

Bridging the Academic / Industrial Chasm for the Millennial Generation

Debbie Beard
dfbeard@semo.edu
Department of Accounting and MIS

Dana Schwieger
dschwieger@semo.edu
Department of Accounting and MIS

Ken Surendran
ksurendran@semo.edu
Department of Computer Science
Southeast Missouri State University
Cape Girardeau, MO 63701, USA

ABSTRACT

Academicians and employers are recognizing significant differences in the current generation of students – herein referred to as millennials – from those who have passed through their doors in the past. Although each generation of students has had their own unique characteristics shaped by events of the time period in which they grew up, this generation of students has been technologically-enabled and shaped by access to world and cultural events at the touch of a button. It is in the best interests of students, faculty, and employers that the characteristics of this generation be considered in determining the best way to shape their capabilities to maximize their learning, earning, and productivity potential. In this paper, the authors examine the characteristics of millennial students, extract from those characteristics a set of opportunities these characteristics offer and a set of threats they pose to the learning and career developmental processes. Strategies are then shared for enhancing learning and bridging the academic and industrial chasm. The authors conclude that collaborative efforts between educators and practitioners are required to educate the millennial students and to help build their professional careers.

Keywords: millennial learner, teaching strategies, career development

1. INTRODUCTION

Traditional students in our universities and current graduates entering the workplace are part of approximately 76 million people who were born during the 1980's and early 1990's and are referred to as the millennial generation, Echo Boomers, millennials, Generation NeXt, the Internet Generation, and Nexters (Eisner, 2005). These students have grown up in times of remarkable eco-

nomie growth, expansion, and prosperity as well as tremendous economic loss, business failures, and legal sanctions resulting from business scandals. Although our economy has experienced periods of boom in industries such as technology and real estate, it has also experienced periods of bust in areas such as dot coms and manufacturing as these students were growing up. The news has been replete with reports that detailed corporate scandals, outsourced jobs to for-

oreign countries, corporate downsizing, and closures of corporate branches. While the academic institutions, in particular, the departments such as Computer Science, Management Information Systems, and Accounting, are trying to cope with these environmental changes through program enhancements and course revisions, the millennial students add another dimension to such adjustment efforts. The authors' objectives are to offer suggestions for best serving this generation of students in the educational and career development processes as they transition from the academic environment to the workplace.

The environment of an educational institution consists of, students, potential employers, and regulatory agents (accreditation bodies), not to mention competitors- an element less relevant for the purpose of this article. Employers play an important role through internships in developing the professional skills of the students and in employment decisions relating to graduates. Therefore, it makes sense to examine the characteristics of the millennial students from both the educational and career development perspectives, and to identify teaching strategies that make use of their characteristics.

In the next section, the authors present a literature review for identifying the characteristics of millennial students and their attitudes toward obtaining a professional career. In order to create a framework for analyzing these characteristics, a modified Strength, Weakness, Opportunity, and Threat (SWOT) analysis is carried out in the third section. In the subsequent section, an assurance of learning model is presented that focuses on the relationship among objectives, instructional strategies and activities, results, evaluation, and action to continuously improve student learning and career development. In the final section, the authors provide suggestions for maximizing the students' potential in both learning and career development through academia and industrial collaborative efforts.

2. BACKGROUND AND REVIEW OF RELATED LITERATURE

The background for this paper draws upon two streams of literature. The topic of focus for this paper is the current generation of

college students, the millennial generation, and what they bring to the educational and career development processes. In an effort to obtain a general picture of the qualities and characteristics of this generation, the authors examined the descriptions and revelations provided by recent publications. The second literature stream focuses upon current research into the needs and concerns of future employers as they contend with the expectations of these students as they graduate.

General Background Characteristics

Various authors have provided descriptions of the generations (Barone, 2003; Gardner & Eng, 2005; Howe & Strauss 1993, 2000, 2003; Manuel 2002; Merritt, 2002; Oblinger, 2003; and Weiss, 2003). The millennials are the largest generation in American history. They are the most ethnically diverse (35 percent are nonwhite); and they are the most technology savvy (Gardner & Eng, 2005). Having been raised in a period of increased political interest in the quality of education, they are high achievers who face both parental as well as self-pressure to work hard and excel (Gardner & Eng, 2005). In the following section, characteristics that influence learning are presented first, followed by attitudes towards employers and careers.

Sense of Entitlement: On average, most millennial generation learners grew up in the smallest families in history with greater individualized attention from their parent(s) (Gardner & Eng, 2005). In addition, the period of time in which they grew up is marked by increased national attention to children's well-being and safety (Gardner & Eng, 2005). Overall, this generation of learners grew up in an atmosphere of devotion, privilege and superiority, which in general, has fostered a sense of entitlement (Gardner & Eng, 2005). This generation of students and employees has come to expect the same level of personalized attention and devotion from their teachers and employers that was provided to them by their parents (Merritt, 2002).

Desire for Customization: As a product of the Internet generation, they are accustomed to personalization, mass customization, and collaborative filtering used to offer suggestions for items of interest that have likewise interested their peers. In ad-

dition, they expect services to be available 24 hours a day, 7 days a week in a variety of customized modes (Gardner & Eng, 2005; Oblinger, 2003). This attitude has carried over into their educational expectations as they perceive their environments as boundless and want personal control over "when, where, how and how fast they learn" (Barone, 2003).

Technology Savvy Multitaskers:

Millennials' have grown up on, and with, technology and to being continually "plugged in" for data access and communication (Weiss, 2003). They view technology as an integral part of daily life rather than a novel means of accessing learning material. They are comfortable at handling multiple technology-oriented stimuli at one time and prefer getting news, facts, and content in short, packaged mini-summaries (Paul, 2001).

Team Orientation and Hands-on:

Current students have also developed a more team-oriented approach to life, perhaps as a result of the number of team-oriented sports in which they were involved as children. This generation of students prefers a hands-on approach to working on projects as sets of teams rather than through lectures or individual assignments (Gardner and Eng, 2005).

Skeptical of the Establishment:

Despite the time period in which they were raised, in general, this generation of students is more optimistic and has stronger values than Generation X (Gardner and Eng, 2005). Millennials grew up in an environment of uncertainty, watching their parents and other adult figures being downsized, realigned, or displaced from their jobs after several years of dedicated service. They are often described in literature as being skeptical about "the establishment," unimpressed by authority, self-reliant in regards to trusting work to last, and conveying a sense of betrayal toward those in authority (Loughlin & Barlig, 2001).

Value Peer Opinion: As a whole, millennials get along well with their parents and peers (a somewhat gregarious relationship), however, with their skepticism toward those in authority, they have a tendency to have less collegial relationships with their teachers (Oblinger, 2003). This, in turn, leads toward a tendency to look more toward their peers rather than their instructors in deter-

mining what information provided in the classroom is relevant and valuable (Manuel, 2002).

Attitudes toward Professional Career

As the early batch of millennial graduates has joined the workforce, the employment sector is trying to understand their characteristics and to accommodate them to get their best work (Hira, 2007). In a study conducted by Mercer Human Resource Consulting in 2002, Mercer found that commitment and motivation at work are influenced more by opportunities for promotion and flexible working arrangements rather than by base pay (Accounting Office Management & Administration Report, 2003). In general, this generation of workers is not particularly loyal toward workplace teams or employers (Verret, 2000). They are more concerned with issues such as work/life balance, performance reviews, training opportunities, overall working environment, meaningful contributions, and availability of their immediate supervisor. Mercer also found that they are less interested in retirement benefits such as retiree medical coverage and long-term care insurance and more concerned with negotiating the best overall working environment including tuition reimbursement, flexible spending accounts for dependent care, and pet insurance (Accounting Office Management & Administration Report, 2003; American Demographics, 1999; Eisner, 2005).

Preference Toward Immediate

Benefits: Millennials expect customization, interactivity, and immediate feedback from supervisors (Eisner, 2005). Dissatisfaction with their workplace experience leads to an increased likelihood of job surfing for potential employers offering better opportunities, age-appropriate benefits, flexible working arrangements, or greater opportunities for promotion (Mercer, 2002). Thus, employment with a company is not viewed as a long term investment, but as the current location to work with immediate payoffs such as independence, flexible hours, casual dress, and fun at work (Loughlin & Barlig, 2001).

Confident in Decision-Making Capabilities:

Overall, this generation consist of a group of individuals who are confident in their decision-making capabilities and who feel that they are capable of making an im-

mediate positive contribution to the workplace even though they have had minimal to no work experience (Cordiner, 2001; Eisner, 2005). Many were raised in non-traditional single-parent households in which they participated regularly in family decisions. These life experiences have led to characteristics of strong-mindedness and confidence in their choices and decision-making processes. Thus, they favor an inclusive style of management in which their contributions are recognized and acted upon (Eisner, 2005). Although they are technically competent and confident in their capabilities, they lack direction and require significant coaching and instruction (Eisner, 2005).

Want To Make a Difference: Researchers have found several other qualities that characterize this generation and the attitudes that they bring to the workplace. Millennials prefer meaningful work that provides a significant contribution to the end result rather than repetitive, mundane, and insignificant tasks. They also want to make a meaningful contribution to their environment. In addition, they are results-oriented, preferring speed and quick action over slow response times.

3. METHODOLOGY AND ANALYSIS

Businesses use the SWOT analysis to examine their overall operations and status in their particular industrial environment. The authors have taken a modified approach to the SWOT analysis in examining the current pool of university students, their qualities, and what they offer to the educational and professional development environments. The adapted SWOT model was used to examine the opportunities and threats of the educational and career development environments in light of the general characteristics of millennial learners described in the previous section. Although there are many different types of students in the classroom, including both traditional and non-traditional students, the authors have developed this framework to provide insights into selecting strategies for maximizing the students' educational experience as well as their preparation for successful professional careers.

The qualities of the millennial generation can serve as a double edged sword. On one hand, this generation of students comes with an admirable skill set that can propel them

to significant accomplishments. On the other hand, some of these same skills can prove to be encumbering unless they are harnessed and molded into a shape that is cohesive to achieve educational and career development goals.

The results from the modified SWOT analysis are summarized in Appendix 1. The first column in Appendix 1 lists the general characteristics of millennial learners that can serve as both strengths and weaknesses for the students. The opportunities and threats found in the environment are examined from the context of two perspectives, educational and career development. It is the authors' intentions that the framework provide faculty with ideas for maximizing the learning environment to capture the strengths of these students and to attempt to overcome the weaknesses. The framework will also hopefully help universities utilize their career resource centers to pinpoint areas to better prepare their students for successful entry into their chosen professions.

The next section will present an assurance of learning model and offer suggested teaching strategies in response to current student characteristics and desires.

4. ASSURANCE OF LEARNING MODEL AND TEACHING STRATEGIES

In order to address the needs and preferences of the millennial learner in the context of the educational and career development environments, it is important to understand learning theory and the assurance of learning process. The assurance of learning model, identified in this section, is used to provide a depiction of the relationship between educational and career development objectives, instructional strategies and activities, assessment of results, and recommendations for change. Educational and career development strategies based on the results in Appendix 1 can then be integrated into the instructional and assessment processes.

Various authors have provided frameworks for choosing teaching methods. Bonner (1999) developed a comprehensive framework for choosing teaching methods based on learning objectives. The framework included specification of learning objectives, selection and classification of the learning

objective(s) using Gagne's taxonomy of learning objectives (Gagne and Medsker, 1996) and an integration of teaching methods that created the conditions necessary for achieving each type of learning objective. Available and appropriate media were then selected. Bonner (1999) concluded that no single teaching method could create all of the conditions necessary for achieving a given learning objective, thus multiple methods should be considered. Most importantly, learning objectives should drive the teaching method.

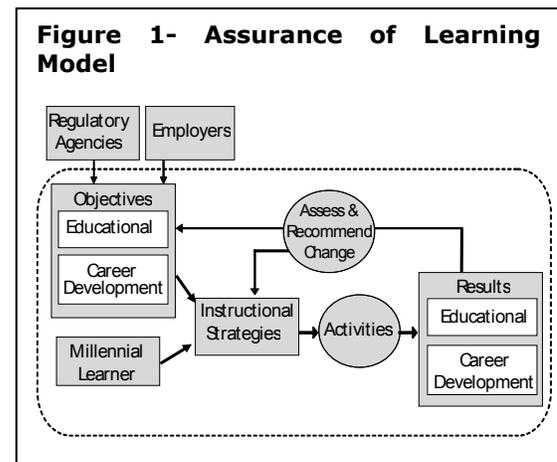
Although Bonner (1999) used Gagne's Taxonomy of Learning Objectives (1968, 1984; Gagne' and Medsker, 1996), other accepted taxonomies exist. For example Bloom (Bloom, et al, 1956) and Anderson (1976, 1990) provided hierarchies of learning objectives that can be adapted and used in selecting appropriate teaching methods and media for delivery. Recognizing that higher-level skills cannot be acquired until lower-levels skills are developed is important as professors address demands for changing their instructional methods. New technologies, or increased accessibility to technology, have expanded the methods and media that can be utilized in instruction. Games, simulations, on-line quizzes, blogs, podcasts, e-mail and instant messaging provide flexible tools for developing and demonstrating knowledge, comprehension, application, analysis, synthesis, and evaluation.

Failing to recognize differences in learning styles can pose a significant threat to successfully engaging the learner. Different methods and media may be more efficient and effective for the predominantly auditory, visual, tactile, or kinesthetic learner. Various learning style inventories are available to identify predominant learning styles of our students including Kolb's Learning Style Inventory (Kolb, 1985) and the Myers-Briggs Type Indicator (McCaulley, 1976) as two examples.

Segovia (2006) encouraged creating more active learning in classes to meet the expectations of the millennial generation as well as to address diverse learning styles of these learners. These students are accustomed to using technology to communicate as well as using it to learn from their peers. Hence, rather than focusing on the content of the course or student evaluations of the teacher,

the focus should be on the learner and on assurance of learning.

The authors have utilized Figure 1 to identify an assurance of learning model that demonstrates the relationship among current learners, educational and career development objectives, instructional strategies and activities, assessment of results, and recommendations for changing objectives and/or instructional strategies. Regulatory agencies and employers are considered important contributors to the process by providing input into the objectives.



In this model, the faculty designs the overall program objectives considering the model curriculum suggested by the regulatory agents and input from practitioners/employers (Ehie, 2002). These objectives address both the educational and career development requirements. While designing the instructional strategies, the instructor chooses the appropriate methods to match the learners' backgrounds. Instructional strategies are chosen in light of educational and career development objectives, bearing in mind the opportunities and threats extracted from the characteristics of the students. Further, a feedback mechanism is used to revise the instructional strategies by reviewing the earlier results. Teaching strategies are presented in the following section along with some classroom experiences in applying these strategies.

In light of this model and the framework in Appendix 1, some of the specific teaching strategies to consider include: integration of technology, web-based courses, web-supported face-to-face courses, group projects with role playing, and creation of flexi-

ble environments for multi-tasking. Similarly, the strategies for career development include: professional challenge seminars, participation contests arranged by professional bodies for students, active student professional clubs, internships, creation of career links in the curriculum, and creation of other professional development opportunities. It is important to get feedback from students regarding the benefits obtained from these strategies. Hence, as suggested in the model, there is a need to review the results at the end of the semester and make changes to the strategies or the tactics used in implementing them. The strategies and the review procedures are discussed in the next two sections.

5. TEACHING STRATEGIES

Using the analysis of the millennials' characteristics and their expectations for education, as noted in Appendix 1, adjustments to teaching strategies and methodologies seem to be in order. For example, to accommodate the desire to learn from their peers in a more active style, some educators in higher education have shifted their teaching to a more collaborative, hands-on, group project approach (Gardner & Eng, 2005). Furthermore, multitasking using technology is one of the skills in which current students are extremely adept (Lewis, 2003; Weiss 2003). They have a low threshold for boredom as well as short attention spans (Manuel, 2002). They need the constant and rapid visual and thought stimulation that new technology can provide through the merging of information and entertainment.

Teaching Methodologies

The following section describes some enhancements or modifications that can be made to current teaching environments based upon the characteristics of the millennial learner. However, both traditional and nontraditional students should benefit from the incorporation of these methodologies.

Integration of Technology: From the literature, we have found that students prefer hands-on learning rather than lectured material. With their interest in and adeptness to technology, increased integration of technology into the classroom is essential. This integration can come through Podcast mini-lectures and computer-based tutorials, online materials, IM office hours, as well as

Web-enhanced, and Web-based courses. Research also indicates that students value the opinions of their peers more highly than those of their professors. Combining technology with this observation leads to the adoption of teaching methodologies to encourage students to learn from each other through virtual teaming and projects, online conferences and presentations, Facebook classroom communities, and online discussion forums.

Group Projects and Interaction:

Previous literature also indicated that students prefer to work in groups and solve problems in teams rather than individually. Incorporation of team projects not only allows the students to learn from each other, but it also teaches them firsthand how to manage team dynamics and freeloading members in a learning environment where the consequences involve points rather than dollars. Students also prefer experiential learning projects that contribute to society rather than constructed exercises to fulfill a requirement. Experiential learning focused on service learning provides a great opportunity for students to give back to the community while gaining valuable educational experiences.

Flexible Learning Environments:

With the incorporation of group projects and technology-oriented learning, accommodations may need to be made on campuses to enable students to work in groups and access technical resources. To address the needs of a more active learning environment, institutions will need to be willing to modify their learning areas to enable this style of learning. For instance, common areas can be provided with mobile furniture in order to be more conducive to flexible room arrangements and spontaneous group meetings. These areas will also need to provide greater access to wireless network connectivity to allow for immediate accessibility to online resources. Since students conduct most of their research through online searches, library resources may need to come to them rather than be positioned in a stationary location. For example, in 2003, Harvard University's undergraduate libraries tried a new project entitled the "Roving Librarian" in which librarians traveled to student common areas and provided assistance using a mobile unit equipped with a wireless

laptop and research guides (Gardner and Eng, 2005).

Examples of Classroom Experiences

Keeping the students' characteristics in mind, professors may be able to find ways to tweak their current classroom syllabi to meet the learning and development needs of the millennial learner while enhancing the overall learning experience of nontraditional students. In the following section, specific experiences in teaching situations are discussed and some interesting observations are noted.

Projects-Individual and Team: In Systems Analysis and Design (SA&D) and Capstone Experience (CE) courses at the authors' institution, the students worked in teams of four/five on semester long projects. In SA&D, all the teams worked on a single project suggested by the instructor and in the CE, each individual team worked on a different system development project sponsored by an external client. In both cases, the students formed their own teams. The first observation is that millennial students tended to team up with other millennial students. The reason is not that the millennials' did not want to work with non-traditional students, but that the non-traditional students did not want to work with the millennials due to perceptions that they were difficult. The second observation is that, while the non-traditional students seemed to exhibit a balance on functionality and aesthetics in product development, the millennials focused on impressing the instructor through the use of technological tools. In other words, the millennial students were more grade-driven than the non-traditional students. In the CE course, where the teams got to choose their projects, teams with millennial students often opted for game development, simulations involving graphics, applications with different hardware interfaces, or cluster computing. Many of the millennial teams chose socially conscious projects for the local area food bank, a women's shelter, and the university's museum, to name a few. Overall, the millennial teams were very creative and delivered software products that exceeded the clients' expectations.

In a freshman seminar course (theme: information society), the students were asked to make presentations on a topic pertaining

to the theme. A broad range of topics were provided by the instructor from which the students could choose their topic. Nearly 50% of the students in a class consisting mostly of millennials gave talks on application of computers in the entertainment industry such as games, music, and other audio/visual areas. Some of the talks involved the psychological and ethical aspects of these computer applications. The presentations appeared in-depth, especially for the instructor who had little knowledge in the entertainment domain. The presentations were followed by intensive classroom discussions. The students had no problems in using the technology; on the contrary, some of the presentations included appropriate audio/visual clips. The theme helped in achieving two main goals of the course: gathering information and developing oral communication skills.

MIS Experiential Learning: In projects in the electronic commerce, Web design, and capstone courses in the MIS program at the authors' institution, the students had the opportunity to work with community clients in developing web-based solutions to solve practical business needs. In the electronic commerce projects, student teams interviewed community clients to learn about the client, their business processes, their particular needs, and the characteristics of the Web-based product desired. Through on-going meetings throughout the semester, the student groups developed electronic commerce business plans tailored for their clients' specific needs, Web site solutions to meet the clients' business needs, and Web site maintenance and training manuals. At the end of the semester, the student groups helped the clients upload their sites to commercial servers and then used the training manuals specifically created for their customer and his/her site to train the client on maintaining the site once the project had ended. In some semesters, the student groups worked as competing contractors to win a client's contract.

6. CAREER DEVELOPMENT STRATEGIES

Dynamic, fast-paced changes may always mean that there will be gaps in expectations and reality in what the workplace requires and in the education students gain in the traditional classroom. No one individual, academic program, or professional organiza-

tion in isolation can close the gap; but, partnerships among students, faculty, and other professionals can make a real, positive difference. Students must be excited about the challenges and opportunities of their chosen professions and be motivated to learn and take advantage of opportunities to grow and succeed. Faculty should remain professionally current and teach as to motivate students and assure learning of desired knowledge, skills, and attitudes. Practitioners should clearly communicate expectations, invest in the educational process, and offer pathways to success. The following section addresses some on-going career development initiatives that can be incorporated at various stages in the program.

Career Development Methodologies: Although the current generation of students may desire to make a difference more than to make a living, it is important that they choose careers that will be rewarding and satisfying to them. To help ensure a "best fit" between the graduate and the employer, career development activities should be considered to help students understand the expectations of the workplace so that seamless transitions can be made. There are several career development strategies and initiatives that have been undertaken at the authors' institution to assist the students with career exploration and development. A few of them will be presented in this section.

A Professional Challenges Seminar: To focus on the present and future challenges of the workplace and to encourage valuable discussion and professional interaction among students, faculty, and practitioners, a professional challenges seminar could be held annually. Such an event has been held on the authors' campus with several important purposes, including:

- to provide an opportunity to highlight and promote the national initiatives of professional organizations;
- to provide an opportunity for alumni to return to campus and to share insights gained from their own experiences;
- to provide an opportunity for current students to demonstrate their oral and written communication skills and to share ideas in a team setting;
- to provide an opportunity for students to consider almost limitless possibilities in career paths and to recognize the importance of internships and student affiliation with professional organizations;
- to provide the opportunity for faculty to have valuable professional interaction with practitioners and students; and
- to provide a continuing education opportunity for professionals.

Sessions throughout the day focused on a variety of topics and included speakers from diverse organizations. Student reactions and responses to the panel discussions were overwhelmingly positive. Students reported that they gained insight into the requisite competencies and skills, professional challenges, and career opportunities associated with their chosen profession. Students concluded that it was important to participate in internships and suggested that internships should be made a mandatory part of curricula. Students also recommended that more research and outside readings (other than the textbook) be included in course work and that a career planning course be provided. In addition, students reported that they gained a better understanding of why it is important to take an active role in student organizations and to network, network, and network. They gained insights as to the importance of attitude, enthusiasm, personality, flexibility, communication, technology, problem-solving, critical and creative thinking, research, leadership skills, possession of a broad business perspective, integrity, a strong work ethic, and lifelong learning.

Active Student Organizations: The preparation of future accounting and IT professionals requires more than just teaching more topics and teaching better in the traditional classroom setting. Effort should be expended to motivate and inspire students to commit time and effort to activities both in and outside the classroom that enhance leadership, communication, and interpersonal skills in team settings as well as develop technical knowledge and skills. Beta Alpha Psi, Institute of Management Accountants (IMA), the Association of Information Technology Professionals (AITP), and the Association of Computing Machinery (ACM) are just a few of the many organizations

that can provide students with valuable extracurricular learning opportunities.

For example, the Institute of Management Accountants (IMA) and the Association of Information Technology Professionals charter student chapters that provide a win/win/win partnership for students, practitioners, and academicians. For students, an IMA or AITP student chapter provides opportunities to network with other students, practitioners, and academicians; to enhance professionalism and ethical conduct; to gain a practical perspective of classroom concepts, principles, and procedures; to participate in professional organizations before and after graduation for life-long learning, growth, and friendships; to enhance leadership, communication, social and interpersonal skills; to access additional scholarship funds; and to gain national recognition for their school through national competitions.

Corporate and academic members of professional organizations can provide valuable service to students, their institutions, and the profession by assuming a mentoring/advisory role through active support of student chapters. Corporate members can promote a better understanding of career path choices and expectations; encourage lifelong personal and professional development; stress the importance of achieving professional certifications; and provide insight into the dynamic and challenging nature of careers in accounting, information systems, and systems development. In addition, practitioners can derive benefits from their association with student affiliates. Their involvement in student chapters provides an opportunity to impact the education of future professionals; to share their professional and personal experiences, ideas, and insights with others; to interact with prospective interns and employees in formal and informal settings; to serve as professional mentors to students, and to strengthen professional and personal relationships with academicians.

Internships and Other Experiential Learning Opportunities: The benefits of internships have been documented by Beard (1998, 2007), Chandra and Paperman (1983), DeFillippis (1982), English and Koeppen (1993), Knechel and Snowball (1987), Lauber, et al. (2004), Pasewark, Strawser, and Wilkerson (1989), and Siegel

and Rigby (1988). Well-organized and carefully supervised internship, co-ops, and other experiential learning opportunities enhance the students' ability to integrate academic knowledge with practical applications, improve job/career opportunities after graduation, create relevance for past and future classroom learning, develop workplace social and human relation skills, and provide the opportunity for students to apply communication and problem-solving skills.

Employers have reported lower turnover rates for college hires who have participated in an internship or cooperative education assignment in contrast to college hires who have not completed these experiential learning activities. Internships have also been shown to be an important component of assessment (Beard, 2007). At the authors' institution, experiential learning opportunities have been an integral part of university, college, and departmental strategic initiatives. They provide unique learning opportunities for all students, not just the millennial learner.

Career Linkages: Creating an awareness of career expectations and providing professional development activities throughout the students' academic experience can prove invaluable in assisting students transitioning from the academic to the industrial setting. The authors' institution recently created a Career Linkages program that offers a variety of career-related services for students, alumni, faculty, employers, and parents. These services include career development plan creation, career advising, computerized career assessment, career events, seminars, presentations, job and internship searches, and on-campus interviews.

Professional Development Opportunities: In 1996, the authors' university initiated an off-campus Interview Day for majors in the accounting department. Since that time, the Interview Day has been expanded to include all majors in the College of Business. The event has been different from other career fairs and student nights provided by the institution in the past. The College rents a conference facility in the closest metropolitan city, potential employers are invited to rent a booth at the event, and students' resumes are collected and collated into a booklet in advance. The poten-

tial employers review the resumes and select the students that they wish to interview in a one-on-one format. An evaluation form is then used to solicit feedback from the interviewers concerning the students' performances during the interviews and the event itself. That feedback is then used to improve students' performance and to continuously improve the event.

7. ASSESS AND RECOMMEND CHANGE

It is important to review and refine these and other strategies from time to time relative to the university and program missions. The best way to determine the effectiveness of educational strategies is to seek and analyze feedback from the employment community as well as the graduates themselves. Results of the analysis can then be used to further modify the educational objectives as well as specific teaching strategies.

Analysis of Feedback: In order to insure that programs are adequately preparing their graduates to be productive members of their profession, regular feedback should be collected, reviewed, analyzed, and appropriately disseminated. Appropriate actions should be taken to adjust learning objectives and material in order to accommodate the changing needs of graduate employers. There are several means by which data can be collected including surveys, steering committees, and interviews.

Surveys and Interviews: Surveys should be jointly developed by educators and practitioners to evaluate the qualities, skills, and capabilities of college interns and co-ops as well as recent college hires. These surveys can then be regularly distributed to employers in either paper or online format in order to provide immediate feedback and direction toward enhancing the skills of college graduates. Follow-up interviews with employers may need to be arranged in order to provide clarification and elaboration on issues and concerns that arise through the assessment process. Through these ongoing surveys, educators can realize how the skills of their graduates are perceived as well as the skills that are currently being sought in the corporate community.

Recent Graduate Surveys and Interviews: Just like the surveys and interviews directed toward employers, recent

college graduates should also be surveyed in order to assess their thoughts on their academic preparation. Respondents may be better able to recognize gaps in their learning as well as minor modifications that can be made to better prepare future students to enter the workforce. They may also be willing to return to campus to discuss their experiences with current students and educators.

Steering Committees: Steering committees can provide an active approach to setting direction in university programs as well as individual courses. A committee consisting of representatives from campus recruiters, corporate community members, and university faculty can provide the opportunity for direction setting and relationship building.

8. CONCLUSION

In this paper, the authors have used published literature to identify the characteristics of the millennial learners who predominantly comprise the student body in university undergraduate programs. A modified SWOT analysis framework and an assurance of learning model were used to examine the characteristics of millennial learners, the opportunities and threats associated with the educational and career development environments, and to suggest teaching and career development strategies for these students.

Identifying the strengths and weaknesses of our students, specifying the objectives of the educational process, and choosing instructional strategies and activities that assure student learning and prepare graduates for successful careers in MIS, IS design, and accounting present many challenges for university professors. The current generation of students has characteristics that provide both opportunities and threats in the academic and industrial environments.

Although many of our instructional strategies and activities are still relevant and may be easily "tweaked" to meet student needs, demands for more creative, pragmatic, and innovative approaches are required in the design of courses and experiences provided in the future. Faculty instructional and professional development relating to new and emerging technologies is essential. The ef-

fective use of course and faculty websites which are not only well-organized, purposeful, and entertaining but provide links to professionally-relevant websites that assist students in assessing workplace expectations and professional opportunities can be invaluable.

The millennial learner needs assurance that faculty care and are available. E-mail, instant messaging, online office hours, and online grade books that are updated frequently should be used to "stay in touch" and provide feedback on student performance on an on-going basis. Networking with peers and sharing ideas is important to them. Discussion forums or chat rooms should be used to encourage intellectual networking. Group projects that are purposely designed and carefully organized and monitored to encourage inclusion and accountability are recommended. Presentations and discussion of research, simulations, and experiential learning opportunities that focus on the practical applications of theory, concepts, and procedures to solving problems and making decisions should be integrated into curricula. Encouraging networking with other students, faculty, and practitioners through special events and active student organizations should be supported.

As faculty and administrators seek to meet the demands of the millennial learner, several threats should be considered. For example, are the results from online courses that are offered to satisfy the millennial learners' desire for 24/7 access to course work as valid and reliable in assessing student performance as those from face-to-face courses? Will the workplace be willing and able to accommodate the demands of the millennial graduates? With the increasing reliance upon technical resources and greater numbers of students bringing their laptops to campus, universities will need to insure that policies are in place to handle technical trouble-shooting and repairs. This issue poses a threat to many university campuses that operate with limited budgets. Although there needs to be some level of assistance to help students stay online, many university IT departments are stretched so thinly that it is difficult for them to handle routine maintenance and repairs of the technology that is inventoried to the university.

Instructional strategies and activities have been shared that should enrich curricula, incorporate current and emerging technology, and bridge the chasm between academic and industrial environments. Feedback from employers, graduates, and advisory committees through surveys and interviews should be solicited and integrated with assessment and program improvement. The authors recommend collaborations among educators and practitioners in identifying objectives, evaluating the results, recommending actions, and providing experiential learning and networking opportunities that strengthen the educational process and provide a seamless transition for MIS, IS, and accounting graduates to rewarding and satisfying careers.

9. REFERENCES

- Anderson, J. R. (1976) *Language, Memory, and Thought*. Lawrence Erlbaum Associates, Hillsdale, NJ.
- _____ (1990) *Cognitive Psychology and Its Implications*. 3rd edition. Freeman, New York.
- Barone, C. A. (September /October 2003) "The Changing Landscape and the New Academy." *EDUCAUSE Review*. 38(5), p. 42.
- Beard, D. F. (1998) "The Status of Internships/Cooperative Education Experiences in Accounting Education." *Journal of Accounting Education*, 16(3), pp. 507- 516.
- _____ (2007) "Assessment of Internship Experiences and Accounting Core Competencies." *Accounting Education: An International Journal*, 16(2), pp. 207-220.
- Bloom, B. S., M.D. Englehard, E. J. Furst, W. H. Hill, and D.R. Krathwohl (1956) *Taxonomy of Educational Objectives, Handbook I: Cognitive Domain*. Longman Publishers. New York.
- Bonner, S. E. (1999) "Choosing Teaching Methods Based on Learning Objectives: An Integrative Framework." *Issues in Accounting Education*, (February), 14(1), pp. 11-39.
- Anonymous. (October 2003) *What You need to Know to Work Well with 'Millennial*

- Generation.' Accounting Office Management & Administration Report, 03(10), pp. 4-6.
- Chandra, G. and Paperman, J. B. (1983) "Accounting Internships and CPA Firms." *The CPA Journal*, 53(9), pp. 75 -76.
- Cordiner, R. (December 2001) "Millennial Generation: Tricky for Sports." *SportsMarketing*, p. 8.
- DeFillippis, R. (1982) "Internship in Small Practice." *The CPA Journal*, pp. 81 - 82.
- Ehie, I. C. (2002) "Developing a Management Information Systems (MIS) Curriculum: Perspectives From MIS Practitioners," *Journal of Education for Business*, 77(3), pp. 151-158.
- Eisner, S. P. (Autumn 2005) "Managing Generation Y. S.A. M.," *Advanced Management Journal*, 70(4), pp. 4-15.
- English, D. M. and D. R. Koeppen (1993) "The Relationship of Accounting Internships and Subsequent Academic Performance," *Issues in Accounting Education*, 8(2), pp. 11 - 27.
- Gagne, R. M. (1968) *Learning Hierarchies*. Educational Psychologist, Winter, pp. 1 - 9.
- _____ (1984) *Learning Outcomes and Their Effects: Useful Categories of Human Performance*. *American Psychologist*, April, pp. 377-385.
- _____ and K. L. Medsker (1996) *The Conditions of Learning: Training Applications*. Harcourt Brace College Publishers, Fort Worth, TX.
- Gardner, S. and Eng, S. (2005). "What Students Want: millennial generation and the Changing Function of the Academic Library." *Libraries and the Academy*, 5(3), pp. 405-420.
- Hira, N. A. (2007) "You Raised Them, Now Manage Them" *Fortune*, May 28, 2007.
- Howe, N. and B. Strauss (1993) *13th Gen*. Vintage, New York.
- Howe, N. and W. Strauss (2000) *Millennials Rising*. Vintage, New York.
- _____ (2003) *Millennials Go To College: Strategies for a New Generation on Campus*. Great Falls, VA: American Association of Collegiate Registrars and Admissions. LifeCourse. New York.
- Knechel, W. R. and D. Snowball (1987) "Accounting Internships and Subsequent Academic Performance: An Empirical Study," *The Accounting Review*, 65(4), pp. 799-807.
- Kolb, D. (1985) *The Learning Style Inventory*, 2nd edition, McBer. Boston.
- Lauber, C., L. Ruh, P. Theuri, and P. Woodlock (2004) "Road To The Future," *Journal of Accountancy*, 198(1), pp. 41 - 47.
- Lewis, K. R. (Nov. 3, 2003) Managing multiple generations in the workplace can be a challenge. *Newhouse News Service* <http://newhouse.live.advance.net/archive/lewis110403.html>. Retrieved June 27, 2007.
- Loughlin, C. and J. Barling (2001) "Young Workers' Work Values, Attitudes, and Behaviours," *Journal of Occupational and Organizational Psychology*, 74(4), pp. 543-559.
- Manuel, K. (2002) "Teaching Information Literacy to millennial generation." *Journal of Library Administration*, 36(1/2), pp. 195-217.
- McCaulley, M. (1976) *The Myers-Briggs Type Indicator and the Teaching Learning Process*. Center for Application of Psychological Type, Gainesville, FL.
- Mercer Human Resource Consulting (2002) *2002 People at Work Survey*.
- Merritt, S. R. (2002) "Millennial Generation: A Perspective on America's Next Generation and Their Impact on Higher Education," reported by Shelley Neville, *Serials Librarian* 42 (1/2), pp. 43-44.
- Oblinger, D. (July / August 2003) "Boomers, Gen-Xers & millennials: understanding the New Students," *EDUCAUSE Review*, 38(4), 37-47.
- Pasewark, W. R., J. Strawser, and J. Wilkerson, Jr. (1989) "An Empirical Examination

- tion of the Effect of Previous Internship on Interviewing Success," *Journal of Accounting Education*, 7(1), pp. 25-40.
- Paul, P. (2001) "Getting Inside Gen Y," *American Demographics*, 23(9), pp. 42-49.
- Segovia, J. (2006) "Understanding Generation NeXt and Creating Active Learning in Accounting Courses," *Business Education Forum*.(December), 61(2), pp. 17-20.
- Siegel, P. H. and J. T. Rigby (1988) "The Relationship of Accounting Internships and Subsequent Professional Performance," *Issues in Accounting Education*, 3(2), pp. 423-432.
- Verret, C. (2000) "Generation Y: Motivating and Training a New Generation of Employees," [http://www.hotel-online.com/Trends/CarolVerret/ GenerationY_Nov2000.html](http://www.hotel-online.com/Trends/CarolVerret/GenerationY_Nov2000.html) Retrieved October 6, 2006.
- Weis, M. J. (2003) "To Be About To Be." *American Demographics*, 25(7), pp. 29-36.
- Wellner, A. S. (1999) "Young and Uninsured." *American Demographics*, February, pp. 74-77.

APPENDIX 1: SWOT ANALYSIS FOR THE MILLENNIAL LEARNER

General Characteristics	Educational and Career Development	
	Opportunity	Threat
Sense of entitlement	<ul style="list-style-type: none"> • Clear goal setting • Expect to obtain gainful employment 	<ul style="list-style-type: none"> • Pursue higher grades without sufficient quality • Unwilling to start at entry level
Desire for customization	<ul style="list-style-type: none"> • Provide multiple learning tools 	<ul style="list-style-type: none"> • Dissatisfied with general course
Technology Savvy Multi-taskers	<ul style="list-style-type: none"> • Greater integration of technology into the classroom 	<ul style="list-style-type: none"> • Difficult for faculty to maintain technical currency and handle classroom disruptions • Increased investment in technical infrastructure
Team Orientation	<ul style="list-style-type: none"> • Incorporation of more team projects • Prepared to work in cross-functional teams 	<ul style="list-style-type: none"> • Some students may be free-loaders • Problems working with other generations
Skeptical of the establishment	<ul style="list-style-type: none"> • Push for radical change • Demonstrate entrepreneurial spirit • Seek their own answers 	<ul style="list-style-type: none"> • Will question authority and disrespect experience • Reluctant to use established basic principles
Value Peer Opinion	<ul style="list-style-type: none"> • Incorporation of team based research presentations • Develop relationships that can further their future careers 	<ul style="list-style-type: none"> • Peer opinions may be incorrect • Expectations may be inaccurate
Immediate Gratification	<ul style="list-style-type: none"> • Provide multiple short projects • Utilize technology for quick turnaround 	<ul style="list-style-type: none"> • May dislike semester long projects • May lose sight of the ultimate objective
Confident Decision Making	<ul style="list-style-type: none"> • Utilize in teams and in concept application exercises • Able to express opinions and make decisions 	<ul style="list-style-type: none"> • May question corrections • Do not have the knowledge from experience
Want to Make a Difference	<ul style="list-style-type: none"> • Partner with community leaders for student projects • Willing to participate in service learning 	<ul style="list-style-type: none"> • Difficult for faculty to find enough sufficient relevant projects each semester • May not realize limitations