless number of hierarchical levels are possible) learning, is perhaps such an illusion. However, within the context of our lives, in our temporally and spatially provincial understanding of living, this learning hierarchy is as real as rain.

Listen to a professional reflect on what she has learned while performing her role as a part of the effort to prepare for the 2000 Sydney Olympic Games:

“MARTA: I know I've learned an enormous amount here. I've learned about the way people do things here. But I don't feel I've learned anything new. No, that's not quite right. It's more like the layers of learning were re-experienced .. in a new cultural context. It was like re-layered knowledge.... Like learning how to behave. You've learned it before, so it's not a new experience. It's a relearning of something you've actually known. It's not that the challenges were not great enough. Not at all. I've learned a lot about negotiation, about the company, about life on building sites. All that is new. But in the overall experience, I don't think there is anything about myself that it has faced me with. A lot of it has been relearning information about the way things work. It's reapplying strategies . . . in a new culture”. (Garrick, 1998, p 139-140)

In specifying that adaptive behavior is cognitively based, I am clearly siding with the representationalists view as opposed to the interactionist perspective (Beer, 1990). The interactionist perspective says that behavior is best considered as a result of interactions between the neurological, the physical, and the environment that exists outside the behaving organism. This perspective has gained support in large part because of its successful application to robotics (Brooks, 1989). I would maintain that such a view makes the same mistake committed by the behaviorists led by Skinner earlier this century. Human beings, and perhaps other animals as well, clearly cognize, and therefore, also clearly employ “representation” of the environment, as a way of behaving adaptively.

It is intellectually narrow of us to presume that the notion of a tri-partite appreciation for our relationship to the phenomenal world, is new and “western”. According to Chogyam Trungpa (1988) and the Buddhist tradition, three principles are part of a natural hierarchy of events. First is the principle of lha or the beginning, second is nyen or the natural development from lha, and finally comes, lu, which is the completion of the event. He gives the example of drinking tea. You pour the tea in the container. You then raise the container to your lips. Finally you drink the tea from the container. Another example is that of cooking food, eating it, and then cleaning up the mess created by cooking and eating. Behavior is temporally bound: the first step leading to the second, which leads to the third. Notice that the decision to break behavior into three parts is purely arbitrary. It could be broken an infinite number of times.

However, what the Buddhists have done is to “represent” simple behavioral processes in nominal tripartite categories. The tradition of doing so is handed down across people and time, because of the commonality of intuition among humans. Christians represent God as a holy trinity,



comprised of God the Son, God the Spirit and God the Father. This also is handed down because of theocratic intuition. It could be said that our cognitive categories reflect what we learn from the interaction between our behavior and the world in which that behavior occurs.

The supposition running through this discussion so far, is that we remember constructs or glean insight from thoughtful reasoning or conceptualization. During the subsequent days of our lives we find instances when the construct is viable, when its wisdom is given explanation in greater detail. Finally some part of these instances triggers a completion of the circle between the original insight, the experiential details and a new way of understanding the world. This process is arbitrarily, but also, intuitively, tri-partite, because experiences and learning are represented, or cognized, to have a beginning, middle and end. It can, for much the same reason, be said that learning has planting, germinating and harvesting phases.

At this point it might be beneficial to focus in more closely on the three labels I have accorded to what I am hypothesizing might be the significant steps in the informal learning process.

### **GOLD NUGGETS**

Suppose a person begins her time as a newly hired associate in an organization, as more of an observer than a participant. After all, such is often the case. During this initial phase the person is experiencing, but more importantly, thinking (Kolb, 1984). These early experiences and thoughts are more vivid than normal, everyday events, and they remain part of her personal memory for years to come. The process of reflection that accompanies experiencing, is richer if the person has former organizational experiences from which to draw. Relatedly, the first few days in the organization for a young college graduate, are considerably different from those of a thirty-year organizational veteran who has been downsized from middle-management, and has spent time in four or five different firms.

Garrick (1998) says that the new associate brings with her emotions, values, implicit theories and other types of metacognitive capacity. The organization obtains more than it bargained for. What was listed on the resume, discussed in the interviews and written in the correspondence, stuck mainly to the topic of abilities and experience. However, it will be some time before these will become a great factor in the individual's organizational life. At first, what matters most is how the person experiences and reflects.

Most organizations formalize these early days with orientation sessions. Yet much of the time will be spent on a less formal socialization process which includes introductions, stories, legends, rites and rituals (Schein, 1996). The newcomer's awareness is keen, the events are fresh and her mind is full of comparisons between former organizational life and these new experiences.

Soon the newcomer's reflections will crystallize into conceptualizations that can be verbalized. At this point the individual is capable of comparing expectations that arise from her past to that which is being experienced in the new organization. Even more significantly, she can articulate the differences. Old conceptualizations of organizing serve as foils for the new. New associates will vary in attitude, expectations and breaking-in skills (Holton, 1996), as well as the aforementioned absorptive capacity and perception of the gap between what is known and what is reasonable to expect to learn.

“What this social process has to do with learning is fairly direct: People learn as they participate in new and different communities of practice. It is the dynamic of becoming a member that makes the knowledge available to a newcomer. It is the opportunity to practice what the community knows that makes the learning effective. And it is the effective participation of new people, that keeps what the community knows alive” (Stucky, S.J., in *Across the Board Interview*, 1996; Anderson, Argyris, de Bono...and Stucky, 1996).

Leslie, Aring and Brand (1998), discuss the importance of learning problem solving, cooperating and acceptable behavior. It is critical that the way each of these is accomplished in this particular organization, is acquired. Newcomers learn what has become second-nature to those who have been there for a while. New associates learn not only how to get along in the culture, they may well have insight into how the organization’s policies, procedures, culture and even strategy, are viewed from the perspective of an outsider. It could be that their field of prior organizational experience can shed interesting light on the way problems are solved, the community of cooperation and what is valued as acceptable behavior.

Frank and Lueger (1997) call a sophisticated understanding of customer requirements “ecological know-how”. A critical source of ecological know-how is a point of view that includes or overlaps with that of the customer. New associates may well provide the organization with just such a perspective. Many of these new associates offer Gold Nuggets. The organization serious about learning will find a way to make use of this valuable insight.

### **SIGNAL EVENTS**

In a discussion of the difference between novice computer systems analysts and experienced analysts, Schenk, Vitalari, and Davis (1998) included: (1) less domain knowledge utilization, (2) superficial concern with user involvement, (3) use of general versus specific triggers, (4) less hypothesis testing and rejection, and (5) less goal generation.

As time goes on the associate becomes better at signal detection, due to what she knows now that she did not know before, both about the situation and about learning itself. During the learning process, efforts are taken to focus on special or specific aspects of a situation or event, to differentiate them from normal courses of action and thus transform them into events themselves. Through language, objects and backgrounds are differentiated for the novice, by the expert. In this way, language produces learning. It marks what should be remembered and obliges the novice to do so (Gherardi, Nicolini & Fransesca, 1998). It could also be argued that documentation of the informal advice transferred from experts to novices is a critical part of organizational learning. What is happening here is the documentation of Signal Events.

“Pattern recognition is so pervasive that users of information will go to great lengths to notice patterns in data that are not there (so-called illusory correlations), and the ability to recognize patterns is one of the distinguishing characteristics of experts (as opposed to novices) in almost any domain of knowledge” (Glazer, 1998, p. 181).

## CAUTIONARY TALES

Kleiner and Roth (1997) describe a technique they call learning history. They claim this technique to be a possible solution to the problem created by the fact that “People in organizations act collectively, but they learn individually” (p. 173). Here is how they describe this device:

“In the most basic terms, a learning history is a written narrative of a company’s recent set of critical episodes: a corporate change event, a new initiative, a widespread innovation, a successful product launch, or even a traumatic event such as a major reduction in workforce. The document ranges in length from 20 to 100 pages, nearly all of it presented in two columns. In the right-hand column, relevant events are described by the people who took part in them, were affected by them, or observed them close up. Managers, factory line workers, secretaries, and outsiders (such as customers, advertising copywriters, or suppliers) tell their part of the tale. Each person is quoted directly and identified only by title. The quotations are woven into an emotionally rich, cogent story reminiscent of Studs Terkel’s unvarnished first-person accounts of American life and society.” (Kleiner and Roth, 1997, p. 173)

Such a technique offers a way to build trust and an opportunity for collective reflection. Learning histories seem particularly effective at raising important issues that otherwise would be left alone. They can help transfer knowledge from one part of a company to another. Sometimes learning histories provide serendipitous results. This is a way to create meaning from a shared history.

It must be remembered that tales will be told from the point-of-view of the person telling the story. Obviously, some storytellers will have private or subgroup agendas in mind by the telling of their tale. However, listening to the tales with an ear for what is explicit as well as what is implicit, the listener can make an informed decision whether to accept the tale as insightful or deceitful.

Cautionary Tales can be useful as a leadership device. If it is true that organizations live out narratives, and that this narrative comes about as a result of informal communication, then it might be possible to replace destructive narratives with more constructive ones of the leader’s choosing (O’Connor, 1997).

## CLOSING NARRATIVES AND INSIGHT

One rainy day my daughter and I were rear-ended sitting at a red-light. All of the sudden, we were catapulted forward into the truck in front of us. I looked in the rearview mirror and saw that a pickup truck had hit the car behind us, which had shoved us forward. For some time after that I caught myself looking in the rearview mirror whenever I was slowing down. Each time I relived a little of the feeling of being caught between the car behind and the one in front.

Pretty soon I found myself stopping well short of the car in front, while being careful to monitor how close the car behind me was. I began to practice this more and more, slowing down "too soon" as if I was closer to the car in front of me than I actually was. This made the car behind me slow down "too soon" also, and once the car behind reacted, I could then let off my brake a little and gradually come to a stop a comfortable distance from the car ahead of me. I found that this

effectively allowed me more control over the distance between me and the cars ahead of me, and of those behind me.

Several months later, an event occurred which forced me to articulate the little insight I had been driving around with in my head. My wife was driving and I was on the passenger's side. We were in stop and go traffic. I kept checking the passenger side mirror and noticed that the girl behind us was stopping too close every time the traffic came to a complete stand still. I told my wife that she should stop a little short of the car in front of her, giving herself a little buffer and then easing up when the girl behind reacted, thus controlling the distance between our car and the ones before and after us.

Unfortunately, I am not sure I explained my point well to my wife, and not only that, but she was somewhat offended that I was instructing her. After all, her driving record for the last twenty plus years had been better than mine. She paid me no attention, and after a couple more times when the traffic came to a complete stop, sure enough, the girl behind us ran into our rear bumper. She did neither car any damage, but for some reason I jumped out immediately and pointed out to the young lady that she had brought the problem on herself by following too closely.

We got back in our car and I tried to tell my wife that if she had listened to me she might well have avoided the rear-end collision. She responded with disbelief that I would accuse her of being at fault when someone else had rear-ended her, and that any court in the land would find in her favor in such a case.

I held to my belief that it is possible to ward off being rear-ended by creating this little buffer zone for myself. What makes this story appropriate as an illustration of the three-part learning I am advocating is that it does indeed have a Gold Nugget (being squeezed between two cars), a Cautionary Tale (the practice I had developed out of my continual reflection on the feeling of being knocked from behind into a car in front of me), and finally a Signal Event (the episode of my wife not following my "new wisdom" and suffering the consequences).

Three part learning of this type is all around us. The other morning my wife was reading a recipe for fruitcake from a cookbook and one of the ingredients listed was "fruitcake mix". Her comment was that she had come to the cookbook looking for the ingredients for such a mix. What they had done was include the information, which she wanted, as one of the givens.

It occurred to me that this sort of thing happens all the time in poorly written instructions or communication in general. The basic principle is that the person doing the writing or speaking, becomes so familiar with what is being explained, that she lapses into a form of shorthand. Soon after this, I caught myself guilty of this very "sin". I was asking students in my class to break up into groups and to work on assignments related to what we had been discussing in class. Unfortunately, I forgot to offer an explanation as to how the assignments were correlated with what we had been talking about. I had given them the instructional equivalent of "fruitcake mix". I realized that this is more apt to happen to those who have become intimately familiar with the subject of the communication.

What makes this learning is that I now have this understanding available to me to use across various parts of my life. It is appropriate anytime communication is the exercise and the tendency to abbreviate undermines clarity.

It should also be pointed out that learning has a search component prior to the discovery of a Gold Nugget and the time of application that comes after the Signal Event. A dovetailing occurs in which one episode's Signal Event becomes a Gold Nugget for the next episode.

There is more here than simple stories. Stephen Pepper (1942) called commonsense facts that can be applied to other situations, "root metaphors". He stopped short of describing the five parts of the process. These steps are investigating, mining, mythologizing, detecting, and extrapolating.

My investigation took the form of reading *Zen and the Art...*, from which I mined Gold Nuggets of meaning. I understood these nuggets as myths, stories or Cautionary Tales. Ultimately new experience seemed to bear out the truth contained in the tales making them generalizable to other areas of my life.

My hope is to present these ideas in language that is accessible. It would seem contradictory to discuss the nature of understanding in terms that were incomprehensible. Genuine meaning is best grasped in powerful analog form.

Metaphor is fundamental to learning. The human mind is in analog, and not digital form, seeking and finding Gold Nuggets, creating Cautionary Tales and finding complete meaning in a related, Signal Events. These terms make sense to me, since they act as apt metaphors, to aid my understanding of the process. Other terms may work better for you, but unless I miss my bet, the process of advancing our knowledge is roughly the same.

How is this way of thinking worthwhile to organizations? Organizations are capable of engaging in the five step process also: experiencing, mining, mythologizing, detecting and extrapolating. In fact, this five step process may be more readily discernible in the case of collectives than it is in the instance of individuals.

Let's explore some of the ramifications of breaking learning into Gold Nuggets, Cautionary Tales and Signal Events. One extension is that predisposition affects perception which affects the depth of learning. Signal Events follow Cautionary Tales and Cautionary Tales follow Gold Nuggets.

Here is another simple home-spun example. After having written a few pages on this article, I needed something from the market, so I got in the car and drove the mile or so to the store. On the way, I was thinking of the general tone of what I had written, and I was wondering whether it might not be considered "less than academic," since it was written in such a relaxed style. Then I thought of Thoreau's "simplify, simplify" and I felt good about this simple approach to the relatively complex issue of learning.

As I was walking through the grocery store, I heard the voice of this little boy saying to his mother, "Momma, come here I want to show you something." It was delivered with the clarity and honesty that is the domain of the very young. It was simple, completely understandable, and from the seat of the little boy's soul. There was no sarcasm, nor intellectualization, no ego-trip, no pain, nor the real entanglements. He was existentially naïve, yet to entertain the prospect of his own death or that of his mother. In short, as I looked down at the little boy in his baseball cap, he was a picture of simplicity, and his words reflected the same. I was struck again by Thoreau's exhortation to simplify and I had a pure example of it, a Signal Event. The whole episode sealed my belief that this piece should be written with as little complexity as possible. I am not sure how successful I have been in that regard, but I have tried.

## REFERENCES

- Alexander, P A. (1996). The past, present, and future of knowledge research: A reexamination of the role of knowledge in learning and instruction. Educational Psychologist, 31, 89-92.
- Can you teach your people to think smarter?
- Anderson, A. C, Argyris, C. de Bono, E....& Stucky, S.J. (1996). Across the Board; New York, 33(3), 16-40.
- Beer, R.D. (1990). Intelligence as adaptive behavior: an experiment in computational neuroethology. San Diego: Academic Press.
- Bower, G. H., & Milgard, E. R. (1981). Theories of learning. Englewood Cliffs, NJ: Prentice Hall.
- Brooks, R.A. (1989). A robot that walks: emergent behaviors from a carefully evolved network. Neural Computation, 1, 253-262.
- Burns, A.C. & Gentry, J.W. (1998). Motivating students to engage in experiential learning: A tension-to-learn theory. Simulation & Gaming , 29(2), 133-151.
- Cannon-Bowers, J.A., Rhodenizer, L., Salas, E. & Bowers, C. A. (1998). A framework for understanding pre-practice conditions and their impact on learning. Personnel Psychology, 51(2), 291-320.
- Cohen, W. M., & Levinthal, D. A. (1990). Absorptive capacity: A new perspective on learning and innovation. Administrative Science Quarterly, 35,128-152.
- Dewey, J. (1938). Logic: The theory of inquiry. New York: Holt, Rinehart & Winston.
- Frank, H. & Lueger, M. (1997). Reconstructing development processes. International Studies of Management & Organization, 27(3), 34-63.
- Garrick, J. (1998). Informal learning in corporate workplaces. Human Resource Development Quarterly, 9(2), 129-144.
- Gherardi, S., Nicolini, D. & Francesca, O. (1998). Toward a social understanding of how people learn in organizations. Management Learning, 29(3), 273-297.
- Glazer, R. (1998). Measuring the knower: Towards a theory of knowledge equity California Management Review, 40(3), 175-194.
- Holton, E.F. (1996). New employee development: A review and reconceptualization. Human Resource Development Quarterly, 7(3), 233-252.
- Keijzer, F.A. (1998). Doing without representations which specify what to do. Philosophical Psychology, 11(3), 269-302.
- Judge, B. ( 1985). Thinking about things. Edinburgh: Scottish Academic Press.
- Kolb, D. (1984) Experiential Learning. Englewood Cliffs, NJ: Prentice-Hall.
- Leslie, B., Aring, M.K. & Brand, B. (1998). Informal learning: The new frontier of employee & organizational development. Economic Development Review, 15(4), 12-18.
- Loewenstein, G. (1994). The psychology of curiosity: A review and reinterpretation. Psychological Bulletin, 116(1), 75-98.
- Marsick, V. J., & Watkins, K. E. (1990) Informal and incidental learning in the workplace. New York: Routledge.
- Muller, U. & Overton, W.F. (1998). How to grow a baby: A reevaluation of image-schema and piagetian action approaches to representation. Human Development, 41(2), 71-111.

- Neumann, O. (1990). Visual attention and action. In O. Neumann & W. Prinz (Eds.), Relationships between perception and action. Berlin: Springer.
- O'Connor, E.S. (1997). Discourse at our disposal: Stories in and around the garbage can. Management Communication Quarterly, 10(4), 395-432.
- Paris, S. & Winograd P. (1990). How metacognition can promote academic learning and instruction. In Jones B, Idol L (Eds.), Dimensions of thinking and cognitive instruction (pp. 15-51). Hillsdale, NJ: Lawrence Erlbaum.
- Pepper, S.C. (1942). World Hypotheses: A Study in Evidence. Berkeley: University of California Press.
- Piaget, J., & Inhelder, B. (1973). Memory and intelligence. New York: Basic Books.
- Schein, E. H. (1996). Culture: The missing concept in organization studies. Administrative Science Quarterly, 41, 229-240.
- Pirsig, R. M. (1974). Zen and the art of motorcycle maintenance. London: Corgi.
- Roth, G. & Kleiner, A. (1998). Developing organizational memory through learning histories. Organizational Dynamics, 27(2), 43-60.
- Schenk, K.D., Vitalari, N.P. & Davis, K.S. (1998). Differences between novice and expert systems analysts: What do we know and what do we do? Journal of Management Information Systems, 15(1), 9-50.
- Simon, H. A. (1985). What we know about the creative process. In R. L. Kuhn (Ed.), Frontiers in creative and innovative management (pp. 3-20). Cambridge, MA: Ballinger.
- Trungpa, C. (1988). Shambhala: The sacred path of the warrior. Boston: Shambhala Publications.
- Usher, R. S. (1993). Experiential learning or learning or learning from experience: Does it make a difference? In D. Bond, R. Cohen, & D. Walker (Eds.), Using experience for learning (pp. 169-180). Buckingham, England: Society for Research into Higher Education and Open University Press.
- Wain, K. (1987). Philosophy of lifelong education. London: Croom Helm.

## OLYMPICS, SYDNEY 2000

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### ABSTRACT

*In data analysis, there is often one or a small number of key variables that become the focus of the study. Regression analysis provides a tool that can quantify such relationships. Multiple regression analysis can integrate the relationship of one dependent variable with several independent variables simultaneously. Regression analysis not only quantifies individual relationships, but it provides statistical control.*

*Olympic medals are given to exceptional (or abnormal) people part of a population, well-described by a normal or Gaussian probability distribution. The normal distribution is called normal because it comes close to fitting the actual observed frequency distributions of many phenomena, including human characteristics such as weight, heights, and IQs.*

*Every things being equal, as part of a normal distribution, olympic medalists must belong to one of the tails of a Gaussian probability distribution of characteristics, characteristics of one or several physical features, required to excell in any given sport. The number of "nominees" in each population is very small.*

*In describing regression analysis, special emphasis are placed on identifying the inputs, the outputs which are generated and the important assumptions and limitations that are associated with it. The inputs will be picked among a certain numbers of independent variables such as total population, population distribution, male and female population, university student population, gender gap, religious taboos, calories intake, proteins intake, climate, country elevation, statistical distribution in a population of a physical characteristics important in any given sport, etc. The outputs often will have associated with them some statistical tests of significance.*

*The description and the construction of a regression analysis model is too often abstract. Such a model deserves a palatable application to be appreciated from our students. We submit to our colleagues one exciting real world application which did help us to introduce the regression analysis model to our students, with ease and deep interest. Are the 2000 Melbourne olympic games results already known? Can one predict the number of medals which will be picked up by the United States and by any other country? As the croupier says when one plays "roulette", "les jeux sont faits!" (The "deals are over"! Les jeux sont-ils deja faits! Are the Melbourne olympic games already played and the results known! The answer to this is question is going to keep awake your students, especially after all the scandals surrounding the Olympic Committee.*



## **EDUCATION OF TECHNOLOGY MANAGEMENT: ASSESSMENT AND EVALUATION**

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### **ABSTRACT**

*The purpose of this study is to examine the critical factors for a successful technology management program at the MBA level.*

*A sample of 53 technology management programs was analyzed to determine program structure, scope, content, and mission. The leading ten technology management programs were evaluated in depth, based on additional information from personal interviews with program directors, faculty and students as well as examination of course content and student special projects that were available in their library.*

*The unique characteristics for a technology management program were based not only on academic factors, but also on organizational and campus culturally based factors. The interdisciplinary team approach to program design, implementation and evaluation has created value-added for competitive advantage on the university campus.*

*An alliance with technology firms and technology consulting organizations adds value in creating valuable opportunities for faculty and student to experiment, test, and develop new concepts and models.*

*A leadership that promotes an entrepreneurial spirit among these diverse constituents is critical for a successful technology management program.*

# **PREPARING TODAY'S BUSINESS STUDENTS TO FACE THE CHALLENGES OF THE 21<sup>ST</sup> CENTURY: A CALL TO BUSINESS COLLEGES AND PROFESSORS**

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## **ABSTRACT**

*The 21<sup>st</sup> century brings new challenges for American businesses – these businesses will need employees who possess certain critical skills. Business colleges and professors can play an integral role in helping prepare students to face these new challenges. This manuscript identifies key ways colleges and professors can help prepare students to face the challenges of the next century. Aspects of this preparation include adopting internship programs, cross-curricular learning, developing technical competence, adopting an international focus, developing critical thinking skills, emphasizing communication skills, coping with diversity, and adapting to change. Specific suggestions will be presented as to how these can be implemented in business curricula and classroom instruction.*

## **INTRODUCTION**

The 21<sup>st</sup> century brings new challenges for American businesses; these businesses will need employees who possess certain critical skills. Business colleges and professors can play an integral role in helping prepare students to face these new challenges. This paper identifies eight key ways colleges and professors can help prepare students to face the challenges of the next century.

## **HOW BUSINESS COLLEGES AND PROFESSORS CAN HELP**

First, the adoption of internship programs by business colleges can help prepare students. To be and remain competitive, businesses will need highly trained and skilled employees, even in entry-level positions (Hofer, 1993; Rowley, Christ, & Presley, 1995; "What Employers Want," 1994). Internship programs will help give students this needed experience and training before they graduate. Once hired, these entry-level employees will be much more valuable to their employers because of the training and knowledge they acquired in internship programs. These new employees can "hit the ground running," thus giving their employers a competitive edge domestically as well as internationally.

A second key way business colleges can help prepare students is to emphasize cross-curricular learning. Without a doubt, businesses in the next century will need personnel who are flexible and

can see how different functional departments and positions are interrelated. More than ever before, employees across departments in organizations must work together to ensure that organizational goals are being met in the most efficient manner possible. Colleges can aid in this process by offering more courses that require students to integrate knowledge from different functional areas. Another possibility might include professors teaching courses in different functional areas. For example, assuming he or she possesses relevant work experience and has had sufficient coursework as preparation, a Management professor could teach an entry-level class in Accounting; students might gain a valuable new perspective from this approach.

Also, business colleges and professors can help students become technologically competent. To be and remain competitive in the 21<sup>st</sup> century, businesses and their employees must be on the cutting edge of technology (Wicks, 1995). Business colleges and professors can monitor changes taking place in the business technological environment; goals should be established which ensure that these changes are continually monitored. Colleges should have up-to-date computer technology available for students. For their part, individual professors can require students to use current technology to fulfill course requirements. Also, professors should keep students informed of new advances in technology and future possibilities.

A fourth way business colleges and professors can help prepare students for the challenges of the 21<sup>st</sup> century is to adopt an international focus. To be successful in the 21<sup>st</sup> century, American businesses will have to take into consideration international aspects - ranging from the use of foreign labor and materials to marketing and selling products and services in foreign countries. More than ever before, companies will have to consider the "international dimension" to help give them a competitive edge. Business colleges can help by requiring courses such as international management, marketing, or finance as part of their curricula. Even in other courses, professors should integrate international aspects. Exercises could be used utilizing international students to help make American students aware of cultural differences that exist.

Additionally, professors can help students develop critical thinking skills. Businesses in the 21<sup>st</sup> century will need employees who have the ability to evaluate a problem and assess its implications (Reich, 1994). Professors are in a unique position to help their students develop this skill. As part of their class formats, professors may ask students to apply theoretical concepts discussed in class to different situations. Students may be asked to cite examples from work experience or current American business practices. Students must be constantly challenged to think. Also exams could be structured to encourage critical thinking, and not just memorization.

A sixth way professors can help prepare students for the 21<sup>st</sup> century is to emphasize communication skills. Without a doubt, businesses in the next century are going to need good communicators (Hoefler, 1993). In this regard, professors can aid students by including both verbal and written communication as part of their course requirements. Students should be given opportunities to verbally participate in class; this could be accomplished through class discussion and presentations. Written communication could be developed through the use of written assignments and essay-type exams.

Also professors can help students cope with diversity. In the 21<sup>st</sup> century, more than ever before, businesses will have to deal effectively with a vast and diverse group of stakeholders. Being able to deal well with stakeholders will be a necessity. Professors can help with this understanding

by encouraging students to view situations from different perspectives. Diverse in-class groups made up of students with different personality types and majors may aid in this process.

Helping students adapt to change more easily is another way professors can help students prepare for the 21<sup>st</sup> century. Change is inevitable, and to be successful in the next century organizations and employees must be able to deal with it effectively (Luciano, 1995). Professors can emphasize to students the inevitability of change and the link between dealing with it well and organizational effectiveness. Also, in some curricula, class exercises can be used which enhance students' ability to effectively deal with change in the workplace.

### CONCLUSION

In summary, the 21<sup>st</sup> century will bring many new challenges for American businesses. Today's business students must be prepared to face them. Business colleges and professors can and must play an integral role in helping students to be ready for these challenges.

### REFERENCES

- Hoefler, R. (1993). A matter of degree: Job skills for human service administrators. *Administration in Social Work*, *17*(3), 1-20.
- Luciano, L. (1995, March). Five smart ways to get ahead today. *Money*, pp. 118-123.
- Reich, R. B. (1994). Jobs: Skills before credentials. *Training*, *31*(4), pp. 38, 40.
- Rowley, W., Crist, T., & Presley, L. (1995, January). Partnerships for productivity. *Training & Development*, pp. 53-55.
- What employers want from college grads. (Summer, 1994). *Occupational Outlook Quarterly*, p. 42.
- Wicks, J. (1995, April). Stay competitive: Hone your technical skills during unemployment. *CPA Journal*, pp. 9-10.

# **QUALITY OF MANAGERIAL CONTINUING EDUCATION: FINDINGS BASED ON SIX MBA PROGRAMS**

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## **INTRODUCTION**

This paper aims to put forth a model that would be useful in describing the phenomenon of quality within the context of continuing education. Not only is it aiming at developing a model, but also testing its applicability and the power of explanation it holds. The model developed may have also managerial applicability as a tool of overall quality measurement and assurance.

Quality has been found to be a relative and very situation-bound concept. (Harvey & Green, 1993; Smith, 1993) It has a number of different definitions depending very much on who is doing the defining and on his/her background, be it technical, economic or other. The five probably best known definitions are Crosby's (1979) 'conformance to definitions', Feigenbaum's (1983) "the total composite product and service characteristics of marketing, engineering, manufacture and maintenance through which the product or service in use will meet the expectations by the customer", Deming's (1986) "a predictable degree of uniformity and dependability at low cost and suited to the market", the ISO (1986) definition "the totality of features and characteristics of a product or service that bear on its ability to satisfy stated or implied needs" and Juran's (1988) 'fitness for use'.

Quality has a positive ring to it, it is intuitively understood (Garvin, 1988) and usually perceived something worth aspiring. A fitting analogy by Crosby draws a parallel between quality and sex. He states: "Quality is like sex. Everybody wants it (under certain conditions of course). Everyone considers him/her an expert on the matter (although reluctant to explain him/herself). Execution is just a matter of following your instincts (we can manage at it). Plus, most think that occurring problems lie in other people. (If only others would do things right). (Crosby, 1986).

Although many views exist on the substance of the concept and definitions vary, there seems to be more widespread agreement among the researchers on the broader set of concepts or viewpoints from which it is possible to address the concept of quality. Again, depending on who is doing the defining, there are five or six basic viewpoints of quality to be found.

Those five broader viewpoints of quality are: a philosophical, a product-based, a user or customer-based, a production-based and a value-based points of view (Garvin, 1984). To add in the sixth viewpoint, it is necessary to broaden the viewpoint still, maybe even stretch it, to fit in a environment-based point of view of quality (Lillrank, 1990). The environment-based view may be considered the widest scope to look at quality since it encompasses the largest number of actors or parties interested imaginable.

## **A GLANCE AT DIFFERENT VIEWPOINTS OF QUALITY**

If one is addressing quality from the philosophical viewpoint, quality is defined intuitively. "It is apodictic - one instinctively knows quality." (Harvey & Green, 1993) You just "know" what is, and what is not quality. Thus, seen from philosophical viewpoint quality cannot be measured or analyzed (cf. also Oakland, 1993 and Holbrook & Corfman, 1985). It is simply a characteristic that can only be perceived through own experience (Savolainen, 1997).

If, in turn, one is looking at quality from product-based viewpoint, what becomes essential is conformity to requirements, as defined by Crosby (1979). Quality is seen to reside within the product itself, its special traits that make up a group of characteristic which are precisely definable and measurable. (Lillrank 1990; Savolainen 1997) Physical product may be with relative ease, the ease depending on the type of product of course, inspected and verified to meet the set standards and thus being a quality product. Quality seen from product or production-based view represents itself as an absolute, on-off concept (Lillrank 1990).

Looking at quality from the value-based viewpoint, quality is defined by cost-benefit ratio. A quality product is one which provides satisfactory performance at an acceptable price (Garvin 1984; Feigenbaum 1983). The more value for your money, the higher the quality. The value-based view of quality has been criticized for example by Smith (1993) for being misconceived. The value-based view is not the only view of quality that has been criticized. In fact, all the views stated above have come under heavy critique for their different shortcomings in portraying the phenomenon.

The prevalent view of quality is the customer or consumer-based view of quality. It has become the generally accepted way to address quality in most of the recent studies conducted on quality. As Smith (1993) concludes "It is likely that, in modern societies, most quality assessments are in terms of an object's users, with the majority of these involving consumer evaluations of products-for-sale." Not only is this statement true for products, i.e. physical products, but it is especially true for different types of services.

In service quality literature practically the only view present is the consumer-based view. The basic reason behind this is the wide-spread agreement that creation for value (as perceived by the customer) is what should be understood, measured and improved (Albrecht, 1992; Bolton & Drew, 1991; Gross, 1994; Naumann, 1995; Bennington & Cummane, 1998). Although the most popular definition of quality relates to meeting/exceeding consumers expectations, there is neither an accepted nor a best definition of quality for every situation (Reeves & Bednar 1994). Nor should there be, in fact, the sole endeavor of pursuing one single best definition for all forms of services is doomed to fail. Instead of trying to find an universal definition, what should be strived for is finding workable and agreeable definitions for a broader set of services sharing common basic features.

## **THE QUALITY VIEWPOINT OF THE PRESENT STUDY**

In this paper the quality view adopted is the consumer-based view. When adopting the consumer-based view, one is expanding the scope of examination from technical, product or production-bound concept to a more general concept of marketing and management. It could, in fact, be referred to as product strategy (Lillrank 1990). What comes inherent with the adoption of consumer-based view of quality in the context of services, is the complex and subjective nature of the

concept. The subjective nature is due to the fact that, in present knowledge of the phenomenon of service quality, what is pivotal is the consumer's or customer's perception of quality. Perceived quality is defined by Zeithaml (1987) as the consumers' judgement about an entity's overall excellence or superiority. This definition is very different from objective quality (Garvin, 1983; Hjort-Anderson, 1984) which in turn involves an objective aspect of a thing or an event. Service quality and quality of a physical product might be considered as the opposites on the subjective - objective dimension.

What becomes evident from even a brief overview of the service quality literature is that, although variations in definitions exist, all definitions have one basic assumption in common. The common assumption being that the quality perception is formed by some means of mental comparison or referencing in the minds of customers. Perceived quality is by Rowley (1998) "a form of attitude, related to, but the same as, satisfaction, and resulting from a comparison of expectations with perceptions of performance." Oltavsky (1985) in turn views quality as a overall evaluation of a product. Holbrook and Corfman (1985) suggest that quality acts as a relatively global value judgement. The difficulty with values though is that they are defined differently among individual customers (Albrecht 1992) and are subject to change as expectations increase (Ballantyne, Christopher & Payne, 1995; Foster & Whittle, 1992; Harari, 1993; Lewis, 1994; Quinn & Humble, 1993; Turpin, 1995).

Opinions on the nature of the mental comparison differ considerably among researchers. The widely accepted notion supported by many researchers (Sasser, Olsen & Wyckoff, 1978; Lehtinen & Lehtinen, 1982; Parasuraman, Zeithaml & Berry, 1985; Grönroos, 1988) is that service quality, as perceived by customers, stems from a comparison of what they feel service organization should offer (i.e. expectations) with their perception of the performance of organizations providing the service, is the prevalent view. The opponents of the prevalent view raise a well-justified question concerning the role of expectations and challenge the prevalent thinking on the issue. They feel that the role of expectations is over-emphasized and that the difference formulation is fundamentally flawed (Bennington & Cummane, 1998). Instead they feel that the decisive role should be placed solely on perceptions of service actually delivered (Cronin & Taylor, 1992, 1994). Another question raised by the opponents concerning the use of expectations as the point of comparison or reference, is that expectations are not necessarily consistent or predictable (Blanchard & Galloway, 1994) and they are subject to management communication or advertising and thus likely to change (Bennington & Cummane, 1998). Also Morgan and Piercy (1992) point to the direction of management as the conscious influencer on customer expectations. They identify previous experiences, customer's needs and requirements, formal communication and informal communication as sources of possible influence to customer expectations.

Another issue that is causing debate, is the very definition of expectations. This needs to be mentioned for it is a possible cause of confusion. The concept has been traditionally defined differently within two related fields of study. The consumer satisfaction and service quality literatures have assigned different meanings to the concept. The distinction drawn between expectations in these two fields is the following: consumer satisfaction literature views expectations as having a predictive nature, what is *likely to happen* (Spreng & Mackoy 1996; Bennington & Cummane 1998) and service quality literature sees expectations as having an anticipatory nature, *what should happen* (Bennington & Cummane, 1998; Teas, 1994; Hill, 1995; Bitner, 1990; Parasuraman, Zeithaml & Berry, 1988).

Although the question concerning the formation process of quality perception in the minds of consumers remains to be settled, be it the dominant difference formulation or some other, in this paper the path set by Sasser et al. (1978), Lehtinen & Lehtinen (1982), Grönroos (1984a, 1984b), Parasuraman et al. (1988) is followed in developing the model for overall quality assessment of managerial continuing education, namely MBA programs. The basic idea of service quality being perceived quality which results from a mental process of comparing expectations and perceptions of the actual service provided is accepted. This paper does not aim at challenging the very basic tenets of prevalent thinking on the construct of the concept, instead it employs an alternative method of analysis to overcome some of the points raising criticism against the gap model

### **THE MODEL FOR ASSESSING QUALITY OF MANAGERIAL CONTINUING EDUCATION**

The model presented here follows loosely the ideas set by scholars in the field of service quality. To name the main influencers, they are Grönroos and Parasuraman et al. with their views of foundations of service quality and the processes involved. The views presented by Grönroos and Parasuraman et al. are reflected in terms and structures used in the model to describe the quality of managerial continuing education as well as in the formulation of survey items used.

The influence of Parasuraman et al. (1988) is evident in model's construction through the generic dimensions they have identified in their SERVQUAL model. The five dimensions of SERVQUAL being: 1) tangibles, 2) reliability, 3) responsiveness, 4) assurance and 5) empathy. Also the earlier work of Parasuraman et al. (1985) with their original ten determinants of quality have had an influence on the model and the design of the survey at hand. Grönroos' influence on the other hand is present in the proposed model in the structure it follows. The different building blocks making up the model are in part labeled following Grönroos' terms such as technical quality and functional quality (Grönroos 1984b) By using the ideas of the above mentioned scholars as the starting point for the model construction and adding in some additional flavors by others, it will be possible to try and render a serviceable tool for assessing the overall quality of managerial continuing education.

The basic structure of the model follows the widely accepted notion within the service quality literature that the perceived quality is formed by comparison of some mental standard set in the mind of the consumer - expectations - and the actual service provided. In attempt to assess the overall quality it is thus essential to incorporate both expectations and experiences of the actual service provided to the model. In order to do so, the instrument measuring expectations and experiences is divided into two distinct sections measuring the two independently, following the advice given by Martilla and James (1977) who constructed their importance-performance analysis, a method to be employed in the analysis of the data in this paper.

It has been stated that SERVQUAL, being a disconfirmation-based instrument, is not suitable for measuring service quality in educational setting (Joseph & Joseph 1997). The whole SERVQUAL model has come under heavy critique for many reasons, some of those being: confusing outcome, process and expectation (Blanchard & Galloway, 1994); neglecting the price factor (Chen, Gupta & Rom, 1994); the sample the SERVQUAL was originally based on (Dotchin & Oakland, 1994); producing number of factors different from five (Gagliano & Hathcote, 1994; Cronin & Taylor, 1992, 1994; Hedwall & Paltschik, 1989; Babakus & Boller 1992); not being generic and having need to be



customized to the service in question (Carman, 1990). In fact, Parasuraman et. al. (1988) themselves recognize and acknowledge this need for customization feature in their model.

Bearing the need for customization feature in mind, the proposed model in this study uses the SERVQUAL model's five basic factor features as the starting point and augments some features to be able to cover the special features involved in the service of managerial continuing education. The established survey items themselves of SERVQUAL scale are not used. It has been proposed (Rowley, 1998) that instead of pursuing for one model and measurement scale applicable to wide variety of services, the more appropriate way would be designing measures for specific service industries. By doing so it would be possible to take into account the different domains of service quality in different service industries, which in some service industries are factorially complex and in some very simple (Rowley, 1998). One basic feature with the service of managerial continuing education is the rather long time-frame involved. Managerial continuing education in the form of a MBA program is a long-term service (Joseph & Joseph, 1997) or might be characterized as 'continuously provided' service (Bolton & Drew, 1991), a process that takes up two and a half to four years to be completed.

The model, reflecting the education process, is divided to six identifiable stages through which the customer passes during his/her participation to a MBA program. The typical features presented identifying the different stages through preparation to graduation reflect the mode of operation of the University Continuing Education Center the study was conducted in. A key feature of the model is that it treats education as a process in which the customer and the service provider are in constant interaction with each other and the characteristics of interaction evolve as time passes. As the process has a number of stages, it would be unsound to expect or assume that the service attributes defining the quality remain constant throughout the process. On the contrary, it would be presumable that the weight each service attribute has in defining the overall quality, will vary over time depending on the stage of the education process.

## **DATA COLLECTION AND METHODOLOGY**

The model presented above is organized into thirty-seven claims in four categories that are formed based on the service quality literature and some service factors considered to be specific to managerial continuing education service. The data was obtained by mail survey directed at all MBA students actively pursuing their studies in the University Continuing Education Center. A total of usable responses was 133 out of 219, which gives a fair response rate of 61 %. The thirty-seven claims deal with the stages through preparation to graduation presented in the model, a number of questions relating to both incentives and materialization of benefits stages were also added in the questionnaire as well as some questions to provide background information on the respondents, but they are of less interest regarding the aims set in this paper and will not be reported.

The respondents were requested to fill in a self-complete questionnaire which was divided in sections according to the themes relating to overall quality of managerial continuing education based on the model. The thirty-seven paired claims on specific service attributes were divided into two subscales in which the respondents were first asked to evaluate the importance of a service attribute, and later on to evaluate the actual performance level of each service attribute. The rationale behind this setting was to dissociate the two constructs of importance and performance and thus avoid the

risk of respondents "mechanically" or unconsciously marking the two in similar pattern introducing a bias that would render the whole exercise invalid. The responses were obtained with four point Likert type scales in which 1 denoted either "Not at all important" or "Poor" and 4 denoted "Extremely important" or "Excellent" respectively depending on the subscale (importance/performance) being used.

The setting reflects the method employed in the analysis of the data. The importance-performance analysis by Martilla and James (1977) is used for a number of reasons. First, one of the most attractive features of Martilla's and James' technique is its simple and illustrative way of portraying the results in graphical two dimensional grid. This feature is called for by Gilles and Hart (1992) as they argue for the need for graphical techniques to be employed in analysis of quality to allow the multidimensionality of quality to be retained whilst providing an overall impression of it. Second, an attractive feature for an exploratory study such as this, is the straightforward nature of execution of the analysis, it is based on mean scores of both importance and performance. Third, the efficacy of importance-performance analysis has been demonstrated in the marketing literature and applied to various service industries (Hemmasi, Strong & Taylor, 1994). Examples include retirement communities (Hawes, Kiser & Rao, 1982), banking (Swinyard, 1980), health care (Hawes & Rao, 1985), convention industry (Go & Zhang 1997), tourism industry (Uysal, Howard & Jamrozy, 1991) and tertiary education (Joseph & Joseph, 1997). Fourth, the importance-performance model has been found to be conceptually valid and a powerful technique in identifying service quality areas requiring remedial strategic actions (Sethna, 1982). And fifth, importance-performance mapping has been found to be not only adaptable to variety of service settings as demonstrated above, but also to variety of measurement techniques (Hemmasi, Graf & Nielsen, 1992).

Although, originally designed to measure customer satisfaction, the underlying assumptions fit very well to overall quality measurement which is the case in this study. Importance-performance analysis has adopted as its principal component the importance a customer places on any given service attribute instead of expectations, like the SERVQUAL model. By employing importance-performance analysis it is possible to dodge the implied problems with disconfirmation-based instruments like SERVQUAL, which is not deemed appropriate for quality assessment in education (Joseph & Joseph 1997; Bennington & Cummane, 1998). Another feature which makes the importance-performance analysis attractive for this study is the notion of comparison of importance and performance of different service attributes producing an overall measure of how well the service meets customer's needs, which shows considerable conformity with some of the well-known definitions of quality.

The approaches used in attempts of assessing the quality of education have varied some. The most commonly used approach in the quality assessment has been the SERVQUAL approach dominating the service quality literature (c.f. Anderson, 1995; Hill, 1995a; McElwee & Redman, 1993; Wright, 1996), although the results gained by it have been fairly limited (Aldridge & Rowley, 1998). With the growing criticism against the SERVQUAL framework (c.f. Carman, 1990; Babakus & Boller, 1992; Brown, Churchill & Peter 1993; Oliver, 1993), other approaches have begun to gain more popularity. One of those is the SERVPERF approach (Cronin & Taylor, 1992, 1994) which has also been proposed to be applied to assessing quality of education. The most recent approach to assessing the quality of education is the importance-performance approach (c.f. Joseph & Joseph, 1997), which will be employed in the present study as already stated above.

## **RESULTS AND DISCUSSION**

It is evident from the results that most service attributes have been considered more important than their perceived level of execution. Yet, the vast majority of customers (MBA students) regarded the overall performance to be 'good' (mean 8.50) when asked to grade the performance of University Continuing Education Center with typical Finnish grading system ranging from four to ten. The overall performance evaluation was only .50 grade-point short of 'excellent' (9.00) within the Finnish grading system. This would suggest there, in fact, being a range or zone of tolerance as Parasuraman, Zeithaml & Berry (1994) suggest or a dual threshold effect (Lewis, 1995), and that the performance of the University Continuing Education Center has fallen well into that zone.

In order to refine and test the model proposed, a series of different analysis were conducted. First, to refine the model, a factor analysis was performed to determine the fit of the model. Were the four dimensions proposed in fact present and to which extent?

For the refinement purposes the performance scale measures were chosen as the starting point. The decision to do so was based on a regression analysis using the students' overall assessment of quality as dependent variable and both importance and performance scale measures as independent variables. The results of the regression analysis clearly demonstrated the dominance of perceived performance in the formation of overall quality assessment ( $p = .000$ ) over importance ( $p = .9663$ ). This result alone would give some support to Cronin & Taylor's (1992, 1994) and Babakus & Bollers' (1992) proposition of the perceived performance being the decisive factor in service quality assessment.

A confirmatory factor analysis was performed to verify or reject the model. As the aim of the factor analysis was to test the proposed model, a four-factor solution, which reflected the structure of the model, was chosen. Seven service attributes were eliminated after initial analysis for their low communality. Factor analysis was performed on the remaining service attributes using varimax rotation. The results of the factor analysis revealed that the four dimensions used in the model could in fact be more accurately captured by two factors, since most service attributes within the original categories of functional and interaction quality loaded on the same factor in the four-factor solution.

The result of the factor analysis does not confirm the proposed four dimensions of the model, but instead support a refined model of two dimensions. The first factor comprises of the original categories functional quality and interaction quality, which, when unified will portray the dimension more accurately than the two original dimensions. The utility dimension is very similar to the original model proposed, ten out of fourteen service attributes within the original category were included in the refined model. The two-model solution explains 42 per cent of the total variation. Thus, a model of two factors may be adequate to represent the data.

Being an exploratory study, the present study aimed at developing and testing a model that would be capable of describing the central service attributes in the formation of overall quality assessment. The logic followed is very similar to Rowley's (1997, 1998) proposition on the interrelatedness of satisfaction and service quality as she states incidents of satisfaction over time leading to perceptions of good service quality. As a means of being able to form a view of overall quality on the basis of different service attributes, the importance-performance method was utilized, again following the proposition of Rowley. As continuing education is a rather long process it gives the consumers plenty of chances to have contact with the service provider, thus giving them also

many possibilities to experience satisfactory, or unsatisfactory incidents for that matter, which over time lead to an overall quality evaluation. These individual experiences may be thought of as cumulating into an overall quality perception over time.

Thus, it would be necessary to study the process longitudinally to track the proposed changes that may take place in quality perceptions as Bolton & Drew (1991) suggest and Hill (1995b) and Geall (1995) have done in the field of tertiary education. In fact, this exploratory study will be followed by another study in the near future, using the knowledge gained from this study and taking into account more of the longitudinal nature of managerial continuing education.

One thing needs to be mentioned still. In this study the consumer perspective of quality was adopted. This is not to state that other stakeholders would not matter. It is acknowledged that education in its many forms have a number of stakeholders which have a say in its contents and form. To make a wider quality assessment, the quality views of all stakeholders, government, employers, instructors and students alike, to name a few, should be incorporated, not just one group's, as Harvey and Green (1993) state too: "Although there is an issue over who the customers of higher education are, it is less contentious to talk of the students as the consumer of educational provision. They after all, are the ones who pass through the system, consume what is on offer and emerge as 'educated'. However, it is wrong to think that students are the only direct consumers of higher education." The above is even more true when dealing with continuing education.

Editors' Note: Figures, tables, detailed results, and references are available from the author.

# **AN EMPIRICAL STUDY OF THE FACTORS UNDERLYING STUDENT SERVICE QUALITY PERCEPTIONS IN HIGHER EDUCATION**

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## **ABSTRACT**

*The purposes of this study were two-fold: the first purpose was to investigate the primary factors that affect perceptions of teaching service quality. Using the popular SERVQUAL scale, we investigate the primary factors that influence student perceptions of teaching quality. The second purpose of this study was to examine other factors that have been found in previous studies to affect/contaminate student ratings of faculty service quality, such as student GPA and course complexity.*

## **INTRODUCTION**

The "marketing concept" often studied in business schools today argues that customer needs must be the central focus of the firm's definition of its business purpose, and that profits are produced through creating customer satisfaction. Therefore, winning business strategies should start with an analysis of the company's actual performance compared to customer expectations of performance, especially in service industries. Unfortunately, the focus of most American colleges today is still on short-term performance -- on productivity and efficiency -- and not on student (customer) satisfaction.

As pointed out by Shim & Morgan (1990), "faculty and administrators can no longer ignore the need to view students as consumers of educational services with specific needs and wants and corresponding satisfactions" (p. 29). This is mainly because the need for marketing in institutions of higher education is greater today due to factors such as decreased funding, increased program and service demands, and increased competition from other academic institutions. However, the "selling orientation" in higher education is "still prevalent today because institutions seem to focus on their own needs first and consider students only as an input to satisfying the institution's needs" (Shim & Morgan, 1990, p. 29).

There are several possible reasons for the lack of focus on customer satisfaction in higher education. One reason may be that the economic returns from improving customer satisfaction are not always immediately realized. Research suggests that because efforts to increase current customers' satisfaction primarily affect future behavior, the greater portion of economic returns from

improving customer satisfaction also will be realized in subsequent periods (Anderson, Fornell & Lehmann, 1994).

Another reason for the lack of focus on customer satisfaction may be because the concept of service quality, although deemed important, has been difficult to define, measure, and maintain. Most researchers agree that service quality is an elusive and abstract construct that is difficult to define and measure (Cronin & Taylor, 1992; Carman, 1990). The customer's perception of service quality is not necessarily the same as the company's perception of its service quality, which is one reason it is difficult to measure. For many companies, quality is simply the absence of things gone wrong and is measured by looking at the production process (Gronroos, 1990). In the past, quality was defined in terms of measures associated with internal operations. However, companies are now beginning to realize that internally generated measures of quality often do not match customer perceptions of quality. Ultimately, it is the customer, not management, whose perceptions really count in the increasingly competitive marketplace. Customer satisfaction and the voice of the customer have become a new thrust of the quality movement.

Some marketing researchers have proposed that the benefits of increased customer satisfaction come in two basic forms: the improved ability of the firm to attract new customers, and the ability of the firm to maintain repeat customers (Rust, Zahorik, & Keiningham, 1995). Fornell (1992) suggests that the following benefits are associated with high customer satisfaction:

- \* Increased loyalty for current customers from competitive efforts;
- \* Lower costs of future transactions: a firm with high customer retention does not need to spend as much to acquire new customers each period;
- \* Reduced failure costs: high customer satisfaction reduces resources devoted to handling returns, reworking defective items and complaints;
- \* Lower costs of attracting new customers: because satisfied customers are more likely to engage in positive word of mouth and less likely to engage in damaging negative word of mouth;
- \* Reduced price elasticities: because satisfied customers are more willing to pay for the benefits they receive and are more likely to be tolerant of increases in price.
- \* Enhanced reputation for the firm: which in turn can aid in introducing new products by providing instant awareness and lowering the buyer's risk of trial.

In fact, prior research has found that small increases in current customer retention rates can have a dramatic effect on the profits of a company (Dawkins & Reichheld, 1990; Fornell & Wernerfelt, 1988; Reichheld & Sasser, 1990). This is because existing customers tend to purchase more than new customers (see Rose, 1990), the efficiencies in dealing with them are greater, and the selling costs are much lower (see Rust, et. al., 1995; Peters, 1988). Also, research shows that service quality (Bitner, 1990) and overall service satisfaction (Cronin & Taylor, 1992) can improve customers' intentions to stay with the firm.

The first purpose of this study was to investigate the primary factors that affect perceptions of teaching service quality. Using SERVQUAL, a popular scale developed in 1988 by a group of organizational researchers to measure service quality perceptions, we investigate the primary factors that influence student perceptions of teaching quality. The second purpose of this study was to examine other factors that have been found in previous studies to affect/contaminate student ratings of faculty service quality, such as student GPA and course complexity.

## REVIEW OF THE LITERATURE

According to Parasuraman, Zeithaml, and Berry (1985) in their work on service quality, there are four well-documented characteristics of services: intangibility, heterogeneity, inseparability, and perishability. According to this definition, teaching can be conceptualized as a service, since it is intangible, heterogeneous, perishable (it cannot be stored), and it typically requires the presence of customers (i.e., students).

In 1985, Parasuraman, Zeithaml, and Berry suggested that perceived service quality is similar to a "global judgment or attitude" (p. 42). Their conceptual definition of the service quality construct was that it is a comparison to excellence in service encounters by the customer (Taylor and Baker, 1994). This appears consistent with Bitner and Hubbert's (1994) proposed definition of service quality as "the consumer's overall impression of the relative inferiority/superiority of the organization and its services" (p. 77). Exploratory research by Parasuraman, Zeithaml and Berry (1985) revealed that the criteria used by consumers in assessing service quality fit 10 dimensions. These dimensions are tangibles, reliability, responsiveness, communication, credibility, security, competence, courtesy, understanding the customer, and access to service. Parasuraman et al. (1988) developed a scale, called SERVQUAL, to measure service quality by examining the "gap" between the customer's expectation of service quality and his/her perception of the service actually received on each dimension. Through empirical testing, the authors narrowed the initial 10 dimensions of service quality to 22 items making up five basic dimensions: tangibles, reliability, responsiveness, assurance and empathy.

The SERVQUAL instrument has been tested and is generally accepted and frequently used by researchers today (see Babakus & Boller, 1992; Carman, 1990). The validity of the 22 scale items that make up the SERVQUAL scale appears to be well supported both by the procedures used to develop the items and by their subsequent use as reported in the literature (Carman, 1990). Subsequent empirical testing has found these 22 items to be exhaustive and appropriate for application over a broad spectrum of services (Carman, 1990; Parasuraman, Berry & Zeithaml, 1991; Walsh, 1992). However, the stability of the five SERVQUAL dimensions has been questioned by some researchers (Carman, 1990). Based on his empirical research, Carman (1990) suggested that "items on seven or eight of the original ten dimensions, rather than five, be retained until factor analysis shows them not to be unique, and items on some dimensions should be expanded if that is necessary for reliability" (p. 50).

Student evaluations of faculty classroom behavior have been shown to be positively related both to faculty self-evaluations (Blackburn & Clark, 1975; Braskamp, Caulley & Costin, 1979; Marsh, 1987) and to ratings produced by external observers (Marsh, 1987). A review of the literature on faculty evaluations revealed that student evaluations of faculty have been correlated to research productivity (Feldman, 1987) and to other nonteaching facets of the faculty role (see Schneider, Hanges, Goldstein & Braverman, 1994). Numerous writers have addressed the value of students' evaluations in assessing the instructional effectiveness in higher education. Among the findings are a significant relationship to students' achievement, to expert and objective observers, to faculty self-ratings, and to alumni ratings (see Dwinell & Higbee, 1993). The opinions of higher education students are becoming a key and necessary part in the determination of teaching service quality (Fernandez & Mateo, 1992).

Students have been compared to service consumers by several researchers (see Schneider, Hanges, Goldstein, & Braverman, 1994). Comparing students to service consumers makes sense because the teaching industry meets all four criteria of a service industry, namely its intangibility, heterogeneousness, perishability, and the simultaneous nature of its production and consumption processes.

## **RESEARCH DESIGN**

Instructors from six post-secondary academic institutions located in three states were chosen for the sample. Surveys were sent to all full-time faculty in each of the six colleges inviting them to participate in the study. Customer satisfaction data was collected from their students. Teaching-oriented colleges were chosen to participate in the study. In this study, the customer (or student) satisfaction scales are concerned only with the teaching quality, and do not assess research or administrative quality. Faculties in teaching-oriented colleges, such as junior colleges or technical schools, spend the majority of their time in the classroom and, therefore, were deemed more appropriate for the purposes of this study.

Convenience sampling was used to determine the sample. All faculty members from six colleges were invited to participate in the study. All faculty volunteers were from teaching-oriented colleges and were full-time employees. The colleges were located in the southeastern region of the United States. The following is a brief description of each college:

- School #1: A small, two-year community college
- School #2: A medium-size five-year liberal arts college
- School #3: A small, five-year regional college
- School #4: A medium-size vocational-technical school
- School #5: A small, five-year regional college
- School #6: A small, five-year regional college

To measure the effects of individual or school differences, several other variables were included in the analysis. The variables were based on a review of the literature on teaching evaluations and included employee tenure, employee work experience, employee workload (i.e., teaching hours per week and the number of students taught each quarter), employee gender, and employee age (discussed further below under the section entitled "Control Variables"). Including these variables achieves two specific purposes: (1) eliminates some systematic error outside the control of the researcher that can bias the results, and (2) accounts for differences in the responses due to unique characteristics of the respondents. The control variables studied include employee tenure, employee work experience, employee workload, employee gender, employee age, consumer gender, consumer age, perceived complexity of the class, consumer experience with product, student perception of grading fairness and GPA.



## RESULTS

Although the authors of SERVQUAL (Parasuraman, Zeithaml, and Berry, 1985) originally identified 10 determinants of service quality, they subsequently reduced the 10 determinants into five separate components of service quality based on factor analysis. However, Carman (1990) found that some of the items did not load on the same component when compared across different types of service providers. Many researchers suggest that items on seven or eight of the original ten SERVQUAL dimensions be "retained until factor analysis shows them not to be unique" (Carman, 1990, p. 50). Therefore, a total of seven dimensions, plus one item measuring "overall service quality", were included on the service quality measure.

As recommended by organizational researchers, the individual items on the SERVQUAL scale were factor analyzed, using principal components analysis, to determine the exact number of conceptually distinct dimensions. The factor analysis revealed that only three factors had eigenvalues greater than 1.0. The "latent root criterion" used by many researchers suggests that the number of factors to be considered "significant" is determined by the number of factors with latent roots (eigenvalues) greater than 1 (see Hair, Anderson, Tatham, and Black, 1992, p. 237). Table 1 shows the eigenvalues for each factor identified in the unrotated factor matrix.

TABLE 1  
Eigenvalues of the Correlation Matrix for SERVQUAL Items

	Factor 1	Factor 2	Factor 3	Factor 4
Eigenvalue	15.88	1.59	1.12	0.76
Difference	14.29	0.48	0.36	0.11
Proportion	0.611	0.06	0.04	0.03
Cumulative	0.611	0.67	0.72	0.74

Although the basic SERVQUAL scale was intended to have five separate dimensions, research has shown that the number of dimensions (i.e., factors) differs by service industry (see Carman, 1990). Utilizing the latent root criterion, the data show that only three distinct factors account for 72% of the variance in teaching service quality perceptions. An analysis of the factor loadings in Table 1 revealed the following factor breakdown of the SERVQUAL items:

Factor 1 = Employee "Empathy"

Factor 2 = Employee "Competence and Reliability"

Factor 3 = Tangibles of the Work Environment

As shown in Table 1, the "Empathy" factor accounts for a total of 61% of the variance in service quality perceptions. In their original work on the dimensions of service quality, Parasuraman et al. (1988) defined employee "empathy" as "...the caring, individualized attention the firm provides its customers." The items loading on factor one reflect this definition (see Table 6 below). The second factor we defined as the "competence and reliability" factor. Parasuraman et al. (1988) defined the "competence" dimension as "...possession of the required skills and knowledge to perform the service", and the "reliability" dimension as "...consistency of performance and dependability." The items loading on factor two reflect these definitions. Finally, the "tangibles" dimension was defined by Parasuraman et al. (1988) as "...the physical evidence of the service", which describes factor three.

Eleven other "control" variables were included on the survey. The control variables included faculty tenure, faculty teaching experience, faculty workload, faculty gender, faculty age, student gender, student age, perceived complexity of the class, student class experience, student perception of grading fairness, and student GPA. An exploratory regression model revealed that these variables contributed to 26.3% ( $r^2=.263$ ) of the variance in instructional service quality, as defined by the SERVQUAL scale ( $F=8.6$ ,  $p<.0001$ ). In this model, the following control variables were found to be significant at the  $p<.05$  level: perceived grading fairness ( $p<.0001$ ), student gender ( $p<.0001$ ), and class experience ( $p=.0102$ ).

As a manipulation check, the variable "school" was added to the regression model to determine if differences across academic institutions had a significant effect on service quality. A high p-value of .33 suggested that differences across schools did *not* have a significant effect on service quality in this sample.

## DISCUSSION

This study provides additional information regarding the factors that contribute to students' perception of faculty service quality in higher education. The data in this study suggest that faculty empathy and concern for students may have the largest impact on students' perception of instructional service quality. Using the SERVQUAL scale to measure student perceptions of faculty instructional quality, we found that the instructor's reassurance and empathy, willingness to help students, ability to build confidence in students, and courteousness all significantly affect students' service quality perceptions.

As expected, faculty competence and reliability also impact service quality perceptions. Therefore, instructors' dependability and ability to teach the material are also deemed important to students. Consequently, faculty training on teaching methods should have a significant impact on student service quality perceptions.

Another issue considered in this study includes the extraneous variables that may have an impact on student evaluations of instructional quality. The results of this study show that three variables appear to have a significant impact on service quality perceptions at the  $p<.05$  level of significance: student gender, student class level (i.e., completed credit hours of college classes), and the perceived grading fairness of the instructor. This implies that, all else being equal, faculty who

are perceived as fair in grading will receive higher student evaluations. It is important to also note that faculty teaching experience and workload, along with student GPA, were significant at the  $p < .10$  level of significance.

## REFERENCES

- Anderson, Eugene, Claes Fornell and Donald R. Lehmann (1994). Customer Satisfaction, Market Share and Profitability: Findings from Sweden. Journal of Marketing, Vol. 58 (July), 53-66.
- Bitner, Mary J. (1990). Evaluating Service Encounters: The Effects of Physical Surrounding and Employee Responses. Journal of Marketing, Vol. 54 (April), 69-82.
- Blackburn, Robert T. and Mary J. Clark (1975). An Assessment of Faculty Performance: Some Correlates Between Administrator, Colleague, Student and Self-Ratings. Sociology of Education, Vol. 48 (Spring), 242-256.
- Bolton, Ruth N. and James H. Drew (1991). A Longitudinal Analysis of the Impact of Service Changes on Customer Attitudes. Journal of Marketing, Vol. 55 (January), 1-9.
- Braskamp, Larry A., Darrel Caulley, and Frank Costin (1979). Student Ratings and Instructor Self-Ratings and Their Relationship to Student Achievement. American Educational Research Journal, Vol. 16(3), 295-306.
- Brown, Tom J., Gilbert A. Churchill, Jr. and J. Paul Peter (1993). Improving the Measurement of Service Quality. Journal of Retailing, Vol. 69(1), 127-147.
- Cardozo, R. N. (1965). An Experimental Study of Customer Effort, Expectation, and Satisfaction. Journal of Marketing Research, 2, 244-249.
- Carman, James M. (1990). Consumer Perceptions of Service Quality: An Assessment of the SERVQUAL Dimensions. Journal of Retailing, Vol. 66(1), 33-55.
- Cronin, J. Joseph, Jr. and Steven A. Taylor (1994). SERVPERF Versus SERVQUAL: Reconciling Performance-Based and Perceptions-Minus-Expectations Measurement of Service Quality. Journal of Marketing, Vol 58 (January), 125-131.
- Cronin, J. Joseph, Jr. and Steven A. Taylor (1992). Measuring Service Quality: A Re-examination and Extension. Journal of Marketing, Vol. 56 (July), 55-68.
- Dawkins, Peter and Frederick F. Reichheld (1990). Customer Retention as a Competitive Weapon. Directors and Boards, 14 (Summer), 41-47.
- Feldman, Kenneth A. (1987). Research Productivity and Scholarly Accomplishment of College Teachers as Related to Their Instructional Effectiveness: A Review and Exploration. Research in Higher Education, Vol. 26(3), 227-291.
- Feldman, Kenneth A. (1977). Consistency and Variability Among College Students in Rating Their Teachers and Courses. Research in Higher Education, 6, 223-274.
- Fornell, Claes (1992). A National Customer Satisfaction Barometer: The Swedish Experience. Journal of Marketing, Vol. 56 (January), 6-21.

- Gronroos, C. (1990). Service Management and Marketing: Managing the Moments of Truth in Service Competition. Lexington, Mass.: Free Press, Lexington Books.
- Hair, J. F., R. E. Anderson, R. L. Tatham and W. C. Black (1992). Multivariate Data Analysis (Third Edition). New York, NY: MacMillan Publishing Company.
- Hartline, Michael D. and Ferrell, O. C. (1996). The Management of Customer-Contact Service Employees: An Empirical Investigation. Journal of Marketing, Vol. 60, 52-70.
- Hoffman, K. Douglas and Thomas N. Ingram (1992). Service Provider Job Satisfaction and Customer-Oriented Performance. Journal of Services Marketing, Vol. 6(2), Spring, 68-78.
- Jones, Jeffrey W. (1991). In Search of Excellent Customer Service. Bank Management, February, pg. 40-41.
- Kotler, P. R. and P. Bloom (1984). Marketing Professional Services. Englewood Cliffs, NJ: Prentice-Hall.
- Marsh, Herbert W. (1987). Students' Evaluations of University Teaching: Research Findings, Methodological Issues, and Directions for Future Research. International Journal of Educational Research, Vol. 11, 253-388.
- Marsh, Herbert W., J. U. Overall, and Steven P. Kesler (1979). Validity of Student Evaluations of Instructional Effectiveness: A Comparison of Faculty Self-Evaluations and Evaluations by Their Students. Journal of Educational Psychology, Vol. 71(2), 149-160.
- Oliver, Richard L. (1981). Measurement and Evaluation of Satisfaction Processes in Retail Settings. Journal of Retailing, Vol. 57(3), 25-49.
- Parasuraman, A., Valarie A. Zeithaml, Leonard L. Berry (1994). Alternative Scales for Measuring Service Quality: A Comparative Assessment Based on Psychometric and Diagnostic Criteria. Journal of Retailing, Vol. 70(3), 201-230.
- Parasuraman, A., Valarie A. Zeithaml, Leonard L. Berry (1994). Reassessment of Expectations as a Comparison Standard in Measuring Service Quality: Implications for Further Research. Journal of Marketing, Vol. 58 (January), 111-124.
- Parasuraman, A., Leonard L. Berry, and Valarie A. Zeithaml (1991). Perceived Service Quality as a Customer-Based Performance Measure: An Empirical Examination of Organizational Barriers Using an Extended Service Quality Model. Human Resource Management, Vol. 30(3), 335-364.
- Parasuraman, A., Leonard L. Berry, and Valarie A. Zeithaml (1991). Refinement and Reassessment of the SERVQUAL Scale. Journal of Retailing, Vol. 67(4), 421-450.
- Parasuraman, A., Valarie A. Zeithaml, Leonard L. Berry (1985). A Conceptual Model of Service Quality and Its Implications for Future Research. Journal of Marketing, Vol. 49 (Fall), 41-50.
- Peter, J. Paul, Gilbert A. Churchill, Jr., and Tom J. Brown (1993). Caution in the Use of Difference Scores in Consumer Research. Journal of Consumer Research, 19 (March), 655-62.
- Peterson, Robert A. and William R. Wilson (1992). Measuring Customer Satisfaction: Fact and Artifact. Journal of the Academy of Marketing Science, Vol. 20(1), 61-71.
- Reichheld, Frederick F. and W. Earl Sasser (1990). Zero Defections: Quality Comes to Service. Harvard Business Review, (September-October), 105-111.

- Rust, Roland T. And Richard L. Oliver (1994). Service Quality: New Directions in Theory and Practice, London: Sage.
- Rust, Roland T. and Anthony J. Zahorik (1993). Customer Satisfaction, Customer Retention and Market Share. Journal of Retailing, 69(2), 193-215.
- Schneider, Benjamin, Paul J. Hanges, Harold W. Goldstein, and Eric P. Braverman (1994). Do Customer Service Perceptions Generalize? The Case of Student and Chair Ratings of Faculty Effectiveness. Journal of Applied Psychology, Vol. 79(5), 685-690.
- Shim, Soyeon and Morgan, George A. (1990). Predicting Students' Attitudes and Satisfactions: Implications for Strategic Planning in Higher Education. Clothing and Textiles Research Journal, Vol. 8, No. 3, 29-38.
- Taylor, Steven A. and Thomas L. Baker (1994). An Assessment of the Relationship Between Service Quality and Customer Satisfaction in the Formation of Consumers' Purchase Intentions. Journal of Retailing, Volume 70(2), 163-178.
- Teas, R. Kenneth (1994). Expectations as a Comparison Standard in Measuring ServiceQuality: An Assessment of a Reassessment. Journal of Marketing, Vol. 58 (January), 132-139.
- Teas, R. Kenneth (1993). Expectations, Performance Evaluation, and Consumers' Perceptions of Quality. Journal of Marketing, Vol. 57 (October), 18-34.
- Tornow, Walter W. (1991). Service Quality and Organizational Effectiveness. Human Resource Planning, Vol. 14(2), 86-88.
- Tornow, Walter W. and Jack W. Wiley (1991). Service Quality and Management Practices: A Look at Employee Attitudes, Customer Satisfaction, and Bottom-Line Consequences. Human Resource Planning, Vol. 14(2), 105-115.
- Wicker, A. W. (1971). An Examination of the 'Other Variables' Explanation of Attitude-Behavior Inconsistency. Journal of Personality and Social Psychology, Vol. 19, 18-30.

# FACULTY EVALUATION AND CONTINUOUS IMPROVEMENT IN HIGHER EDUCATION: A LITERATURE REVIEW

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## ABSTRACT

*Establishing a valid faculty evaluation process in higher education will become increasingly important in the next decade. Factors contributing to this increased importance include (1) budgets linked to performance measures, (2) emphasis on national accreditation as a performance measure, (3) virtual universities redefining university markets, and (4) educational requirements for the Information Age's global economy. A central issue is linking the faculty evaluation process to continuous improvement efforts. Current faculty evaluation practices for merit increases and for promotion and tenure criteria conflict with the principles for continuous improvement.*

*Teaching effectiveness remains particularly difficult to evaluate and to improve. Alternatives to reliance on student evaluations are presented, as well as evaluation activities for the academic unit as a whole. Of particular interest are practices at Australian universities, where funding is already tied to quality performance measures.*

## INTRODUCTION

Faculty evaluation is a tripartite task involving the evaluation of research, teaching, and service. The evaluation of research has been the key component of most faculty evaluations for merit increases and for promotion and tenure. The evaluation of teaching remains problematic and the evaluation of service, almost insignificant in terms of merit increases, promotion and tenure. Assessment in higher education is an increasingly important issue. In Australia, funding at state schools is tied to assessment and certain quality performance measures. Certainly, trends in the United States and Great Britain indicate a similar direction. The literature on the subject of teaching evaluation is vast; less work has been done on research, and very little on service evaluation. While quality efforts are tied to continuous improvements or a formative approach, many instruments of continuous improvement efforts become summative and are used to measure performance. Consequently, both efforts may be defeated. Continuous improvement is hampered by the need to win at a zero sum game of fiduciary rewards. On the other hand, the formative instruments are inadequate to the summative task of measuring performance. A prime example of this lose-lose linkage of continuous improvement and performance assessment is the student evaluation of teaching.

The literature for the faculty evaluation process is reviewed, and then, appropriate linkages to facilitate both continuous improvement and performance measurement are considered.

## EVALUATING RESEARCH

Refereeing is the single most important indicant of quality for research productivity. Refereed journal articles rank first across disciplines (Print and Hattie, 1997). In a cross-disciplinary study of productivity profiles (Print and Hattie, 1997, 467), ninety-five percent of research productivity was determined by refereed research products. Refereed journal articles, peer-reviewed books, and large research grants were the three main factors influencing the rating of research productivity, accounting for 81% of the score (Print and Hattie, 1997, 467). Chairs and deans were asked to rate anonymous profiles of research productivity on a scale of 1 to 9. A regression model was developed to score research productivity using the ratings of historical data. Categories of research included the following: refereed journal, books, major grant, chapters, monographs, creative works, minor grants, reports, textbooks, number of PhD students assigned, non-refereed journal articles, conference papers, number of masters students assigned, curriculum reports. According to Print and Hattie, “perhaps disturbingly, there was a lack of support for indicators of doctoral students, minor research grants, university textbooks, conference papers, masters research students, major curriculum works, and non-refereed journal articles . . . the importance of refereeing was powerfully demonstrated by the data” (1997, 464).

### Relative Importance of Research Categories Across All Disciplines (adapted from Pratt and Hattie, 1997, 455)

1	Articles in refereed journals
2	Commercially published peer reviewed books
3	Major refereed conference presentations
4	Papers in refereed conference proceedings
5	Articles weighted by journal citation impact
6	Chapters in commercially published peer reviewed books
7	Competitive peer reviewed grants
8	Postgraduate research degrees supervised to completion
9	Editor/editorial board of recognized journals

Driving this study of research productivity ratings was the Australian governments's Quality Reviews of higher education , whereby university funding is linked directly to research performance. The United Kingdom is currently ranking their universities, including prestigious ones such as Oxford and Cambridge, and within five years may also provide funding based on these rankings (Thomas, 1998).

Under the new AACSB standards, a survey of 663 business school deans with 208 responses showed that with the new AACSB standards, the perceived importance of teaching has increased but that AACSB accredited institutions still rate teaching as less important than research (Ehie, 1994). Number of publications and having refereed articles (Clement and Stevens, 1989; Print and Hattie, 1997) were the major factors for research evaluations. In a study of the "relationship between faculty work and faculty reward" (Kastin, 1984), service was found to be insignificant. Low levels of research cannot be compensated for with exceptional teaching or service: "Excellent scholarship . . . counterbalances virtually anything else except dereliction of duty."

### **EVALUATING TEACHING**

The use of student evaluations for measuring instructor effectiveness has been a much debated issue in higher education. The practice began during the student unrest of the late sixties, and many challenge the efficacy of continuing the practice at all (Cholakian, 1994). According to Abrami, d'Apollonia, and Cohen (1990,219), "Student ratings are seldom criticized as measures of student satisfaction with instruction. . . . Student ratings are often criticized as measures of instructional effectiveness." Too often, administrators assume that high evaluations equal instructional effectiveness and low evaluations equal ineffective instruction. In reality, quite the opposite may be true. Research has demonstrated that the evaluation of instructor effectiveness by students is highly flawed, if used for faculty evaluation rather than continuous improvement. Blunt (1991) appropriately emphasizes that the original purpose of student evaluations was continuous improvement. The original purpose was formative, not summative. According to Burgin (1997, 10), "In spite of this original intent, there is no evidence to support the notion that student evaluations of faculty actually improve instruction." Burgin concludes that the evidence indicates that the use of student ratings as the dominant factor for evaluating teaching demeans both the institution and the professorate.

According to Cholakian (1994, 24), we need to return to the original question, "Is there a good reason to believe that student evaluations make us better teachers, and if not, shouldn't we get rid of them? . . . At the same time that pedagogues justify student evaluations, they decry the ignorance of those who fill them out. Might it just be that the two phenomena are fundamentally and intimately linked?" What students are learning, asserts Cholakian, is to hold others responsible for their own shortcomings. Goldman(1993, 59) cites John Erskine's question to students as a better path. Erskine "would first ask students what aspects of his course they found dull or meaningless and would then follow up with the question, 'to what personal deficiency or lack of experience do you attribute this?' " He alludes to Plato's cave where the cave dwellers "do not aspire to be freed from darkness to see the light. They resist such attempts and seek the comforts of the familiar . . . for proper education to take place, we must begin where learners are and then move them to where they should be . . . American schools . . . achieve great success at the former . . . [but] have often failed



to go beyond this point [where they are], which has resulted in pandering . . . and creating a consumeristic society where the customer is always right . . . We . . . are suffering from a case of arrested development [as a society and in higher education]. (p. 60-1). The use of student evaluations to determine teaching effectiveness is a part of this limited, consumeristic viewpoint which serves to arrest the development or continuous improvement of both students and faculty.

Research indicates that bias exists in student evaluations of teaching effectiveness. Research indicates that over twenty factors, none of which directly evaluate teacher effectiveness, significantly impact student evaluations of teacher effectiveness.

### Factors Influencing Student Ratings

Burgin(1997), Cholakian(1994), Timpson and Andrew(1997), Blunt (1991)

	Factor	Explanation
1	Difficulty of first test	grade performance on the first test correlates with instructor ratings for the course (Hewett, 1988)
2	Students' interest and alertness at time of class	sleepy students give low ratings to the "instructor's ability to explain material clearly and understandably" (Tang, 1987,93)
3	Student participation in discussion	correlated positively with instructor's ability to stimulate interest in the subject, availability outside of class, and the instructor's knowledge (Tang, 1987)
4	Discipline taught	humanities correlated with teacher effectiveness while science, engineering, math correlated with lower teacher effectiveness (McKeachie, 1996)
5	Student satisfaction	even two disgruntled students or students who do not find a fit with their learning style will affect the average instructor ratings significantly (Callahan, 1992)
6	Purpose of evaluation	if students are told are told the professor's promotion is based upon the evaluation, ratings are higher, for example (Douglas and Carrol, 1987)
7	Socializing outside of class	for female instructors, socializing raises ratings but does not affect male instructor ratings (Kierstead, D'Agostino, and Dill, 1988)
8	Perceived friendliness of the instructor	gender dependant – smiling correlated positively with elevated ratings for females but negatively for males (Kierstead, D'Agostino, and Dill, 1988)

	Factor	Explanation
9	Grades received	higher grades correlate with higher ratings. "The biasing effect of grades on evaluations has been clearly demonstrated in a variety of experimental studies"(Cahn, 1987,B2). According to Benz and Blatt(1996,428), "students dissatisfied with their grades blame the instructor."
10	Storytelling	correlates positively with high ratings (Benz and Blatt, 1996)
11	Required course versus an elective	required courses receive lower evaluations (Haskell, 1997)
12	Reading textbook before versus after class	reading before class led to higher ratings of instructor knowledge; after class, higher ratings on clarity of grading criteria (Tang, 1987)
13	Teacher behaviors	female professors are negatively evaluated unless they "display stereotypically feminine behavior"(Kierstead, D'Agostino, and Dill, 1988, 344)
14	Term paper requirement	evaluations were higher when a term paper was required (Shapiro, 1990)
15	Teacher delivery	controlled experiment showed higher ratings of "knowledge, organization, fairness, and even the quality of the textbook" when the instructor was more enthusiastic. Test performance was not affected, however (Chronicle, 1997, A10)
16	Prior instructor ratings	student knowledge of prior ratings influence present ratings (Cholakian, 1997)
17	Class size	smaller classes rate instructor effectiveness higher (Timpson and Andrew, 1997)
18	Years of instructor experience	first year and 16+ year teachers are rated lower (Timpson and Andrew, 1997)
19	Instructor age	>=56 years old are rated lower (Timpson and Andrew, 1997)
20	Learning assessment instruments	negative ratings are associated with two exams versus one during a semester (Timpson and Andrew, 1997)
21	Anonymity of student raters	anonymity correlated with lower ratings, may have allowed unfair responses without fear of detection or be more accurate; in the same experiment, grades were manipulated and clear affect of grades on ratings of teacher effectiveness demonstrated (Blunt, 1991)

	Factor	Explanation
22	Course workload	higher workloads yield lower ratings (Marsh and Overall, 1979)
23	Students' GPA	higher GPAs give higher ratings (Marsh and Overall, 1979)

While student evaluations may measure student satisfaction, they have not been shown to measure learning or teaching effectiveness. In fact, high ratings may correlate with low learning (Kurtz et al, 1989). One study indicated that only 38% (Marsh, 1982, 264) of faculty believe these student evaluations to be valid assessments of teaching effectiveness. Five years later, a survey was administered to 801 business deans with 345 responses (Clement and Stevens, 1989, 263). Analysis of results led to the conclusion "that despite calls for administrators to consider more than just student evaluations in their evaluation of teaching performance, few administrators heed this advice." Some research reports (Root, 1997; Wright, 1987) that the use of student evaluations even "lowers faculty morale and faith in the university administration and influences instructors to lower their expectations of student performance" (Root, 1997, 84). A preponderance of research indicates that the use of student evaluations of teacher effectiveness is not only ineffective as a formative approach but also invalid for summative purposes.

Methods to improve teaching evaluation have been proposed (Marsh, 1982; Goldman, 1993; Ellet et al, 1997; Eley et al, 1997; Timpson and Andrew, 1997). A common factor in these proposed methods is a multidimensional approach. Timpson and Andrew (1997) report the results of a study using over 330,000 student evaluations from Queensland University in Australia. As a result of this study, Queensland abandoned the student evaluation in favor of three instruments: a Teaching Feedback, Subject Evaluation, and Approaches to Studying questionnaire. Further, biases detected for Teaching Feedback are used to adjust the results of this instrument. Results thus far have been positive in terms of continuous improvement and performance measurement. The Teaching Feedback instrument is administered at midterm and shared with the class. Professors can then choose to make changes based on this feedback. The student study methods questionnaire is a self-assessment instrument for students. They share their results with fellow students and their professors. This assessment provides a foundation for improving study methods.

Two alternative methods to student survey instruments predominate: teaching portfolios, a method originating in Canada during the 1970s (Borna and Arndt, 1993; Knapper, 1995; Smith, 1995; Timpson and Andrew, 1997), and peer review, both internal (Roworth, 1997; Herring et al, 1999) and external (Morehead, 1997; Goldman, 1993). A recent study advocates judging teaching in much the same manner as research is evaluated (Magner, 1997). Teaching portfolios have also been adopted by Queensland University in conjunction with their suite of evaluation instruments (Timpson and Andrew, 1997). These instruments and the portfolios are used for both summative and formative purposes. According to Edgerton (1991, 3), the portfolio is "a summary of a professor's major teaching accomplishments and strengths. It is to a professor's teaching what lists of publications, grants and academic honors are to research." A portfolio would include syllabi, exams, samples of student work, publications on pedagogy, student evaluations, peer and external evaluations,

curriculum studies and/or changes, instructional innovations, new course preparations, etc. An important part of the portfolio is a reflective essay on objectives, outcomes, lessons learned, and plans for improvement (Centra, 1993).

Evaluations of these portfolios and peer review, both internal and external, for summative purposes may be problematic, however. Herring et al (1999) reports a peer review of these portfolios which yielded a perfect score on all portfolios. Peer review of teaching for summative purposes is likewise biased in favor of colleagues, even when "off the record" formative evaluations are given. Goldman(1993) recommends peer review within disciplines both of course content -- which students cannot assess-- teaching effectiveness, and research productivity. Professional organizations could organize and control this external peer review system. According to Goldman (1993, 63), the "relevant question is not how Professor X compares with other professors in the university or college, but how Professor X compares with other professors who are teaching similar courses and are awarding similar grades." Morehead and Shedd (1997) describe an external peer review of teaching conducted at twelve universities. External reviewers studied teaching portfolios including course materials, reviewed classroom videotapes, visited the class, and interviewed students. The researchers indicate unresolved issues such as the cost for such external review.

### **FACULTY EVALUATION FOR THE ACADEMIC UNIT**

Faculty evaluation takes place on two levels: for the individual professor and for the academic unit. Ball State University conducted a portfolio analysis (Borna and Arndt, 1993) each year and determined strategies for improving their portfolio. Using the growth-share matrix from the Boston Consulting Group, faculty are placed in four quadrants and administrators plan a strategy to move each faculty member to the desired quadrant. The overall expectation is one refereed journal article each year and an average score of four or more on student evaluations. Workloads are evaluated in terms of class size, number of different preparations, and number of sections taught. Teaching workloads may be adjusted to allow for research activity or to acknowledge that this activity is not present. Other strategies include assigning graduate assistants, teaming with productive researchers, providing research grants, sending faculty to conferences for ideas and stimulation. A priority is to maintain faculty members in Quadrant I: "if the College of Business loses its top three researchers . . . the loss is tantamount to a 17 per cent decrease in total refereed journal publications"(p. 34). Continuous improvement becomes a strategic plan for the unit based on summative faculty evaluations.

### **CONCLUSION**

Clearly, the faculty evaluation process in higher education will be an important issue in the coming decade. Performance measures which can be applied to compare universities as well as individual faculty members and academic units will become more important as funding is linked to these performance measures. Alternative methods for evaluating teaching will require more time on the part of faculty and administrators. Some methods such as external review may represent a new

budget category. One important component of the process at the individual, academic unit, and university level must be a plan for continuous improvement with annual follow up on this plan. Instead of being a separate activity, which often overlaps annual evaluation, continuous improvement activity must be a component of faculty evaluation given significant weight if we are to expect this activity to occur. Ratings must be developed to score the extent and quality of the continuous improvement effort. Portfolios and reflective essays linked to the previous year's continuous improvement plan might be used. An important unresolved issue is the responsibility for rating this continuous improvement effort. Currently, peer review is not a common practice and is problematic. Comparisons with professors at other universities in the same discipline through external peer review or benchmarking studies will be an important activity both for continuous improvement and for performance assessment.

Research over the past twenty years has provided guidelines (1) for evaluating research, (2) for recognizing and avoiding the pitfalls of using student evaluations to measure teaching effectiveness, and (3) for alternative methods to measure teaching effectiveness. Research needs to provide guidelines for emphasizing, rating, and rewarding continuous improvement as part of the evaluation process. These guidelines must also help us avoid using continuous improvement instruments as a scorecard of performance, as has happened with the student evaluation of teacher effectiveness.

## REFERENCES

- Benz, C.R. and Blatt, S. J. (1996). Meanings underlying student ratings of faculty. *Review of Higher Education*, 19(4), 411-433.
- Blunt, A.(1991). The effects of anonymity and manipulated grades on student ratings of instructors. *Community College Review*, 18(Summer), 48-53.
- Borna, S., Arndt, T(1993). Faculty portfolio analysis. *Higher Education Management*, 5(1), 28-39.
- Braskamp, L.A., Brandenburg, D.C., Ory, J.C.(1984). *Evaluating teaching effectiveness: A Practical Guide*. London: Sage.
- Burgin, R.(1997). Student evaluations: the ratings game. *Inquiry*,1(2), 10-16.
- Cahn, S.(1987). Faculty members should be evaluated by their peers, not by their students. *Chronicle of Higher Education*, (October 14), B2.
- Callahan, J.P. (1992). Faculty attitude toward student evaluation. *College Student Journal*, 25(March), 98-102.
- Cambridge, Barbara L.(1996). The paradigm shifts: examining quality of teaching through assessment of student learning. *Innovative Higher Education*, 20(4), 287-297.
- Centra, J.A. (1993). *Reflective Faculty Evaluation: enhancing teaching and determining faculty effectiveness* (San Francisco, CA, Jossey-Bass).
- Cholakian,R. (1994). The value of evaluating. *Academe* 80(5), 24-26.
- Chronicle of Higher Education*(1997). (March14), A10.

- Clement, R.W., Stevens, G.E.(1989). Performance appraisal in higher education: comparing departments of management with other business units. *Public Personnel Management*, 18(3), 263-278.
- Douglas, P.D. and Carroll, S.R. (1987). Faculty evaluations: are college students influenced by differential purposes. *College Student Journal*, 21(Winter), 360-365.
- Edgerton, R., Hutchings, P. and Quinlan, K. (1991). *The Teaching Portfolio: capturing the scholarship in teaching* (Washington DC, American Association for Higher Education).
- Gabbin, A.L., Cairns, S.N., Benke, R.L., eds.(1990) *Faculty performance appraisal*. James Madison University: Center for Research in Accounting Education.
- Ehie, I.C.(1994). Business faculty performance evaluation based on the new AACSB accreditation standards. *Journal of Education for Business*, 69(5), 257-262.
- Eley, M.G., Stecher, E.J.(1997). A comparison of two response scale formats used in teaching evaluation questionnaires. *Assessment and Evaluation in Higher Education*, 22(1), 65-79.
- Ellet,C.D., Loup, K.S., Culross, R.R., McMullen, J.H., Rugutt, J.K. Assessing enhancement of learning, personal learning environment, and student efficacy: alternatives to traditional faculty evaluation in higher education. *Journal of Personnel Evaluation in Education*.1997, 11(2), 167-192.
- Goldman, L. (1993). On the erosion of education and the eroding foundations of teacher education(or why we should not take student evaluations of faculty seriously). *Teacher Education Quarterly*, (Spring), 57-64.
- Haskell, R.E. (1997). Academic freedom, tenure, and student evaluations of faculty: Galloping polls in the 21<sup>st</sup> century. *Education Policy Archives*, 5(16), 1-36. Available: <http://olam.ed.asu.edu/epaa/v5n6.html>
- Hewett, L. et al(1988). Course evaluation: Are students' ratings dictated by first impressions? ERIC NO: ED296664. 3-13.
- Kastin, K.L.(1984) Tenure and merit pay as rewards for research, teaching, and service at a research university. *Journal of Higher Education*, 15(4), 502-516.
- Kierstead,D., D'Agnostino, P. and Dill, H.(1988). Sex role stereotyping of college professors: bias in students' ratings of instructors. *Journal of Educational Psychology*, 80, 342-344.
- Knapper, C.K.(1995). The origins of teaching portfolios. *Journal on Excellence in College Teaching*, 6(1), 45-56.
- Kurz, R.S., Mueller, J.J., Gibbons, J.L., DiCataldo, F.(1989). Faculty performance: suggestions for the refinement of the concept and its measurement. *Journal of Higher Education*, 60(1), 43-58.
- Herring, R., McAfee, R., Motilla, D, Pirkle, K. (1999). Peer review of teaching: A look at the experiences of four different universities. Proceedings of the Southeast Decision Science Institute.
- Magner, D.K. (1997). Report says standards used to evaluate research should also be used for teaching and service. *Chronicle of Higher Education*, 44(2), A18-A19.

- Marsh, H.W.(1982). Validity of students' evaluations of college teaching: a multitrait analysis. *Journal of Educational Psychology*, 74(2), 264-279.
- McKeachie, W.J.(1996). Persistent problems in evaluating college teaching. *AAHE Bulletin*, (February), 5-9.
- Morehead, J.W.(1997). Utilizing summative evaluation through external peer review of teaching. *Innovative Higher Education*, 22(1), 37-44.
- Print, M., Hattie, J.(1997). Measuring quality in universities: an approach to weighting research productivity. *Higher Education*, 33(4), 453-469.
- Root, L.S.(1997) Faculty evaluation: reliability of peer assessments of research, teaching, and service. *Research in Higher Education*, 26(1), 71-84.
- Roworth, W.W.(1997). Pandora's Dilemma: Some reflections on peer review. *Adademe*, 83(3), 35-38.
- Seldin, Peter (1984). Faculty evaluations: surveying policy and practices. *Change*, 29-33.
- Shapiro, Gary (1990). Effect of instructor and class characteristics on students' class evaluations. *Research in Higher Education*, 31, 135-148.
- Smith, R.A (1995). Creating a culture of teaching through the teaching portfolio. *Journal on Excellence in College Teaching*, 61(1), 75-99.
- Tang, T.L. and Tang, T.L.(1987). A correlation study of student's evaluations of faculty performance and their self-ratings in an instructional setting. *College Student Journal*, 21(Spring), 90-97.
- Thomas, Geoffrey. Presentation at Rewley House, Oxford University. June 1998.
- Timpson, W.W., Andrew, D.(1997). Rethinking student evaluations and the improvement of teaching: instruments for change at the University of Queensland. *Studies in Higher Education*, 22(1), 55-65.
- Wright, P., Whittington, R., and Whittenburg, G.E.(1987). Student ratings of teaching effectiveness: what the research reveals. *Journal of Accounting Education*, 2(2), 5-30.

# DETERMINANTS OF STUDENT PERFORMANCE IN AN UPPER LEVEL CORPORATE FINANCE COURSE

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## ABSTRACT

*The question as to what factors influence academic performance in an undergraduate business course has been investigated many times in the academic literature. Most of these studies have evaluated this relationship as it relates to an introductory level course such as in economics or accounting. Little evidence has been produced for a finance course.*

*This study also investigates factors that influence course performance, but it differs from previous efforts in a number of ways. We investigate performance in a senior level finance course and not an introductory course. Second, we test whether performance in a senior level corporate finance course is a function of performance in the prerequisite course in a related field, financial accounting. Third, we not only examine the impact on course performance of traditional variables such as gender and aptitude, but also information processing ability and psychological factors.*

*Data for the study is derived from a senior level corporate finance course, a survey of the students in the course, and student data files. We use linear correlation analysis and stepwise regression analysis from the SPSS-X statistical package to evaluate the data. The analysis indicated that GPA, financial accounting grade, basic finance grade, math ACT, a self-motivation factor, an information processing factor, and sharing living quarters with non-family members are all significant determinants of the senior level finance course performance.*

## INTRODUCTION

The question as to what factors influence academic performance has been investigated numerous times in the literature. No conclusive evidence exists. Most previous studies have been concerned with introductory level courses with a preponderance of the evidence coming from the introductory accounting and economics courses. This study differs from previous efforts in that it investigates factors that influence student academic performance in a senior level finance course.



Paulsen and Gentry (1995) is one of the few studies to evaluate performance in a finance course. The focus of their study was the psychological aspects such as test anxiety at the introductory finance level. Didia and Hasnat (1998) evaluated performance in the introductory finance course in terms of the standard ability/aptitude predictors used in economics and accounting studies. Neither of these studies looked at the upper level finance course. It is the upper level finance course that is the focus of this study.

## **LITERATURE REVIEW**

Previous studies have investigated variables which are correlated with academic performance in economics and accounting courses and, to a lesser degree, finance courses. Two studies (Doran, Bouillon & Smith, 1991; Eckel & Johnson, 1983) found that academic aptitude as measured by ACT (American College Testing) scores and ability based on past academic performance were indicators of success with regard to performance in accounting. Eskew and Faley (1988) identified general academic aptitude as measured by SAT (Scholastic Aptitude Test) scores, ability based on past academic performance, effort, and motivation as factors significantly related to accounting course performance. An entrance score and previous mathematic ability were identified by Auyeung and Sands (1994) as other determinant variables in explaining performance in first-year accounting. One study (Turner, Holmes & Wiggins, 1997) found that cumulative grade point average, accounting principles course grade, accounting major, and not repeating the course were significant factors in contributing to performance in the intermediate accounting course. Contrary to expectations, Bottin (1977) found that student's positive attitude toward hard work did not contribute to improved accounting course performance.

Two studies, Baldwin and Howe (1982) and Bergin (1983), concluded that prior high school accounting course work does not explain better college accounting course performance. Schroeder (1986) also confirmed that prior high school accounting course work does not contribute to college performance in accounting. But Schroeder also concluded that if prior course work involved more than one year of high school accounting, it did contribute to college accounting performance. Alternatively, other studies found that high school accounting course work does contribute to college performance in accounting, Eskew and Faley (1988) and Auyeung and Sands (1994).

Researchers have attempted to discover other classification factors that might explain performance. Two studies (Mutchler, Turner & Williams, 1987; Tyson, 1989) concluded that female students perform better in accounting courses than male students but another study (Doran, Bouillon & Smith, 1991) found just the opposite. Didia and Hasnat (1998) also concluded that gender played no role in finance course performance. Other researchers have looked at the impact of class format upon student performance. Howell and Johnson (1982) compared the performance of students in a regular format class, three meetings per week over a regular semester, relative to a course in three weeks and Stout and Bonfield (1986) compared the standard class format to a class that met one time per week over a semester. Neither study found course time format to have a significant impact on student performance.

## DATA

One hundred three students enrolled in an upper level corporate finance class at a regional midwestern university formed the sample for this study. The cumulative average numerical score for each student was used as a proxy for student performance. A standard set of ability/aptitude factors for each student were obtained from the student's record.

Five ACT scores were recorded for each student, composite ACT (ACT), and the English (ACTE), Math (ACTM), Reading (ACTR), and Science (ACTS). High school graduation percentile ranking (RANK), college cumulative GPA at the beginning of the semester (GPA), and the GPA in general education courses at the beginning of the semester (GPAGE) were also used as proxies for ability/aptitude. Two of the prerequisites for the upper level corporate finance course are the introductory level finance and financial accounting courses. We used the letter grade in each of these courses as additional proxies for ability/ aptitude, (FGRADE and AGRADE respectively). As additional proxies for ability/aptitude we noted whether or not the student had repeated either of the fore-mentioned courses, (FREPEAT AND AREPEAT). Only the grade from the last time a course was taken is used in calculating GPA thus GPA may be a biased indicator in some situations.

Finally, we recorded from each student's record the student's age (AGE), credits taken during the current semester (CREDIT), and credits transferred into the present institution (TCREDIT). AGE is a proxy for maturity. CREDIT measures work load the current semester. TCREDIT may proxy familiarity with the current institution and/or proxy for a commonly held perception that credits from other institutions are never as rigorous as from the current institution.

A student survey was used to obtain information concerning demographic data and each student's feelings with respect to psychological and information processing factors. A student's living arrangement might affect study habits. We asked students three questions pertaining to their living arrangements:

Do you live on campus? (COMMUTE)

Do you live with your family while attending school? (FAMILY)

Do you share living arrangements with others outside your family? (SHARE)

We also obtained information as to whether the student had a job while attending school (JOB) and if yes, if the job was related to the student's major (JOBMAJOR). Finally, we asked whether students read a daily newspaper (NEWSPAPER) or regularly read non-text books during the school year (BOOKS). These last two variables were included to proxy general intellectual inquisitiveness with respect to today's current events.

For the psychological factors, the students were asked questions regarding their feelings about their own situations with regard to locus of control (CONTROL), self-esteem (ESTEEM), stress/tension (STRESS), and self-motivation (MOTIVATION). The questions were developed based on some of the traditional surveys used in psychological studies in the past on these attributes. Each question in the survey was asking the student to identify the degree of control, stress, self-esteem, or motivation which they had in their lives. Each question was answered via a 5-point scale from strongly agree to strongly disagree. The questions were coded so that the higher values were

associated with internal (as opposed to external) locus of control, less stress, higher self-esteem, and higher self-motivation.

The information processing questions originated from studies involving the relationship of students' information processing strategies and their academic performance (Schmeck, Ribich, and Ramanaiah, 1977; Schmeck and Grove, 1979; Schmeck, 1983). A survey was used as a means to develop a measure of information processing ability. The deep-elaborative information processors tend to perform better than the shallow-reiterative information processors when the survey subjects are divided into two groups (Tan and Choo, 1990). The deep-elaborative information processors will tend to achieve a deeper understanding of the course topics. Of the original 32 true-false questions on the survey, four were selected for the present investigation. These four were selected based on their significance in previous studies by one of the authors. The information processing questions included:

PROCESSING 1 -- dealing with having difficulty handling inferences.

PROCESSING 2 -- dealing with having difficulty remembering material for an exam.

PROCESSING 3 -- dealing with having difficulty studying for a course.

PROCESSING 4 -- dealing with converting facts into 'rules of thumb.'

PROCESSING COMPOSITE -- the combination of the above four questions by adding them together.

These psychological factors and information processing factors were then used in the study along with ability/aptitude factors and other factors on each student.

## RESULTS

Statistical description of factors, simple linear correlation analysis, and multiple linear regression analysis were used in the study. In multiple regression analysis, only students who took the survey were included. Two students had not taken the survey. The mean values for the valid items were then substituted for missing observation values.

There were 14 (13.6%) grades of A, 1 (1.0%) AB, 45 (43.7%) B's, 3 (2.9%) BC's, 33 (32.0%) C's, 3 (2.9%) CD's, 1 (1.0%) D, and 3 F's (2.9%), which resulted in a grade point average of 2.66 on a 4.0 scale. Some other descriptive data concerning most of the factors used in the study are provided in Table 1. Simple linear correlation coefficients for the factors are also provided in this table. Significant simple correlation coefficients at .01 were found for 10 factors:

.72	Cumulative college grade point average or GPA
.68	Basic finance course grade
.59	General education grade point average
.53	First financial accounting course grade
.35	Processing question 2
.33	ACT Math
.31	Self-motivation

- .30 Processing question 3
- .28 Sharing living accommodations
- .26 Processing Composite

Four factors were significant at the .05 level:

- .27 High school rank
- .26 ACT Composite
- .26 ACT English
- .20 Not reading newspaper

Three factors were significant at the .10 level.

- .19 Repeated financial accounting course
- .19 Number of job hours worked
- .19 Living with family members

For the multiple regression analysis, all factors were considered for one analysis and its results are identified in Table 2. Then cumulative grade point average, general education grade point average, first financial accounting course grade, and basic finance course grade were not used in order to study the other factors better. The results of this second analysis are identified in Table 3.

Four factors entered into the multiple regression analysis in a stepwise approach when all factors were considered as identified in Table 2. Three of the four factors had a significant T ratio at the .01 level or better. One factor had a significant T ratio at the .05 level. Overall, the four factors had a multiple R of .79 with an R-squared value of .62. The F ratio was significant at the .0001 level. The significant factors, in entry order, were: cumulative college grade point average, basic finance course grade, gender, and repeated basic finance course. Of these four factors, repeated basic finance course was the least significant.

Six factors entered into the multiple regression analysis in a stepwise approach when the factors identified earlier were dropped from the analysis. These six factors are identified in Table 3. Three of the six factors had a significant T ratio at the .01 level or better. Three other factors had a significant T ratio at the .02 level. Overall, the six factors had a multiple R of .63 with an R-squared value of .40. The F ratio was significant at the .0001 level. The significant factors, in entry order, were: processing question 2, sharing living accommodation with others (negatively), ACT Math score, self-motivation factor, processing question 4, and self-esteem.

## **CONCLUSIONS**

In this study, past academic performance (basic finance course grade, cumulative grade point average, first financial accounting course grade, general education grade point average) and academic aptitude (ACT Science and ACT Math) were significant factors in predicting academic performance in an upper level finance course. These results corroborate earlier studies. Of the psychological factors (self-esteem, stress/tension, motivation, and locus of control), only the motivation factor was

significant. The psychological factors of self-esteem, stress/tension, and locus of control were not significant. The information processing factor was significant in terms of three of the four questions. The background factor of sharing living accommodations with others (beyond the family) was a significant factor in a negative manner. Other background factors did not seem to have an impact on student performance.

Further study of the psychological factors, information processing factor, and background factors at other institutions or in other finance courses would seem to be useful for further confirmation or refutation of these factors as significant in contributing to or being correlated with academic performance in upper level corporate finance.

TABLE 1  
DESCRIPTIVE DATA AND  
SIMPLE CORRELATION COEFFICIENTS WITH SCORE

Factor	Descriptive Data					Simple Correlation	
	n	Mean	Standard Deviation	Minimum	Maximum	Coefficient	Probability
Score	103	78.7	7.8	56.0	96.2	----	----
College GPA	103	3.10	.41	2.30	3.99	.719	.000
General Education GPA	103	3.10	.40	2.30	4.00	.594	.000
High School Rank	79	78.1	16.5	13	99	.273	.015
Financial Accounting Grade	103	2.88	.79	1	4	.525	.000
Basic Finance Grade	103	3.10	.77	1	4	.679	.000
Repeated Financial Accounting	103	.07	.25	0	1	-.188	.057
Repeated Basic Finance	103	.02	.14	0	1	.005	.961
ACT Composite	72	23.1	3.1	15	30	.256	.030
ACT English	72	21.7	3.8	11	30	.264	.025
ACT Math	72	24.0	3.3	16	31	.326	.005
ACT Reading	72	22.9	4.7	12	36	.153	.201
ACT Science	72	23.7	3.3	17	30	.110	.359
Locus of Control	101	3.98	.84	1	5	.123	.219
Self-Esteem	101	3.82	.82	2	5	-.049	.627
Stress/tension	101	3.78	.87	1	5	-.074	.463
Self-Motivation	101	3.89	.77	2	5	.310	.002
Processing 1	101	.83	.38	0	1	.087	.388
Processing 2	101	.55	.50	0	1	.354	.000
Processing 3	101	.69	.46	0	1	.301	.002

Processing 4	101	.58	.50	0	1	-.122	.225
Processing Composite	101	2.66	1.13	0	4	.255	.010
Newspaper	101	.63	.48	0	1	.202	.043
Books	101	.78	.41	0	1	.010	.920
Commute	101	.21	.41	0	1	-.020	.840
Family	101	.85	.36	0	1	.185	.064
Sharing	101	.32	.47	0	1	-.275	.005
Job	101	.16	.37	0	1	.085	.401
Job in Major	101	.49	.50	0	1	-.143	.154
Job Work Hours	101	17.6	10.2	0	45	-.187	.062
Gender	103	.46	.50	0	1	-.075	.450
Age	103	23.4	3.3	21	40	-.028	.782

TABLE 2  
 MULTIPLE REGRESSION  
 (All Variables)

		<b>BETA Upon Entry</b>	<b>Final BETA</b>	<b>Mul- tiple R</b>	<b>Final T</b>	<b>Final Sig. T</b>
Stepwise (in order of entry)						
1	College GPA	.720	.496	.720	5.63	.000
2	Basic Finance Grade	.345	.371	.762	4.16	.000
3	Gender	-.156	-.178	.778	-2.77	.007
4	Repeating Basic Finance	.138	.138	.789	2.11	.037
BETA: standardized regression coefficient  Multiple R. 789 Degrees of Freedom: R Square .622 Regression 4 Residual 96  F = 39.56 Significance of F = .0001						

TABLE 3  
MULTIPLE REGRESSION  
(Selected Variables)

		<b>BETA Upon Entry</b>	<b>Final BETA</b>	<b>Mul- tiple R</b>	<b>Final T</b>	<b>Final Sig. T</b>
Stepwise (in order of entry)						
1	Processing 2	.354	.332	.354	4.03	.000
2	Sharing Living Accommodations	-.279	-.206	.450	-2.51	.014
3	ACT Math	.241	.263	.510	3.23	.002
4	Self-Motivation	.250	.359	.564	4.02	.000
5	Processing 4	-.193	-.209	.595	-2.54	.013
6	Self-Esteem	-.218	-.218	.628	-2.52	.014
<p>BETA: standardized regression coefficient</p> <p>Multiple R .628 Degrees of Freedom: R Square .395 Regression 6 Residual 94</p> <p>F = 10.22 Significance of F &lt; .0001</p>						

## REFERENCES

- Auyeung, P. K. & D. F. Sands (1994). Predicting success in first-year university accounting using gender-based learning analysis. *Accounting Education*, 3 (3), 259-272.
- Baldwin, B. A. & K. J. Howe (1982). Secondary-level study of accounting and subsequent performance in the first college course. *The Accounting Review*, 57 (3), 619-626.
- Bergin, J. L. (1983). The effect of previous accounting study on student performance in the first college-level financial accounting course. *Issues in Accounting Education*, 19-28.
- Bottin, R. R. (1977). An investigation of the relationship of the protestant ethic value to success in accounting courses. *The Accounting Review*, 52 (2), 479-484.
- Didia, D. & B. Hasnat (1998). The determinants of performance in the university introductory finance course. *Financial Practice and Education*, 8 (1), 102-107.

- Doran, B. M., M. L. Bouillon, & C. G. Smith (1991). Determinants of student performance in accounting principles i and ii. *Issues in Accounting Education*, 6 (1), 74-84.
- Eckel, N. & W. A. Johnson (1983). A model for screening and classifying potential accounting majors. *Journal of Accounting Education*, 1 (2), 57-65.
- Eskew, R. K. & R. H. Faley (1988). Some determinants of student performance in the first college-level financial accounting course. *The Accounting Review*, 63 (1), 137-147.
- Howell, W. C. & L. T. Johnson (1982). An evaluation of the compressed-course format for instruction in accounting. *The Accounting Review*, 57 (2), 403-413.
- Mutchler, J. F., J. H. Turner, & D. D. Williams (1987). The performance of female versus male accounting students. *Issues in Accounting Education*, 2 (1), 103-111.
- Paulsen, B. M. & J. A. Gentry (1995). Motivation, learning strategies, and academic performance: a study of the college finance classroom. *Financial Practice and Education*, 5 (1), 78-89.
- Schmeck, R. R. (1983). Learning styles of college students. in Dillon, R. F. & Schmeck, R. R. (eds.), *Individual Differences in Cognition*. New York: Academic Press.
- Schmeck, R. R. & E. Grove (1979). Academic achievement and individual differences in learning process. *Applied Psychological Measurement*, 3 (1), 43-49.
- Schmeck, R. R., F. D. Ribich, & N. V. Ramanaiah (1977). Development of a self-report inventory for assessing individual differences in learning processes. *Applied Psychological Measurement*, 1 (3), 413-431.
- Schroeder, N. W. (1986). Previous accounting education and college-level accounting exam performance. *Issues in Accounting Education*, 1 (1), 37-47.
- Stout, D. E. & E. H. Bonfield (1986). Experimental evidence on the relationship between class meeting time compression and accounting student performance, evaluations and drop-out experience. *Journal of Accounting Education*, 4 (2), 51-62.
- Tan, K. & F. Choo (1990). A note on the academic performance of deep-elaborative versus shallow-reiterative information processing students. *Accounting and Finance*, 30 (1), 67-81.
- Turner, J. L., S. A. Holmes, & C. E. Wiggins (1997). Factors associated with grades in intermediate accounting. *Journal of Accounting Education*, 15 (2), 269-288.
- Tyson, T. (1989). Grade performance in introductory accounting courses: Why female students outperform males. *Issues in Accounting Education*, 4 (1), 153-160.



# **THE CHALLENGE OF ENHANCING ADULT MOTIVATION TO LEARN IN A MULTICULTURAL ENVIRONMENT: DIFFERENCE WITHOUT DIFFERENCE**

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*Like the national economy, human motivation is a topic that people know is important, continuously discuss, and would like to predict. We want to know why people do what they do. But just as tomorrow's inflationary trend seems beyond our influence and understanding, so too do the causes of human behavior evade any simple explanation or prescription.*

*Raymond J. Wlodkowski*

## **INTRODUCTION**

Curiosity about what motivates adults to participate in adult education, or what deters them from participation, has prompted considerable research and writing on the subject. College and university faculty and administrators have a particular interest in understanding why people either participate, or choose not to participate in adult learning activities. This article will explore some of the more salient points on the subject of motivation with a particular focus on adult learners. Some attention will be devoted to the special problems associated with enhancing motivation to learn in a multicultural environment.

## **WHAT IS MOTIVATION?**

Most scientists can agree that motivation is a concept that explains why people behave the way they do (Weiner, 1980). "Most psychologists concerned with learning and education use the word motivation to describe those processes that can (a) arouse and instigate behavior, (b) give direction or purpose to behavior, (c) continue to allow behavior to persist, and (d) lead to choosing or preferring a particular behavior." (Wlodkowski, 1993, p. 2). The biggest problem with motivation, according to Wlodkowski (1993), is that we cannot see it and we cannot touch it. Therefore, we cannot directly measure motivation; and as long as this situation continues, there will be many

different opinions about what it really is. In spite of this lack of certainty, we still believe that understanding why people behave as they do is extremely important to helping them learn.

Why do adults participate in learning activities? The reasons are numerous. Adult students tend to be motivated by the need to advance, change, or begin a career. Adults often enroll in a college or university because their employer requires them to do so. There are also adult students who are self-directed professionals. These professionals are affluent, educated, older, employer-sponsored, and male. They are interested in high technology, graduate-level courses, and changing or advancing their careers. Cost is generally not an obstacle because their tuition is reimbursed and because they usually participate in continuing education programs, which are less expensive than full-time programs. These adults are influenced by location, convenience, parking availability, and programs that offer minimal time to completion of a goal or degree (Nordstrom, 1997).

Intrinsic motivation has been one of the concepts studied in motivational research in education. Intrinsic motivation refers to behaviors performed in the absence of external rewards (Goudas & Biddle, 1995). Thus, when a student devotes time and energy to studying for pleasure, he or she is thought to be intrinsically motivated. Intrinsic motivation stems from two basic human needs - the need for competence and the need for autonomy. A number of studies have shown that perceived competence is positively associated with intrinsic motivation. Deci and Ryan (1980) reviewed studies demonstrating that increases in perceived competence resulted in increased intrinsic motivation. Perceived competence has also been shown to be a positive predictor of performance (Harter, 1981). Perceived competence, however, is not the sole determinant of intrinsic motivation. Deci and Ryan (1985) have theorized that the degree of autonomy people feel in their actions is an important antecedent of intrinsic motivation. They assert that activities that are initiated from within the self will be more intrinsically motivating than activities that are initiated by some external force or pressure.

External motivation refers to behavior that is initiated and maybe sustained because of external inducement. In this case, behavior is shaped by external rewards or contingencies. These individuals, as previously mentioned, may be motivated by requirements imposed upon them by an employer.

Various techniques are used to incite students to achieve to a higher degree (Johnson & Johnson, 1988). In some cases, positive stroking is all that is needed to motivate students to try to become successful. In other cases, these strategies do not succeed and the instructor has to try different ones (Johnson & Johnson, 1988).

## **IMPLICATIONS FOR ADULT LEARNING**

Adults are returning to school in large numbers for the education that will assist them adapt to changing demands of the workplace or change careers. Adult students are the fastest-growing market for colleges and universities (Nordstrom, 1997). To take advantage of this market, institutions of higher education must position themselves to attract these students. Colleges and Universities must realize that adult learners have different educational needs because of their multiple roles as parents, workers, community leaders, and students.

Nordstrom (1997) indicates that about 50% of all college students in the United States are 25 or older; a 50% increase in the past 20 years, according to the College Board. She also cites a survey by the National Center for Education Statistics indicating that the total number of adult students increased from 32% of the population in 1991 to 40% in 1995. Additionally, the United States population is aging as well.

The structure of adult education is not limited to the familiar university setting. Education takes place in boardrooms, on factory floors, in restaurants or mobile classrooms, as well as institutions of higher education (Nordstrom, 1997).

College and university administrators should be aware that adult learners weigh a number of factors when choosing an institution. Among those factors are: flexibility, variety, support, quality, and cost. Adults choose institutions based on proximity, availability of night and weekend courses, and an expanded academic year. Many also prefer the opportunity to start and stop when convenient. A broad range of subjects is necessary to attract adults who are focused on furthering their careers. Programs that provide credentials such as certificates or licenses are strong attractions. Accelerated courses are important to adults who are already employed. Credit for experiential learning, availability of alternative assessments, credit by examination, transferability of credits, and contract learning are crucial for adult students. Because adults can become isolated from the academic community, their success will depend upon opportunities to interact with other students who are also managing multiple roles. Offering stress and time management, test-taking, note-taking and study skills, and computer orientation are essential to help adult learners make a successful re-entry into the academic setting (Nordstrom, 1997). Adult students are concerned about the academic reputation and prestige of the institution, quality of the program, close contact with family, quality of the students, academic competitiveness, and the accreditation status of the college or university. They want a quality education for their money.

This growing market of adult learners offers an unprecedented opportunity to institutions of higher education. Thus, institutions must put into place those practices and procedures that will provide the necessary incentives to adult learners to favorably consider their programs of study, as well as motivate them to retain that interest throughout their tenure.

We have all heard teachers, parents, and others making attempts to induce students to want to succeed at a task. It is quite possible that others have tried to influence minority students to become motivated toward a task and have found minimal success. Therefore, it is possible that students have been left to learn for themselves because the instructors have exhausted all methods of learning and strategies they know. Should teachers employ different strategies when working with minority students as opposed to other students?

### **MOTIVATION IN A MULTICULTURAL ENVIRONMENT**

The student population in post secondary education has become increasingly and undeniably diverse (Wlodkowski & Ginsberg, 1995). This mix goes far beyond race, gender, and class, including ethnicity, sexual orientation, age, language, and disability. There is belief among many scholars and a growing number of citizens from the public sector that higher education has a moral obligation to

accommodate diversity, to transform itself as the society it serves is being transformed by the vast array of cultures that compose it. There are rapidly growing bodies of literature in a range of areas that offer educational practices to prevent discrimination and affirm diverse student groups in particular, low-income learners of non-European ethnic minority communities (Wlodkowski & Ginsberg, 1995). According to Wlodkowski and Ginsberg (1995), when a conceptual framework is based on theories of intrinsic motivation, much of this information can be synthesized across disciplines and cultures. According to them, this conception of knowledge proposes a culturally responsive pedagogy. The essentials of this approach to teaching are that it (1) respects diversity, (2) engages the motivation of all learners, (3) creates a safe, inclusive, and respectful learning environment, (4) derives teaching practices from principles that cross disciplines and cultures, and (5) promotes justice and equality in society (Wlodkowski & Ginsberg, 1995).

Much research has been completed and books have been written concerning strategies to use when working with minority students. While motivation of students is a universal issue, culture is not a one dimensional concept. It has been defined by various researchers in a number of different ways. Yet, however defined, notions of national culture typically include shared social meanings, symbols, values, beliefs and understandings (Geiger, Cooper, et al, 1998). All of this is reflected in Hofstede's (1991) definition of culture as "the collective programming of the mind which distinguishes the members of one group or category of people from another." (p. 260). According to Hofstede (1991), decision making by individuals will be influenced by beliefs and fundamental attitudes which depend not only on individual personalities, but also on the cultural influences to which individuals have been exposed throughout their lives. He says that this cultural influence is pervasive.

An instructional program emphasizing African American history and culture was examined by Hudley (1997) to determine the classroom experiences that were present as well as the program's impact on achievement motivation. Data included a semistructured teacher interview and student measures of self-perceptions of competence and intrinsic motivation. Students displayed average levels of perceived competence and intrinsic motivation. Successfully educating poor and minority children has become an increasingly urgent concern facing American education today. Substantial disparities were found to exist in achievement between many low income, minority children in urban schools and their more advantaged peers, as measured by traditional indices (e.g., standardized test scores, grade point averages, college entrance and completion; Irvine, 1990). The social and economic isolation, student and teacher alienation, and low achievement so pervasive in many urban schools leaves little doubt as to why these students are also especially likely to drop out of school prior to the attainment of a degree (Irvine, 1990). Therefore educators continue to seek programs that will successfully motivate students at risk for dropping out, enhance their academic achievement, and prepare them to become informed citizens and competent participants in a globally competitive economy.

In response to this challenge to our education system, researchers and practitioners have devoted considerable time and attention to the development of academic interventions that support high levels of achievement for low income, minority students. These interventions will have far reaching impact on the future of higher education. Educational research has generated a substantial literature to identify which specific influences best support high achievement. Surveys of that research literature and the opinions of researchers uniformly identify classroom management

strategies and student motivation among the top quartile of variables having the strongest effects on student achievement outcomes (Wang, Hertel, & Walberg, 1990).

Many of the problems some instructors will experience when working with some minorities will stem from false beliefs concerning the background of the students. An awareness of the problems, plans to solve them, and a willingness to attempt an innovation, even though it might fail, are the first steps in working with minority students.

Most teachers use a variety of strategies when working with students. They usually know when to modify strategies and how to apply the techniques when working with individuals or groups of students. There are, of course, times when the instructor looks for additional help in situations that could be considered unique. Johnson and Johnson (1988) believe that there are strategies and techniques that should be employed when working with minority students. In their treatise, they set out numerous such strategies. On many occasions, according to Johnson and Johnson (1988), these strategies and techniques can be employed when working with all students; however, they should be strongly emphasized when working with minority students. Once an instructor conceptualizes the cultural context of minority students' behavior, they can extract meaning from the behavior. With some understanding of students' backgrounds, instructors may become more successful in developing strategies that would cause the students to want to succeed at various tasks (Johnson & Johnson, 1988). Johnson and Johnson (1998) indicate that teachers and administrators in many areas are seeking information concerning the motivation of minority students. Instructors are asking the question, "what can we do to encourage minority students to become motivated to want to learn?" (Johnson & Johnson, 1988, p. 6). Johnson and Johnson (1988) state that it does not appear that the teacher training curricula of colleges and universities offer enough help to students in this area. "There are so many content courses that must be taught; therefore, there is not enough time to emphasize strategies for working with minorities." (Johnson & Johnson, 1988, p. 6).

One should be cautioned, however, not to put all minorities in the same category. In many cases the only thing that is constant about minority students is the color of their skin or their country of origin. Many of these students have grown up in middle class homes or neighborhoods. They, therefore, demonstrate the same behaviors as any other students who hold middle class values. The major difference is the fact that some of these minority students experience more peer pressure to act a particular way than their majority counterparts. Educators and researchers will undoubtedly continue to work in search of ways to work with students who are different from the majority.

There are pedagogically sound and comprehensive ways to teach diverse students that consistently, yet respectfully, elicit their involvement. College and university administrators must plan and develop courses and programs to accommodate cultural diversity. They must offer practical assistance to faculty to enable them to create learning experiences that are sensitive and encouraging to all of their students. Faculty must be exposed to teaching approaches which address both motivational as well as multicultural perspectives as applied in a post secondary setting. These concepts should be based on an intrinsic model of motivation in which people are assumed to be self-determined and motivated from within when they are respected and engaged in relevant and challenging experiences that enhance their effectiveness in what they value. The educational setting should be transformed into a place where inquiry, reflection, trust, equal participation, and learning are the norm for all student, regardless of their cultural differences.

## CONCLUSION

Clarifying the motivational consequences of educational programs should yield knowledge of both practical and theoretical significance. Colleges and universities need to understand how educational programs support or suppress students' persistence with the education process. By including high levels of achievement motivation as a desired outcome, educators might more successfully identify or develop curricula and instructional strategies that support persistence among students. In addition, theoretical relationships between individual characteristics and features of programs that heighten or suppress achievement motivation can be effectively explored in a college or university setting. The instructor-student relationship and the classroom context are environments in which achievement motivation can be either developed, sustained, or diminished (Deci & Ryan, 1987). How well they manage the various learning environments has much to do with the ability of institutions to develop and maintain achievement motivation.

What is the role of educational institutions and what impact will they have on adult motivation to learn? Because the home, in spite of the condition, holds great influence on the growth, behavior, and motivational level of an individual, perhaps the biggest challenge in all of education is to create learning experiences that will allow the integrity of every learner to be sustained while each person attains relevant educational success and mobility. Embracing this challenge is integral to a major purpose of higher education - the intellectual empowerment of all learners, regardless of race or ethnicity, to achieve equity and social justice in the American society.

## REFERENCES

- Deci, E. L. & Ryan, M. L. (1980). The empirical exploration of intrinsic motivational processes. *Advances in Experimental Social Psychology*, 13, 39-80.
- Decl, E. L. & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. London: Plemun.
- Deci E. L. & Ryan, R. M. (1987). The support of autonomy and the control of behavior. *Journal of Personality and Social Psychology*, 53, 1024-1037.
- Geiger, M. A., Cooper, E. A., Hussain, I. O'Connell, B. T., Power, J., Raghunandan, K., Rama, D. V. & Sanchez, G. (1998, February). Using expectancy theory to access student motivation: An international replication. *Issues in Accounting Education* [On-line], 13 (1). Available: [http://www.epnet.com/cgibin/epwno ... s=10/reccount=283/startrec=21/ft=1](http://www.epnet.com/cgibin/epwno...s=10/reccount=283/startrec=21/ft=1). (September 20, 1998).
- Goudas, M., & Biddle, S. (1995). A prospective study of the relationships between motivational orientations and perceived competence with intrinsic motivation and achievement in a teacher education course. *Educational Psychology*. [On-line], 15 (1). Available: <http://www.epnet.com/cgibin/epwda...sc=10/reccount=17/startrec=11/ft=1>. (October 24, 1998).

- Harter, S. (1981). A new self-report scale of intrinsic versus extrinsic orientation in the classroom: Motivational and informational components. *Developmental Psychology, 17*, 300-312.
- Hofstede, G. (1991). *Cultures and organizations: Software of the mind*. London, UK: McGraw-Hill.
- Hudley, C. (1995). Assessing the impact of separate schooling for African American male adolescents. *Journal of Early Adolescence, 15*, 38-57.
- Hudley, C. (1997, May). Teacher practices and student motivation in a middle school program for African American males. *Urban Education, 32* (2). Available: [http://www.epnet.com/cgi-bin/epwda ... ecs=10/reccount=12/star-trec=1/ft=1](http://www.epnet.com/cgi-bin/epwda...ecs=10/reccount=12/star-trec=1/ft=1). (October 24, 1998).
- Irvine, J. J. (1990). *Black students and school failure: Policies, practices, and prescriptions*. New York: Praeger.
- Johnson, S. O., & Johnson, V. J. (1988). *Motivating minority students*. Springfield, IL: Thomas Books.
- Nordstrom, A. D. (1997, September 15). Adult students a valuable market to target. *Marketing News* [On-line], 31(19). Available: [http://www.epnet.com/cgi-bin/epwda... esc=10/reccount=17/startrec=1/ft=1](http://www.epnet.com/cgi-bin/epwda...esc=10/reccount=17/startrec=1/ft=1). (October 24, 1998).
- Wang, M., Haertel, G., & Walberg, H. (1990). What influences learning? A content analysis of review literature. *Journal of Educational Research, 84*, 30-43.
- Weiner, B. (1980). *Human motivation*. New York: Holt, Rinehart and Winston.
- Wlodkowski, R. J. (1993). *Enhancing adult motivation to learn*. San Francisco: Jossey-Bass.
- Wlodkowski, R. J. & Ginsberg, M. B. (1995). *Diversity and motivation*. San Francisco: Jossey-Bass.