Empowering The Non-Traditional College Student And Bridging The 'Digital Divide'

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ABSTRACT

Non-traditional student enrollment, especially at community colleges, has markedly risen in the last ten years due to national unemployment rates, the current economic climate, and employer demand for computer-literate employees. While university instructors struggle to constantly adapt their course materials to incorporate updates in software modules, various online learning systems, and consumer gadgets, they must also troubleshoot the obstacles inherent in their changing class rosters. Functioning under the definition of "non-traditional" as students over the age of 25 who are often first-generation college enrollees, displaced from their previous careers due unforeseen layoffs, or desperate to update their résumés by earning an advanced certification or degree in order to ensure job security, this paper examines the lagging response of higher education institutions to appropriately manage the widening 'digital divide.' The clear dissonance between typical non-traditional student computer competency and typical traditional student computer competency specifically informs this examination. In response to the amalgamated complications revealed in the non-traditional student's charge to function successfully within a technologically-driven university environment, practical application strategies in the form of pre-enrollment computer competency placement testing and the implementation of required, degree-credit introductory computer courses must be established as a national initiative in order to formalize the concerted effort needed to encourage the overall academic success of non-traditional students nationwide.

Keywords: Non-Traditional Student; Computer Competency; Placement Testing; Digital Divide; Community College; Unemployment; Enrollment Increase

INTRODUCTION

Having been at a tenured management position for over twenty years, Beverly found herself at a loss when she was laid off due to massive budget cuts last December. Her company, rather than giving her the severance package she had been anticipating upon retirement, offered her the paperwork to apply for a federally-funded program that would pay for full-time enrollment at a local community college. At 56 years old, Beverly, like thousands of other displaced workers, found herself in the last place she dreamed of being as an aging adult: sitting, wide-eyed and ill at ease, in a classroom.

Having graduated from high school over thirty years ago, Beverly was bewildered when she discovered that the chalk board had been replaced by a SMART Board, the instructor's pointer had been replaced by a hand-held laser beam, and students all around her began to open their laptops instead of taking out paper and pen for notes. Initially, the experience was unsettling at best, but Beverly took courage in knowing that she had been well-trained (all those years ago) in how to write an essay, only to find that her essays were to be submitted electronically via an online portal, about which she knew nothing. While Beverly was perfectly capable of creating a successful college essay, her grades began to suffer because she simply could not master the complexities of internet blogging, virtual discussion threads, or even how to properly format her documents in Microsoft Word. Unfortunately, Beverly's situation is not uncommon—and even more unfortunate is the lagging rejoinder made by higher education institutions.

DISCUSSION

A number of factors have already been identified, studied, and documented as contributing to the rise in non-traditional student enrollment in higher education, especially in the nation's community colleges. The combination of a limping economy, global outsourcing, the aging Baby Boom generation, an ever-increasing rate of technological advancement and implementation, and the resultant need for new and updated job skills has forced an older population back into the classroom. Concurrent changes in student demographics have necessitated a response from higher education institutions. Trending rapidly away from a vast majority of fresh-out-of-high-school "traditional" aged (18-24 year old) enrollees and toward a wave of "non-traditional" aged (25+) students, featuring displaced workers, first-generation college attendees, returning students, and those who desire a change in career (either due to financial hardship or preference), administrators have no choice but to alter collegiate curriculums, services, and overall philosophies. An overwhelming majority of institutions affected by this trend are community colleges.

While community colleges, private and public, have always served more non-traditional and returning students than bigger four-year universities, their ability to make essential changes in order to accommodate the dramatic increase of this particular student group has become a concern within the last five years. Battling budget cuts, bureaucratic red tape, and shifting demands of the job market, the institutions themselves are not wholly to blame (considering the aforementioned variables that exist outside of institutional control) for gaps in adequate services; still, significant problems remain, particularly in terms of accurately anticipating the base knowledge and preparedness of non-traditional students, and thus, in offering an appropriate response.

The spike in non-traditional student enrollment in community colleges continues to be recorded nationwide. In January of 2009, *Community College Week* recorded national enrollment totals at an increased estimated average of 8 to 10 percent since the previous year. Selland College, an Idaho community college, recorded that lay-offs caused as much as a 60% new enrollment increase from the spring 2008 semester to the spring 2009 semester ("Rising layoffs," 2009, p. 11). *Community College Week* also recorded Kentucky with a 22-year high of 10.2% unemployment as of February 2009, which caused thousands of those left unemployed after a sudden and unexpected job loss to file for unemployment benefits. Upon applying, "they learned of the Workforce Investment Act, or WIA, a federal program that offered to pay for their tuition, textbooks, and $10 daily gas money to attend college" ("Kentucky schools," 2009, p. 12). Most jobless Kentucky residents leapt at the offer. Norma Kent, vice president of communications at the American Association of Community Colleges, has attributed the national enrollment increase to historical trends that associate a poor economy with higher enrollment, but admits that recent years reveal "the most extreme example we have ever seen" ("Nev. 2-year," 2009, p. 14). *Mississippi Business Journal* published similar results:

The current "disaster" — the recession — is again putting the two-year schools on the front lines. With unemployment soaring, displaced workers are turning more and more to the two-year schools to get back in the workplace. Spring 2009 enrollment in credit classes at the 15 state-supported [Mississippi] schools was 69,740, an increase of nearly 11 percent over the spring of 2008. This was on top of an increase of 8.2 percent from the fall of 2007 to the fall of 2008. The numbers were even more impressive for the Mississippi Virtual Community College (MSVCC). The MSVCC saw record enrollment for the summer 2009 session with 11,574 students enrolled in 19,859 classes. That was a 22.4 percent increase over the summer of 2008. Fall 2008 enrollment was up 17 percent compared to the fall of 2007, and the spring 2009 headcount was 27 percent over the spring of 2008. (Northway, 2009)

Hundreds of community colleges nationwide have recorded this same trend, noting in particular a rise in non-traditional student enrollment.

In addition to a number of other factors (i.e. balancing family life, battling mid-life crises, and often, recovering from the unexpected sting of unemployment), many older students (age 25+) encounter one pervasive obstacle: technological ineptitude. Technological expectations, of course, differ from field to field, depend heavily on collegiate budget, and change according to a student's desired degree or certification, but in terms of successfully completing general studies courses, certain tasks have become standard. In other words, "basic" computer

knowledge has now become a mandatory part of college curriculums, and without it, the student's performance will undoubtedly suffer.

At the 24th annual National Convention of the Association for Educational Communications and Technology held in Atlanta, Georgia in 2001, Owen argued that it is "reasonable to assume" that all college students will "look to the Internet for course-related materials such as lecture notes, assignments, grade postings, and even general communications" (p. 530). While Owen accurately predicted the explosion of internet usage in college courses, his assumption that *most* college students will immediately go online is not, in fact, reasonable. This assumption depends upon the target student group under consideration. Owen assumes his target group to be traditional aged students, students who have been exposed to computers most of their lives, either for academic purposes in high school or for entertainment purposes in their free time. While some non-traditional students are, indeed, extremely to moderately technologically savvy, others have not had the need or opportunity for using computers at any point in their lives—until they return to school.

Scholars have coined the term 'digital divide' to describe the difference between the more expansive computer knowledge of traditional aged students and the relative bewilderment of non-traditional aged students, and as a whole, the divide looms large on community college campuses.[1] A 2002 survey of San Jose State University faculty revealed that two common barriers to non-traditional student success were a lack of experience with technology and a lack of support systems for the online learner (Miller & Lu, 2002). Upon conducting a similar study, Czaja et al. (2006) also identified lack of experience and knowledge of computer technology, as well as "the perception of low self-efficacy in its use," in a survey about the self-disclosed inhibitive factors affecting non-traditional student success (as cited in Hernández-Encuentra, Pousada, & Gómez-Zúñiga, 2009, p. 227). My own exchanges with students—especially in the past two years—have corroborated the results of this research.

Vincennes-University's Jasper Campus (VUJC) is located in the Jasper, Indiana, which is part of Dubois County. Dubois County is home to 41,561 residents as of 2009 and features an average unemployment rate that has risen from 2.1% of the population in 2000 to 7.6% in 2009, making the percentage change in unemployment rate from 2000 an astounding 257.1% (Dubois County, "Population," 2010; Dubois County, "Labor," 2010). Like many towns in the Midwestern United States, Dubois County's most common industry and highest employer is manufacturing, which represents 10,136 of the 26,261 employment positions, the closest follower being health care/social assistance at a mere 2,926 (Dubois County, "Labor," 2010). In the past five years, Dubois County's manufacturing industry employment has gone down by a reported 1,808 positions (Dubois County, "Labor," 2010). Unfortunately, the unemployment hardships recorded in Dubois County have become the norm across the country, again, resulting in higher community college enrollment.

A vast majority of my students are returning to school after a ten to twenty year hiatus from the classroom. After working in one of Southern Indiana's factories, many are now entering college for the first time between the ages of 30 and 60. Many do not own personal computers, do not have internet access at home, nor have been trained in the basic program functions of Microsoft Word. Oftentimes, the younger generations—18 and 19 year-olds that are planning to knock out their general studies courses before transferring to a larger institution or have their sights set on one of the two-year or four-year degrees that VUJC offers—come into my classroom feeling comfortable enough to navigate electronic library databases for research papers, know how to format their Microsoft Word documents according to the MLA style manual, can access Blackboard (the online class portal), and communicate well enough via email. These tasks, now considered "basic" at the college level, can be excruciatingly time-consuming, confusing, and altogether frustrating for many of my non-traditional students that did not have a close relationship with the computer and internet during their high school years.

One of the curriculum requirements or learning outcomes for a basic college composition course is to master setting up a document in either MLA or APA format (or both, in some cases) before entering junior and senior level courses. This has been a consistent and on-going struggle for my non-traditional students, most of

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[1] Of course, there are exceptions and outliers to this common trend; some non-traditional students do have a more expansive awareness and/or experience with computer technology than traditional students. This variable simply depends upon each student's life experiences, regardless of age, and, it should be noted, that this variable is not left unacknowledged.

whom attribute the problem to not having "grown up with computers." In a classroom where an 18-year-old online poker addict sits next to a 50-year-old laid off factory worker who has put together desks on an assembly line for the last thirty years, an obvious quandary emerges in terms of teaching methodology, delivery, and assumptions of prior knowledge. University professors are now faced with the terrible reality that they will either bore the 18-year-old Facebook enthusiast by taking pains to demonstrate a task as "simple" as how to access a file from a flash drive or risk leaving the 50-year-old factory worker floundering without the necessary instruction.

Even when instructors attempt to present a "happy medium" of technological instruction, the results are still highly unsatisfactory in meeting the needs of both groups of students. Miller and Lu describe this challenge of "how to marry the opportunities presented with an increasingly technologically savvy learning environment in an equitable fashion to all students" as one "facing the college administrator in general and the college instructor in specific" (2002, p. 6). In their study, Miller and Lu surveyed a group of professionals who work specifically with online education using three open-ended questions that had been developed by the Department of Instructional Technology at San Jose State University, and of those that responded, Miller and Lu found that the most common barriers identified, especially inhibiting non-traditional student success, consistently pointed to a lack of instructional and technical support (2002). Miller and Lu then posit that a definite need for change exists:

Non-traditional student service is certainly a key area for enhancing this segment of enrollment growth, and as the technology for reaching this market has become more sophisticated, faculty response strategies also need to become more sophisticated. Higher education is poised for a radical transformation, but this transformation must be driven at least in part by the academe's efforts to adapt to the changing environment in which it exists. (2002, p. 13)

Miller and Lu accurately pinpoint the current "radical transformation" occurring on community college campuses nationwide and the necessity for adaptation, but the flaw inherent in their conclusion concerns the adamant pinning of responsibility on "faculty response strategies" and then a vague gesture toward the "academe's efforts." The necessary efforts of "the academe" (and for the purpose of this discussion, community colleges), however, must be more clearly defined and aggressively approached.

The gap between theory and practical application has been historically difficult to bridge in higher education, but one of the most pressing issues currently facing faculty and students alike is one of shear feasibility: the necessary amount of classroom time needed to train non-traditional students in basic computer skills is plainly impossible while attempting to meet a semester-full of curriculum requirements. Yet the predicament, more often than not, continues to be placed on the shoulders of faculty members to be dealt with on an individual basis.

One obvious solution to combating the digital divide at a macro-level involves offering all in-coming students the opportunity to take a basic computer skills course. While the obstacles created by the digital divide within the current community college student body are not necessarily overlooked by higher education institutions, they are frequently dismissed for financial reasons or considered a problem that should be dealt with at a micro-level. Even with the dramatic increase in enrollment, community colleges still encounter the challenge of student retention. Slight economic fluxes in the job market, the attractiveness of four-year college facilities, and other life obligations often push and pull students in and out of enrollment. Community college budgets rely heavily on private funds and donations that may not be nearly as forthcoming in the current economic climate. Thus, the prospect of offering a basic computer skills course as an optional non-credit course is a less than attractive addition to the average community college budget. Students, who are already accruing a substantial amount of tuition debt, would be reluctant to enroll in an extra course that is not required for their degree program. Likewise, advisors would be less likely to suggest the course, knowing that degree credit is not awarded. For these reasons, legitimate or otherwise, community colleges have been remiss in providing the kind of technical support needed for their growing numbers of non-traditional students who do not possess basic computer skills prior to admission.

Work is, however, being done to implement technology into course curriculums and everyday lectures by making it available and widely accessible to faculty, administrators, and students, but this effort can, in most cases, be futile when the intended users are not properly prepared. Miller & Pope provide valuable insight into the problems that have begun to occur on campuses that are attempting to become technology-infused:

The conversation about technology, particularly within the past 10 years, has fluctuated between teaching enhancement and administrative functioning (Imel, 1996). The emphasis, particularly in community colleges, is now on how to provide better service to students, while enhancing the culture of learning for students via increased instructor access, better knowledge management, and distributed learning opportunities. The result in many instances has been widespread increased expectations of the knowledge levels of students to use and master computer-based technologies (Landt, Knazze, & Sud, 2001). Colleges report activities from using web-based registration and payment options, to providing an entire spectrum of student services online or through restricted mainframe access. At some urban community colleges, registration and payment are handled exclusively online, with student registration rooms provided that resemble large computer labs. Other colleges even provide (or require the purchase of) portable computers with the expectation that they will be the primary method of course note-taking and paper writing. Some schools provide wireless connections in classrooms so that lecture notes and presentations can be synchronized with portable computers as a lecture is given. The assumption college leaders have made is that new students can, or will, have the knowledge and skills level to navigate with an ease that will enhance their overall experience at college (Miller & Viajiar, 2001). At many community and technical colleges[,] this assumption is dramatic. (2003, p. 16)

Not only is this assumption dramatic, but expecting *all* students to thrive in a technology-driven environment is oftentimes tragic. In fact, the demands become so great and so frustrating that a few of my former non-traditional students felt that they had no choice but to drop out of college entirely. They felt that they "could not get the hang of this computer stuff" and "could not keep up with these young kids." Miller & Lu also call attention to this particular scenario: "The use and integration of technology, then, does not become an enabling variable in the college experience, but conversely becomes a detriment to persistence" (2002, p. 6). Without the proper approach, the marriage of technology to education, rather than preparing non-traditional students for the modern workplace, becomes a hindrance in meeting academic goals.

Even more than ten years ago, Mullendore (1992) anticipates problems associated with the age divisions of entering students and champions new student orientations as effective tools in solving associated problems (as cited in Miller & Pope, 2003, p. 18). Almost a decade later, Miller & Pope, after conducting a study on the effectiveness of new student orientations, agree with Mullendore's suggestion. Having thoroughly demonstrated their general "potency" in reaching students, they conclude that college orientation programs "are appropriate mechanisms for identifying expected levels of technology competence and use" (2003, p. 17). Essentially, Miller & Pope argue that emphasizing technological expectations during incoming student orientations will assuage the problems associated with the digital divide:

The digital divide, to a great extent, is particularly realized for many students who choose to enroll in community colleges. The challenge of technological savvy is realized from the perspective of both academic and academic support personnel. Instructors may find students less likely to have computing resources at home, and support personnel may be likely to find web access somewhat limited for these students. Therefore, it becomes a necessity that community colleges explore how they can introduce an appreciation and comfort for technology among their students. Through an orientation program, it would follow that community colleges will be able to define the student expectation of technology use and application. (2003, p. 18)

Traditionally, placing administrative emphasis on the importance of new student orientation has been the focus of four-year universities, but emerging studies demonstrate a clear connection between the emphasis and approach of new student orientation and new student success in two-year colleges as well, although Miller & Pope consider "the conversation about new student orientation in community and technical college" as only "just begun" (2003, p. 21). The conversation, indeed, must continue, but it cannot stop there.

When Miller and Pope conducted their study in 2003, they called attention to the fact that no standardization had taken effect in terms of what new student orientation programs should accomplish for community college students in particular. While certain aspects still have not been agreed upon at large (i.e. the necessity of campus tours, same-day class registration, pre-assignment of advisor meetings, course descriptions, student activities presentations, etc.), a notable recent development within the last five years is the common expectation of administering placement tests either during orientation or prior to official enrollment. Aside from national testing tools—namely the SAT and ACT—community colleges often use private or statewide placement

tests to determine which classes best fit an incoming student's aptitude. Based upon placement scores, students are placed in either developmental, standard, or accelerated courses with the hope that they will have a more successful academic journey by beginning on the most comfortable path.

Most community college placement tests cover mathematics, writing, and reading comprehension. VUJC, as well as Vincennes University's other campuses, collectively determines appropriate placement scores (and even update them yearly, if need arises.) Faculty advisors then place incoming students in courses according to placement scores in math, writing, and reading. These scores very nearly dictate an incoming student's entire first year of classes. While students often grumble when they are placed in development classes (which do not count for degree credit, but must be passed in order to enter the mainstream degree-credit classes), the resounding response—even if it is a few semesters belated—continues to be a sense of gratitude for having had the opportunity to "polish up" on skills that they now feel armed with as they prepare to enter standard and accelerated courses. In fact, I have had a number of students fail my developmental writing class, pass it on the second try, and move on to an English 101 course without struggling; those that are serious about pursuing a degree and need more help are far more likely to succeed via the developmental track, thankfully due to initial placement testing.

Not surprisingly, many of the students that benefit from placement tests, and thus, the developmental course track, happen to be displaced workers, returning to school after many years. Since curricula is always being changed, updated, and technologically-infused, many older students do find themselves initially disoriented, especially after having bid farewell to a mindset geared toward study skills, textbook reading, and solving complex problems after high school graduation, five, ten, twenty, thirty, or forty years ago. Coming back to school and functioning in a classroom setting is, understandably, difficult. While math, writing, and reading placement tests, already existent developmental programs, and academic support centers all aide in easing this process, one blaring challenge has been consistently left in the lurch: again, technological ineptitude. Even if new student orientations stress the importance of computer technology or provide preliminary instruction about basic computer navigation, as Miller & Pope (2003) suggest, such a derisory gesture cannot possibly offer non-traditional students the kind of technological support that most of them need. The solution lies, then, not in improving new student orientations, but in rectifying the neglect to include computer skills as one of the areas covered by placement tests[2].

An extensive study done in 2000 at Johnson County Community College (JCCC) in Overland Park, Kansas, recorded by S. Weglarz, is a good place to start to illuminate the promising results of such a placement test. The study was inspired by a growing faculty unrest concerning low student computer competency:

In response to comments made by faculty regarding students who enter classes at JCCC without rudimentary computer skills (and who must be taught by these instructors teaching other subjects), the Instructional Computing Planning Advisory Committee (ICPAC) began a discussion of the feasibility of determining what basic computer competences for entering JCCC students should be. (Weglarz, 2000, p. iii)

Nearly 85% of the responding faculty "indicated that students' computer skills are very or somewhat important in achieving success in the courses they teach or in successfully using the service they provide" (Weglarz, 2000, p. iv). In the 2011 academic year, I suspect that the percentage response from faculty would be even higher, considering the surge in technological implementation in the last ten years. Perhaps the most valuable outcome of the JCCC study in regard to the need for computer placement testing is Weglarz's perceived courses of action:

Through this survey, faculty/staff have identified the most important computer skills that students should have when entering JCCC. This information provides ICPAC with consideration of computer competency guidelines for entering JCCC students, development of a computer competency test (similar to the ASSET test) for incoming JCCC students, development of a Computer Resource Center at JCCC, and addition of a required "Intro to Computing" course to the curriculum. (2000, p. iv)

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[2] Some community colleges and four-year universities do have computer competency placement testing, but this is not a widespread national practice. Therefore, I argue that computer competency placement testing should be a national initiative for all higher education institutions.

Here, Weglarz proposes the kind of multi-faceted solution that would truly combat the problems associated with the digital divide.

CONCLUSION

In terms of practicality, requiring an introductory computer skills course as a pre-requisite to general studies courses (and thus upper level courses), pending the results of a computer competency placement exam prior to enrollment, is a necessity. It is the responsibility of higher education institutions to adequately gage and appropriately account for different levels of student preparedness upon initial enrollment. Therefore, in addition to math, writing, and reading placement tests, community colleges need to require that all incoming students take a basic computer skills placement test as well. Such a placement test would either exempt the student from taking the introductory computer skills course (thus fulfilling her degree credit requirement) or place her into the introductory course in which she will have the opportunity to learn the essential computer skills needed to function successfully in other courses alongside her peers. Of course, many community colleges already offer developmental courses in other major areas (math, writing, and reading) and would therefore be wise to offer developmental computer classes as well, which would allow students who need even more preliminary instruction at a slower pace feel more comfortable upon entering the standard introductory computer course.

Computer competency test scores, like other placement test scores, would be determined based upon institutional or state standards, and like current placement test scores, may have to be adjusted periodically to account for technological updates. The computer skills placement test would be strictly intended to appropriately place incoming students at a freshman and sophomore level, who must already take pre-requisites before entering upper level classes for their major. Additional competency testing may need to be put in place as a gateway technique for allowing students who have completed their general studies courses to enroll (depending upon their major or field of specialization) in highly specialized or technical courses that require more than what is considered "basic" computer skills.

Individual universities, then, would have to publish and circulate computer competency guidelines for all computer placement tests and provide technical and academic assistance, whether it is in the form of a learning center or student services at an information technology department, for students taking introductory computer courses. Even with community college budget woes considered, the necessity for bridging the digital divide is no longer an optional part of administrative decisions; rather, it is an obligation of higher education institutions to accommodate the students that they serve.

Currently, there exists a shocking absence of research devoted to implementing computer competency placement testing, particularly at the community college level, but the need for it is dire. Requiring computer competency placement testing and introductory computer skills courses as pre-requisites to general studies courses at all higher education institutions—especially community colleges because they continue to serve rising numbers of non-traditional students—would reconcile many of the fundamental problems associated with the digital divide at a practical level. Guy & Lownes-Jackson (2010) aptly perceive the realities involved in adequately preparing students, traditional *and* non-traditional, for the technology-driven job market:

As computer literacy requirements for most job levels increase, so does the need for more computer-literate employees. Appropriately, colleges and universities are becoming increasingly responsible for graduating students with skills and abilities necessary to compete in a rapidly changing technological environment (Banta & Howard, 2004). As technology permeates our society, the question remains whether college students and graduates are adequately prepared to use this technology. (p. 286)

Guy & Lownes-Jackson pose a poignant question, one that unfortunately still remains unanswered. The inundation of technology in the job market and academic world alike, coupled with the simultaneous rise in non-traditional student enrollment at community colleges, necessitates the implementation of practical strategies. Pre-enrollment computer competency placement tests and required introductory computer courses would effectively answer this call to prepare our students for academic and career success.

AUTHOR INFORMATION

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