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Editor’s Note

In the wake of the tragic and unimaginable events at Virginia Tech, many institutions revisited their emergency preparedness and business continuity plans to focus on communication strategies. Tracy Worsley and Don Beckering, Minnesota State Colleges and Universities System, describe why emergency preparedness in higher education must take an all-hazards approach and follow the four phases of emergency management including preparedness, response, mitigation, and recovery.

Many college admissions operations recompute high school GPA to obtain the best predictor of college performance, but faced with AP, IB, honors courses, and other outcome measures, what is the best way to calculate a weighed HSGPA? Philip M. Sadler, Harvard-Smithsonian Center for Astrophysics, and Robert H. Tai, University of Virginia, present evidence from college science courses that supports adding bonuses in the calculation of HSGPA.

For years, academic dishonesty has plagued faculty and administrators who now must try to keep up with new technologies used to capture and transmit data that contribute to academic misconduct. Dennis Bricault, North Park University Chicago, offers an overview of the legal aspects of academic dishonesty and provides recommendations to ensure due process, communication of policies, and the creation of a culture that demonstrates the value it places on academic integrity.

How can colleges develop recruitment and retention plans to enroll and ensure the success of a diverse student body, in particular Latino students? James Olive and Shane White, University of Dayton, provide a review of best practices in the literature and recommendations for institutions that seek to support students in the achievement of their academic goals.

Teaching and learning with technology has transformed higher education in the last decade, and Carol Twigg, National Center for Academic Transformation, has been a leader and advocate for online learning since the first microcomputers were introduced. Beth Clark, Boston College, interviewed Twigg at AACRAO’s Annual Meeting in Boston where they discussed issues ranging from career paths and mentors to emerging technologies and the global educational marketplace.

Institutions attempt to gain recruiting advantages in many ways including the use of new technologies such as document management systems. In the Forum section, Joe Head, Susan Blake, and Tom Hughes, Kennesaw State University, describe how KSU enhanced its virtual one-stop with a digital back office to streamline operations and improve customer service.

In the second in a series of articles, Sandra J. Lepley continues her focus on the functional role of the registrar by describing how the position has evolved in recent decades as a result of new technologies, enrollment management, and data-driven decision making.

The Millennial generation has characteristics that differ from recent generations, and they expect colleges and universities to deliver services and learning in nontraditional ways. Alicia Moore, Central Oregon Community College, describes the Millennial generation and suggests ways that institutions can alter learning, activities, and services to appeal to this talented, achievement-oriented generation.


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A Comprehensive Approach to Emergency Planning

The events of April 16, 2007, at Virginia Tech University are horrendous and almost unthinkable. Their sheer violence and the resulting high casualty rate cannot be understated: On this all agree. The immediate aftermath of any event that takes so many young and promising lives is, at best, chaotic and emotionally charged. Yet the time soon comes when reality sets in and we reflect on what needs to be done to preclude similar events from happening in the future—or at least to mitigate the possibility that they will. Emergency preparedness at the higher education level must take an “all hazards” approach; it must include preparedness for any contingency. It is essential that the traditional emergency management structure be used as a framework for higher education emergency planning. The four phases of emergency management should be reflected in the architecture of all planning efforts. These include preparedness, response, mitigation, and recovery. All of the phases overlap, are continuous, and affect the others. This represents the strategic view of the emergency planner as opposed to the individual first responder, known for having specialized and highly technical expertise. A key deficiency today is many local colleges and universities’ lack of emergency planning expertise. Hurricane Katrina and, tragically, recent events at Virginia Tech make it clear that every campus must be prepared for a number of contingencies.

All hazards emergency planning starts with a detailed hazard analysis. In recent years, the terms threat assessment, vulnerability analysis, risk assessment, and others have been used to describe the process. Regardless of the process title that is used, the steps are the same. Indeed, these steps are the foundation of emergency planning. The emergency planning process is best accomplished by a professional or someone schooled in the art of assessment from an all hazards perspective. The key is to have someone who has an emergency planning background, not someone who views things from a single, particular viewpoint. It is foolhardy to assume that any first responder, fire/police, or other single function professional can determine all potential hazards or risks. Emergency planning differs from law enforcement and fire protection planning (though these fields certainly overlap in overall emergency planning).

Some subtle differences in perspective should be adopted when planning a response to an incident similar to that at Virginia Tech. For example, when viewed from the perspective of law enforcement, such a situation requires a response which provides force adequate to neutralize the threat. Individual and team tactics, weapons, effective communication, knowledge of the law, and use of force are keys to success. This, however, is a purely tactical perspective. The other three phases of the emergency management cycle (mitigation, preparedness, and recovery) require a strategic approach (see discussion, below).

The first step in the hazard analysis process is simply to list all of the possible hazards that a campus—including students/faculty/staff—could be subject to. Both manmade and natural hazards should be listed; indeed, a hazard should be construed as anything that could negatively affect the safety and security of students, faculty, staff, or campus operations and the delivery of essential services—namely, educating. Recently, most emergency planners (or individuals charged with the task at the campus level) became intimately involved in planning for pandemic influenza. For some, this was their first taste of emergency planning. (It also is a great start to many of the required components of a solid all hazards plan.) Do not seek to rank or prioritize the possible threats; simply list them. Note that it may be helpful to group similar threats. For example, flooding as a result of too much rain (or other type of weather event) and flooding as caused by a broken sprinkler system pipe may be combined into a single “water event” category. Similarly, separate events such as a tornado and a thunderstorm may be more usefully categorized as wind events.

Tracy L. Worsley and Don Beckering
The next step is to conduct a vulnerability analysis. This is a simple prioritization of the list generated in step one. Utilize several criteria as you prioritize threats. (Several courses have been developed specifically to develop this skill, but even a novice can determine which threats would have a severe impact on campus operations, students, faculty, and/or staff.) Planners may determine that several events are likely to have an approximately equivalent impact on campus. That is fine; just determine which would have the most severe impact. (A more defined order will emerge in the next step.)

The final step of the process is to do a risk assessment. That is, determine the actual risk or possibility that the threats ranked in the vulnerability analysis will actually happen on your campus. (Certain technical formulas may be used, but they are beyond the scope of this article.) The determination made here will guide many related decisions, such as how in-depth a plan regarding particular threats may be needed and how much time, effort, and money will be spent preparing for the eventuality of such an event. The key is to not examine, plan for, and react to everything that is possible, but rather to prepare for the types of events most likely to affect your campus.

In recent years, it has become evident that media attention tends to drive the focus for emergency planning. This isn’t anything new, but for the experienced emergency manager, it can be problematic. The search for a quick solution after a sensational event can prove costly, wasteful, and inefficient. Money may be wasted on solutions that are neither interoperable nor flexible enough to address multiple hazards. The marketplace also makes available many technologies and levels of expertise, not all of which may be appropriate or necessary. Still another paradigm that is difficult to overcome is “It won’t happen here,” or “Why plan for something that may not happen?” Hazard analysis can help in this area because it shows very clearly what threats are likely and what their impact could be.

Another critical aspect of emergency planning is incorporation of the concepts and principles in the National Incident Management System, which is federally mandated through several Homeland Security Presidential Directives—namely, HSPD-5, HSPD-8, and HSPD-10. These directives require all agencies to develop an integrated system of emergency management utilizing the concepts and principles of the Incident Command System. They also require certain levels of training for those involved in any response; definitive levels of planning; and other requirements that emergency planners must incorporate into higher education plans.

The steps and processes described above are some of the keys to developing a reliable All Hazards Plan. It is not enough, however, to identify hazards and to determine how to prepare for, mitigate, and respond to an event. The fourth component of the emergency management cycle—recovery—is critical. In accordance with HSPD-8/10, recovery has been referred to as consequence management or Continuity of Operations. This part of the All Hazards Plan describes how the campus will return to normal operations. Many of the activities in this part of the overall plan likely would happen naturally, and many are actually quite simple. (It is noteworthy that the activities are considerably easier when they are thought of before an incident occurs. Consider the following example, from the Virginia Tech shooting: Even though only one hallway and four classrooms were directly involved, the entire engineering building was closed for the remainder of the semester. As a result, numerous classes had to be rescheduled to other locations. A good continuity of operations plan provides options.

So how does the All Hazards Approach apply to the Virginia Tech shooting, and what implications does it have for the future of emergency planning in higher education? Even a quick hazard analysis would suggest that a mass fatality/casualty incident is a possible hazard on any campus. In fact, in recent years, numerous violent acts have been committed on and off campus. Certainly these incidents are tragic, but only rarely do they gain national attention; instead, they have been perceived as violent individual crimes. In contrast, tragedies such as those that took place on April 17, 2007, grab the attention not only of our nation but also of the world; they defy our moral compass. So what are we to do?

The answer lies in the emergency management cycle. We have explained already that the response aspect is best left to law enforcement as it requires expertise and skill not possessed by the planner or the administrator. Nevertheless, the other three parts of the cycle may negate or at least mitigate the necessity of response. This—the focus of the emergency planner—has implications for many other threats faced by higher education institutions, particularly in the areas of notification and continuity of operations.

We begin with preparedness. Typically, preparedness has been focused on the individual who commits the crime. (Note that this is not an indictment of current efforts to identify, isolate, and treat students with the potential for violence; rather, such efforts are proving highly effective.) Far more than in primary and secondary education settings, higher education focuses on the individual...

The Final Report and Findings of the Safe School Initiative and the Threat Assessment in Schools (published by the United States Secret Service and the United States Department of Education) suggest that the focus has been on identification of and early intervention for individuals predisposed to committing a violent act. Like the Minnesota Department of Education report to the legislature, Advisory Task Force on School and Staff Emergency All Hazards Preparedness, February 2007, these documents are concerned primarily with violence in the K–12 setting. None of them adequately addresses the higher education institution’s response to individuals predisposed to committing violence.

The first reason for this is that they address a different group of individuals in different social situations. This is significant in terms of “control” of and contact with students. Whereas K–12 educational settings are characterized by...
almost continuous daily contact with students, higher education populations comprise adults who may have only minimal contact—e.g., weekly for a few hours or even monthly or less—with staff and faculty. Most contact is voluntary (attendance is rarely considered important in the sense of “control”), and classes are shortened in response both to research time and the availability of technology.

Another argument is that campuses—bastions of freedom—are meant to be open and inviting. (Safety and security and an open and inviting campus are not mutually exclusive.) In order to provide for the safety and security of all students, staff, and faculty, steps must be taken to offset differences between the K–12 and the higher education environments. The immediate control, duration of contact and options for mandating counseling or seeking other types of remedies is more limited when dealing with adults in a higher education setting. Technology holds many of the solutions to unobtrusive means of protecting and communicating with students, staff, and faculty. However, this requires a focus on the whole campus environment, not just on individuals prone to violence.

In preparing to meet threats to campus security, three areas equal in importance should be given immediate attention: physical security; communication; and training and exercise. Be certain to identify short-, medium-, and long-range goals within each area.

**Physical Security**

The first area to consider is physical security. Thorough and proper assessment of the physical environment (buildings, grounds, facilities, etc.) is required. More than a cursory evaluation of locks, cameras, and sensors, such assessment requires in-depth evaluation of layers of security and coverage of areas of vulnerability. This may be coupled with an evaluation of policy, process, and procedure (P3) relative to all-hazards response, as well as mitigation. For example, depending on the nature of the threat, three response actions are available to individuals in an education setting: During a fire, evacuation is the action required; if the threat is a tornado or other wind event, then relocation to a more structurally sound part of the facility is warranted; if a shooter is present within the facility, then lockdown is the preferred action.

The potential to waste resources or to purchase technology disproportionate to the threat is high. Technical expertise and threat evaluation, as well as understanding of the uniqueness of the higher education system, must be blended. The Minnesota State Colleges and Universities System has hired an Emergency Preparedness Manager with an extensive background in emergency response and physical security; his experience ranges from alarms and cameras, to response, to tactical armed response. He also holds a dual Master’s Degree in Public Administration and Business and Organizational Security Management, a field that emphasizes prevention over law enforcement.

In order to reduce all vulnerabilities, physical security solutions should be framed in a short-, medium- and long-range plan. The first area to examine is what is already in place. assess appropriateness and then identify gaps or deficiencies. The simplest areas to address in the short term are always policy-, process-, and procedure-type (that is, P3-type) solutions. Once this area has been addressed, consider simple, relatively inexpensive solutions and then more advanced solutions for future projects, either to retrofit existing facilities or during the design phase for new construction.

In preparing for a violent incident, keep three goals in mind: First, disrupt or “short-circuit” the actions of the perpetrator. Security perceived as too difficult or not worth the effort to breach may deter the perpetrator. (Sadly, in several recent cases, this would not have changed the outcome.) At Virginia Tech, the technique was to delay, divert, and otherwise decrease the effectiveness of the shooter. Once an event begins to unfold, there is little doubt that authorities are on their way: Time is running out. In very few (if any) of the recent incidents was there any indication that the perpetrator had made any plan other than to commit suicide or to be gunned down by police. Thus, anything that delays, diverts, or disrupts the activities of a shooter will save lives. For example, a locked door forces a decision to waste time or effort attempting to gain access to an area or to move on and engage other targets of opportunity. While this does not mean that a locked door will stop a crime altogether (particularly if the target is someone on the other side of the door), the placing of an obstacle (here, a lock) between the perpetrator and the potential victim(s) creates valuable time during which authorities may arrive and potential victims may make life-saving decisions.

**Communication**

The second area to evaluate is communication. Many solutions and an infinite number of technologies address this area. The key is to assess them from the same perspective as physical security and to avoid pitfalls that actually hinder effective communication. There must be a balance between notifying parents, the media, etc. that an event has occurred (or is occurring) and notifying those in immediate danger as well as the proper authorities. In actuality, notifying individuals not immediately or even potentially affected can easily confound the response. The arrival of people who “just want to help” or who are “just curious” causes immeasurable problems, as does an overload of the communication system caused by callers seeking information. As during a false fire alarm, responders can be made to waste valuable effort keeping everyone safe and secure while attempting to resolve the situation at hand. The first and foremost objective should be to remove the threat (though such removal may be delayed if other factors frustrate these efforts).

Clarity of message is a related concern and takes two forms: crafting a clear, concise message, and reaching the appropriate people with that message. A clear, concise message on which to take action is paramount. In a scenario like that which unfolded at Virginia Tech, lockdown is the action
of choice. (Anyone moving is a potential perpetrator, so evacuation and relocation are not desirable; neither is it desirable to have additional people moving toward the affected area.) The second issue is reaching the appropriate people with the appropriate message. Broadcasting the statement “Shooter on campus” does little to resolve the situation or to protect people. This again looks at campus policy, process, and procedure (3p) coupled with advanced communication technology and requires expertise or at least well-thought-out conclusions relating to possible scenarios and messages.

Training and Exercise

The third and final area to evaluate, assess, and take action on is training and exercise. Campus officials must be trained in two areas: Incident Command and the National Incident Management System. To be effective, instruction must be geared toward the higher education community and not necessarily the first responder. (The Fire/EMS/Safety Center is re-engineering instruction provided by the Emergency Management Institute (EMI) courses in this area. Delivery was expected by the end of May 2007, with the instruction to be tested at a metro campus.) The second training that would be beneficial for campus authorities is in the area of Risk Communication. Differing significantly from normal public relations, Risk Communication courses are available from the Centers for Disease Control, EMI, and a number of other agencies.

All of these efforts should be an integral part of the overall exercise and review process that is the focus of all hazards planning. Continuous review and update are required as new technologies, processes, and procedures are implemented to ensure that all vulnerabilities are appropriately addressed. This can be coordinated externally, through local response agencies, or internally, through drills, tabletop exercises, and functional or full-scale exercises.

Several such efforts were being pursued prior to this spring’s tragic events at Virginia Tech. In fact, many colleges and universities within the Minnesota State Colleges and Universities System were already involved in planning for such an event. Whereas some efforts require the mere addition of technology, others require shifts in policy, process, and procedure (3p).

All of the efforts described above fall into the preparedness and mitigation categories. The last part of the emergency management cycle, recovery, is best addressed in the Continuity of Operations portion of the emergency planning architecture. As noted above, this part of the All Hazards plan overlaps other portions and so should be initiated shortly after the response begins. Large events may dictate that certain things take place. For example, in a situation such as that at Virginia Tech, the need for information will be great.

Numbers and names of students, faculty, and staff potentially involved or affected; services required; recovery of infrastructure; and a myriad of other large and small things will need to be accomplished before normalcy can return.

Our reliance on information technology may not be an entirely good thing; highly technical courses requiring lab equipment, computers, and even trade equipment typically are not easily recreated or moved. Simply communicating information about class changes and locations can prove difficult. Preserving academic progression becomes a tremendous challenge when classes are cancelled or suspended for long periods of time. Even contractual obligations, from payroll to fuel oil delivery, maintenance, and transportation, can be affected. In each of these areas, well-thought-out Continuity of Operations plans can assist from the outset. Identifying possible recovery strategies before an event occurs is critical and ultimately saves time, money, and effort.

In no way is this article meant to be an indictment of any specific process or procedure at any campus. Rather, in light of recent events, it is intended to serve as a roadmap for the future. Particularly given the profound tragedy of recent events at Virginia Tech, we should seize the moment and focus our efforts on effectively and efficiently providing the safest and most secure environment in which to educate the next generation. The safety of our faculty, staff, and students is and must remain one of our highest priorities.

ABOUT THE AUTHORS

Tracy Worsley is the Emergency Preparedness Manager for the Minnesota State Colleges and Universities System. He received a Bachelor of Science Degree in 1983 from Penn State University. He enlisted in the United States Air Force in 1984 and served 20 years active duty. In 1997 he cross-trained into disaster preparedness, which included: nuclear, biological, chemical, and conventional defense; major accident response; and disaster response. Also during active duty, Worsley was a certified military instructor and obtained associate degrees in industrial security, instruction of military technology, and disaster preparedness from the Community College of the Air Force. Prior to retirement, Worsley completed a dual Master of Arts Degree in Public Administration and Business and Organizational Security Management. Before coming to MnSCU, he was a program coordinator for a grant-funded continuing education program in bioterrorism for healthcare professionals at the University of North Dakota. He also was an independent homeland security consultant and the Emergency Preparedness Coordinator for Clay County Department of Health.

Don Beckering is the State Director of Fire/EMS/Safety Training and the state director for Internal Safety and Compliance and Emergency Preparedness. He has more than 20 years experience as a leader in Fire/EMS/Safety training in Minnesota’s College System and 30 years experience in fire service in the state of Minnesota. He has a Master of Education Degree in Industrial Education, with an emphasis in administration, a Bachelor of Arts Degree in Biochemistry, and a diploma in fire science technology. Beckering serves on the National Fire Academy Credentialing Task Force, which works with the Department of Homeland Security in the development and implementation of the national credentialing system that will support the National Incident Management System (NIMS). He also works for the Department of Homeland Security on its Homeland Security Professional Development Higher Education Committee.
Accounting for Advanced High School Coursework in College Admission Decisions

Evidence from college science courses supports the incorporation of letter-grade bonuses into the calculation of high school GPA: one-half for honors courses, one for AP courses, and two for students who earn a three or higher on an AP exam.

Philip M. Sadler and Robert H. Tai

Each January, the flood rages anew: A torrent of applications, transcripts, test scores, and recommendations flows in to be read, considered, compared, grouped, presented, and rated. Each item plays a vital role in admission to colleges and universities. Although weighting differs by institution, all seek to gauge whether a student can navigate the shoals of academia and emerge—a graduate—on the far shore. Generally, grades earned in high school are viewed as the best predictors of college performance (Noble and Sawyer 2004). The aggregate high school grade point average (HSGPA) sums up pre-college preparation and performance.

The majority of colleges and universities recompute HSGPA, eliminating courses viewed as superfluous and accentuating those deemed to be advanced (Hawkins and Clinedinst 2006). The remaining colleges rely upon the HSGPA forwarded by an applicant’s high school, accepting that the majority add “bonus points” for advanced coursework (Cognard 1996; Dillon 1986; Jones 1975; National Research Council 2002). Yet research concerning the validity of the variety of systems advocated for calculating HSGPA is quite meager (Sadler and Tai 2007). Nearly all of the variation in calculation of HSGPA relates to the treatment of advanced coursework. Taking honors, International Baccalaureate™ (IB), or Advanced Placement™ (AP) courses demonstrates a student’s ability to do advanced work while still in high school, implying greater readiness for college. Typically, such courses are taken by the most apt high school students. It is believed to be more difficult to earn a high grade in the midst of such (presumed) competition; as a result, HSGPA is adjusted.

Often, honors courses are products of a high school’s lengthy tradition (or of a particular teacher) and are characterized by curricular freedom to choose texts, topics, and teaching methods (Herr 1993). Honors courses usually allow for extensive time to be spent in the laboratory and are viewed by their teachers as helping to sharpen students’ analytical thinking skills. They often require project work and student reports. In some schools, an honors course is a prerequisite for enrollment in an Advanced Placement course; in others it is the highest-level course offered (Herr 1991a; Herr 1991b).

The AP program has expanded over the last 50 years to involve 1.2 million students taking 2.1 million AP exams in more than 32 subjects (Camara, Dorans, Morgan and Myford 2000; College Entrance Examination Board [College Board] 2005a; Hershey 1990; Rothschild 1999). Increasingly, students apply to college with AP courses on their high school transcripts. In 2006, 61.6 percent of college freshmen reported that they had taken at least one AP course, and 14.9 percent took five or more AP courses (Hurtado and Pryor 2007). In addition, the percentage of students taking AP examinations prior to their senior year in high school has surged by 5.4 percent in the last five years, to 47.7 percent in 2006 (College Board 2006). The average pass rate (three or greater on a five-point scale) on AP exams in the sciences exceeds 60 percent. We estimate that 73,000 college applicants in 2007 will submit a passing AP exam score in science.

While college admissions officers consider AP enrollment a plus, the College Board recognizes only students who earn an exam score of three or higher as having mastered the course content. “AP passers” represent fewer than half of students enrolled in AP courses; the remainder either do not pass (i.e., they score a two or less) or they opt out of taking the exam. An estimated 30 to 40 percent of students enrolled in AP courses choose not to take the AP exam (National Research Council 2002, p.18). The letter grade awarded by an AP teacher (listed accordingly on a student’s high school transcript) does not appear to be a proxy for an AP exam
Many students earning high course grades do not perform well on the AP exam (Hershey 1990); some suggest this is evidence of a decrease in quality as the program has grown (Lichten 2000). Others argue that the quality of AP courses varies considerably (Honowar 2005). We see an opportunity to reconcile high school course rigor, grade earned, and AP exam scores, particularly as “it is anticipated that [AP and International Baccalaureate] examination scores may play a greater role in the admission process in the future.” (NRC 2002, p.57)

Prior Research
The calculation and role of HSGPA are of considerable interest to college admission officers. Many arguments have been made in support of honors and AP courses: for example, students more authentically experience the kind of learning characteristically required in college (Venezia and Kirst 2005). Accounting for the rigor of a high school’s academic program helps explain the variance in the GPA of college freshmen, supporting the use of course rigor in making admissions decisions (Bassiri and Schultz 2003; Lang 1997). Accounting for high school performance also can balance out the gender bias evidenced in standardized tests (Bridgeman and Lewis 1996; Bridgeman and Wendler 1991; Gallager and Kaufman 2005; Wainer and Steinberg 1992). College admissions officers rank AP course enrollment above SAT II scores in importance (Breeeland, et al. 2002); college admissions officers prefer weighted HSGPA, even when their admissions policies do not state a preference (Seyfert 1981; Talley and Mohr 1993). Applicants from high schools that do not weight advanced courses can be at a significant comparative disadvantage if the colleges to which they apply do not recalculate HSGPA (Lockhart 1990; Rutledge 1991) or emphasize high school rank-in-class in their admissions decisions (Downs 2000).

Researchers have found that weighted HSGPA predicts first-year college GPA better than non-weighted HSGPA (Bridgeman, McCamley-Jenkins and Ervin 2000; Dillon 1986). Several studies have found that students who have taken AP coursework have higher college GPAs (Burton and Ramist 2001; Chamberlain, Pugh, and Shellhammer 1978; Morgan and Ramist 1998), but this result is highly dependent upon the research methodology employed—and particularly on the inclusion of control variables such as standardized test scores, ethnicity, and community affluence (Geiser and Santelices 2004). AP exam scores in important introductory science courses can be at a significant comparative disadvantage if the colleges to which they apply do not recalculate HSGPA (Lockhart 1990; Rutledge 1991) or emphasize high school rank-in-class in their admissions decisions (Downs 2000).

Grade inflation in U.S. high schools is well documented and is problematic in terms of college admissions decisions (Woodruff and Ziomek, 2004). In 1968, only 18 percent of high school seniors had an “A” average; in 2004, nearly half—47 percent (Cooperative Institutional Research Program [CIRP] 2005; Kirst and Bracco 2004)—had an “A” average. Grade inflation is particularly evident at the higher end of the academic scale, where the resulting “ceiling effect” makes it difficult to distinguish among high-performing candidates (Ziomek and Svec 1997). Weighting of AP courses extends the statistical tail of the GPA distribution at the high end, making differences among candidates more readily apparent.4

Although colleges and universities utilize a variety of methods to differentiate among applicants of diverse academic backgrounds, the research literature includes no analytical approach to the calculation of a weighted HSGPA which includes advanced coursework and AP examination scores. The purpose of the current study is to investigate the feasibility of accounting for student performance in advanced high school coursework through the adjustment of HSGPA while separating out variables that are independently considered in the admission process, e.g., SAT/ACT scores, community affluence, type of high school, and race/ethnicity.

Methods
This study relates three variables: high school science grade, high school course level (i.e., regular, honors, Advanced Placement), and AP examination score. These three are compared, using as a common metric how well students perform in their introductory college biology, chemistry, or physics coursework. It is assumed that the college grade earned should reflect high school achievement, coursework, and AP exam performance. This analysis is possible because at many colleges, students repeat, rather than “place out” of, their introductory science course, even if they scored well on an AP exam (Ferrini-Mundy and Gaudard 1992; Willingham and Morris 1986). As a group, these “retakers” cannot be dismissed as students who had performed poorly in their AP courses. Forty-five percent of these AP students reported that they took the AP exam; their mean score was 3.05, compared to 2.99 for students who took the exam nationally in these subject areas (College Entrance Examination Board 2005b); and 70 percent of students had earned a grade of “A” in their AP course. The reasons students gave for “retaking” this introductory course were varied:

- Student concern about solidifying their grasp of basic concepts
- Advice from academic advisors and upperclassmen
- Not attaining the departmental requirement of an AP score of 4 or 5
- Not earning a high enough score on the departmental placement exam

4 For students in our study, weighting of their science coursework pushed 9% of student GPAs beyond the 4.0 level.

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1 The correlation between the two is a relatively low 0.336 for the 964 students in our study reporting both.
2 The College Board has responded by implementing an “audit” of high school AP offerings aimed to “...help colleges and universities better interpret secondary school courses marked AP on students’ transcripts (College Board, 2007, p.3).”

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The Survey Instrument
In the first two weeks of their introductory science course, science professors distributed a four-page, machine-readable survey. Revised after two sets of pilot studies so as to refine items relating to high school science experiences (e.g., lab frequency and freedom; classroom activities; homework and other assignments; and time devoted to particular scientific concepts), it also collected information relating to students' personal background and high school. Research papers utilizing these data include the teaching of chemistry (Tai, Sadler and Loehr 2005; Tai, Ward, and Sadler 2006); block scheduling (Dexter, Tai and Sadler 2006); class size (Wyss, Tai, and Sadler, 2007); science activities (Tai and Sadler 2007, in press); high school grade-point-average (Sadler and Tai 2007); student autonomy (Tai, Sadler, and Maltese, in press); performance in college science courses (Sadler and Tai 2007, in press); and preparation for success in college science (Tai, Sadler and Mintzes 2006). An earlier study (Sadler and Tai 2001) found a significant effect on the earned college grade depending on the college year in which students took the course. In particular, graduate students enrolling in an introductory course tended to perform well.

As is common when employing epidemiological methods, subjects self-reported most variables (e.g., high school grades, coursework, and AP experience). College students’ self-reports of course taking, grades earned, and standardized test scores have been well studied and tend to be highly accurate (Anaya 1999; Baird 1976). This is especially true of reported enrollment in unambiguous content-specific courses (e.g., chemistry vs. “other history”) and for higher-performing students (Sawyer, Laing and Houston 1989). We utilized best practices in survey design, attending to the quality and specificity of survey items, in order to optimize accurate recall (Bradburn, Rips and Shevel 1987; Groves 1989; Niemi and Smith 2003; Pace, Barahona and Kaplan 1985). We conducted our own reliability test by having 113 college chemistry students take the same survey two weeks apart. The similarity of responses was well within the acceptable range for survey research.

The Sample
This study is one component of Factors Influencing College Science Success (FICSS), a federally funded national project that includes interviews and surveys of college science students, high school science teachers, and professors of biology, chemistry, and physics (interviews are accessible online at www. ficss.org). In total, we collected data from more than 15,000 students at 63 randomly selected colleges and universities stratified by size to match the proportional enrollment at small (enrollment less than 1,000 students), medium, and large (enrollment greater than 10,000 students) institutions. For the purposes of our analysis, we limited our sample to first-semester, introductory biology, chemistry, and physics courses fulfilling graduation requirements for science or engineering majors. These 133 courses at 56 universities and colleges had a mean enrollment of 69 students and varied in enrollment from five to 508 students. We chose for our analysis the 113 courses in which enrollment was greater than ten students. Professors were eager to be involved in this project, particularly as other outcomes included identifying pedagogies and activities that best prepare high school students for success in college science courses.

Our sample comprised 40 percent chemistry, 30 percent physics, and 30 percent biology students. Approximately half took a regular course in high school; one-quarter took an honors course; and one-tenth had enrolled in an AP course. The one-sixth of the sample who had not taken a high school-level course in the subject were not included in the analysis, nor were foreign students as nearly all had attended schools that did not follow the year-long course model in place at most U.S. high schools. Neither did we include graduate or special students taking these introductory courses. Thus, the number of students in the resulting sample totaled 6,910. Professors varied in terms of their grading stringency. The average grade awarded in college courses was 81.0 (S.D. of mean course grade = 4.9) out of a maximum of 100 points.5 Unable to equate grading standards across institutions, we analyzed differences within institutions by employing a separate dummy variable for each.

Students taking introductory science courses appeared to have done well in the relevant high school science subject, with 57 percent having earned a grade of “A” (see Figure 1). AP students in particular had performed better than other students, having earned higher grades, having taken more mathematics courses, and having attained higher standardized test scores. Only 1 percent of students who enrolled in college science courses had earned grades lower than a “C” in their high school biology, chemistry, or physics courses in the same subject.

5 Where letter grades were reported, they were converted using the assignment: A+ = 98, A = 95, A- = 92, B+ = 88, etc.
Table 1: Variables and Their Significance for Four Models Relating High School Course Rigor and Grade

<table>
<thead>
<tr>
<th>Variable</th>
<th>DoF</th>
<th>Raw Data</th>
<th>+Professor</th>
<th>+SAT/ACT</th>
<th>Full Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>1</td>
<td>≤0.001</td>
<td>≤0.001</td>
<td>≤0.001</td>
<td>≤0.001</td>
</tr>
<tr>
<td>Honors Course</td>
<td>1</td>
<td>≤0.001</td>
<td>≤0.001</td>
<td>≤0.001</td>
<td>≤0.001</td>
</tr>
<tr>
<td>Advanced Placement</td>
<td>1</td>
<td>≤0.001</td>
<td>≤0.001</td>
<td>≤0.001</td>
<td>≤0.001</td>
</tr>
<tr>
<td>AP Exam score ≥3</td>
<td>1</td>
<td>0.008</td>
<td>≤0.001</td>
<td>≤0.001</td>
<td>≤0.001</td>
</tr>
<tr>
<td>HS Grade in Science Subject</td>
<td>1</td>
<td>≤0.001</td>
<td>≤0.001</td>
<td>≤0.001</td>
<td>≤0.001</td>
</tr>
<tr>
<td>Professor</td>
<td>112</td>
<td>≤0.001</td>
<td>≤0.001</td>
<td>≤0.001</td>
<td>≤0.001</td>
</tr>
<tr>
<td>College Year</td>
<td>3</td>
<td>≤0.001</td>
<td>0.043</td>
<td>0.092</td>
<td></td>
</tr>
<tr>
<td>SAT Quantitative</td>
<td>1</td>
<td>≤0.001</td>
<td>≤0.001</td>
<td>≤0.001</td>
<td></td>
</tr>
<tr>
<td>SAT Verbal</td>
<td>1</td>
<td>≤0.001</td>
<td>≤0.001</td>
<td>≤0.001</td>
<td></td>
</tr>
<tr>
<td>Race/Ethnic Group</td>
<td>4</td>
<td></td>
<td></td>
<td>≤0.001</td>
<td></td>
</tr>
<tr>
<td>Mean Ed. Level of Community</td>
<td>1</td>
<td></td>
<td></td>
<td>≤0.001</td>
<td></td>
</tr>
<tr>
<td>Type of High School</td>
<td>8</td>
<td></td>
<td></td>
<td>0.001</td>
<td></td>
</tr>
<tr>
<td>Highest Math Level in High School</td>
<td>2</td>
<td></td>
<td></td>
<td>≤0.001</td>
<td></td>
</tr>
<tr>
<td># of Subjects</td>
<td>6,910</td>
<td>6,910</td>
<td>6,493</td>
<td>6,368</td>
<td></td>
</tr>
<tr>
<td>R^2</td>
<td></td>
<td>12.1%</td>
<td>24.7%</td>
<td>30.4%</td>
<td>32.4%</td>
</tr>
</tbody>
</table>

Graphing the mean college science grade by high school grade in each course type reveals substantial differences (see Figure 2). The patterns are quite clear: Students with higher grades in a high school science subject also had higher average grades when they took the subject in college. Each increase in high school letter grade averages to a 4-point difference (out of 100) in college grade, or a little less than half a letter grade. The increase in course rigor from a regular course to an honors course represents a 2.5 point difference. The difference in rigor between honors and AP courses adds an additional 3.5 points. Students who take and pass the AP exam with a score of 3 or above average a college grade 1.7 points higher than those who do not pass the AP exam. Of course, these observations do not take into account the different numbers of students in each group (they also ignore students who earned a grade lower than a “C”). Instructive as this graph is, it also is misleading as other measures that are considered along with course grade and level are also part of the admissions process. It is only by accounting for these other variables that more valid estimates of the impact of high school course-taking and performance can be made.

**Analysis**

Multiple linear regression is the proper tool for the proposed analysis because it establishes the predictive power of variables while holding others constant, isolating the effect of conditions that may co-vary. In this case, we want to separate the highest level of high school rigor (regular, honors, taking AP, or passing the AP exam) from the grade earned (A, B, C, D, or F) in high school biology, chemistry, or physics. By doing this while controlling for other variables considered in admission decisions, a “point bonus” could be calculated. We developed five models to predict college grade, accounting for an increasing number of relevant factors, including:

- **Raw Data.** Uses high school course rigor and letter grade only.
- **+Professor.** Adds in college course and college year.
- **+SATs.** Adds in SAT or ACT scores.
- **Full Model.** Adds in race/ethnicity, mean educational level of the community, type of high school, and highest mathematics level in high school.
- **Weighted Model.** Adjusts for differences between national AP exam frequencies and observed enrollment in introductory science courses.

The **Raw Data Model accounts** for 12.1 percent of the variance in college grade in introductory biology, chemistry, or physics. The **+Professor model** accounts for variation in grading severity by professor, in essence normalizing college grades to have identical means for each course. We also included college year, since older students have more experience dealing with college life and other stresses that may affect their grades. (On the other hand, less-well-prepared students often delay taking required science courses.) The **+SAT/ACT model** adds in SAT and ACT scores measuring quantitative and verbal achievement. (These measures are independent of high school grades.) ACT scores are converted to the SAT scoring scale using a concordance study (Dorans 1999). In the **Full Model**, four additional variables were added: Three serve as proxies for students’ socioeconomic status: race/ethnicity, mean educational level of the community (attained by matching student-supplied zip codes with U.S. Census data), and type of high school (e.g., private, public, charter, etc.).
Table 2: Increase in College Science Performance Associated with One Letter-Grade Increase in High School Science Grade and with High School Course Rigor

<table>
<thead>
<tr>
<th></th>
<th>Raw Data</th>
<th>+Professor</th>
<th>+SAT/ACT Scores</th>
<th>Full Model</th>
<th>Weighted Model</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coefficient</td>
<td>Bonus</td>
<td>Coefficient</td>
<td>Bonus</td>
<td>Coefficient</td>
</tr>
<tr>
<td>HS Letter Grade</td>
<td>4.70 (0.18)</td>
<td>4.57 (0.18)</td>
<td>3.69 (0.18)</td>
<td>3.44 (0.18)</td>
<td>3.41</td>
</tr>
<tr>
<td>Honors</td>
<td>2.16 (0.29)</td>
<td>0.46</td>
<td>2.66 (0.29)</td>
<td>0.58</td>
<td>1.73 (0.29)</td>
</tr>
<tr>
<td>AP</td>
<td>4.81 (0.49)</td>
<td>1.02</td>
<td>4.78 (0.47)</td>
<td>1.05</td>
<td>3.71 (0.46)</td>
</tr>
<tr>
<td>AP Exam ≥3</td>
<td>7.15 (0.77)</td>
<td>1.52</td>
<td>8.57 (0.75)</td>
<td>1.87</td>
<td>6.51 (0.73)</td>
</tr>
</tbody>
</table>

This calculation was performed for each group within each model and represents the number of “bonus points” or “fraction of a letter grade” one would add to a student’s science grade for being in each advanced course.

The distribution of AP exam scores among the students in our study suggests that higher-scoring students may bypass the introductory course and lower-performing students may choose not to take the college course. To account for this difference, we weighted the full model to make up for the shortfall of students in these categories and to more accurately reflect the fact that the population of students applying to college differs somewhat from that of students who choose to take an introductory science course. This weighting produces coefficients not significantly different from the full model (see Table 2).

The results proved remarkably similar for each group over the five models generated: one-half a bonus point for an AP course, one point for an AP course, and two points for passing an AP exam. Alternatively, a GPA bonus could be added to the overall HSGPA by assuming that students take five year-long courses for each of the four years (per a total of 20 courses) in high school. This would add 0.025 to the HSGPA for an honors course, 0.05 for an AP course, and 0.10 for passing an AP exam.

Plotting the two variables (Δ in college grade related to HSC course rigor and Δ in college grade related to Δ of one HS letter grade) presents the data in a particularly useful form (see Figure 3). The relationships show up even more clearly, as do the estimated errors. For this graph, each axis is measured in units of 1 point on a 100-point college grading scale, with an A equal to 95 points and a B equal to 85 points. Each diagonal line represents a “bonus point” value. The example calculated above is plotted as the “Raw Data honor course” and is represented by the closed diamond lowest and farthest to the right on the graph. (It is near the diagonal line labeled “½

**Figure 3:** Comparison of calculated bonus point values by high school course rigor.
Bonu$ Point.") Each set of four points representing High School Course Rigor is clustered along a diagonal. The inclusion of more variables in each regression model generally forces the data points downward and leftward. Each additional group of variables explains some additional bit of the predictive value of high school course grade and high school course rigor. The Full Model, Weighted appears only minimally different from the full model.

In summary, two variables were found to correspond to substantially better performance in college science courses: increasing rigor of high school science experience and higher grades in high school science courses. These two variables can be related to each other using relative improvement in college grade as a common metric. The results are stable even with the inclusion of control variables—variables typically treated separately in the admissions process. In units of high school letter grade, an honors course in the subject corresponds to an increase of one-half of a letter grade and an AP courses corresponds to an increase of one letter grade; for students who pass the requisite AP exam, the grade level equivalent is two additional letter grades.

Discussion
Many educators proclaim the benefits of taking advanced courses in high school over less rigorous alternatives, despite the possibility that a student may earn lower grades (Adelman 1999; Rose and Betts 2001; Venezia et al. 2003). The award of bonus points added to earned grades in advanced science courses ties together grading scales in different kinds of courses, purposefully combining two related variables into a single measure. We explored four different models for doing this based on the inclusion of other factors often considered separately in admissions decisions. The fact that the calculated bonus values remain relatively unchanged is evidence that the taking of advanced coursework (or passing an AP exam) can be disassociated from other measures commonly used in admissions. Our models account for information typically available to college admissions officers and exclude other measures that typically are unavailable (e.g., parental education, family income).

This study cannot be interpreted as evidence that advanced coursework contributes to student performance in college science courses per se, only that they are a significant predictor of performance. Apart from including other variables in regression models, one cannot know if better performance is the result of greater student motivation, better preparation prior to taking advanced coursework, parental education, teacher quality, or a multitude of other variables (Dougherty, Mellor and Jian 2006). Moreover, “...like all educational interventions, AP is not a panacea” (Bleske-Rechek, Lubinski and Benbow 2004, p.220). If students are ill-prepared, advanced coursework may be unproductive and even may have deleterious effects (Bleske-Rechek et al. 2004; National Research Council 2002) It is beyond the scope of this paper to examine this issue (see Sadler and Tai 2007, in press, for a discussion) given that our primary concern was to utilize high school grades and course rigor to predict performance in college courses.

Some may view to our recommendations as contributing to a “two-tiered educational system” (Dupuis 1999, p.1) whereby students of higher socioeconomic status (SES) have more access to advanced courses and thus might garner more bonus points and higher HS GPA’s as a result (Burdinan 2000).

High schools in wealthier communities and elite private schools do offer advanced coursework with greater frequency. Students who do not have the opportunity to take advanced high school coursework would be penalized by the kinds of admissions policies recommended in this paper unless an adjustment were made for the lack of advanced course offerings (Dupuis 1999). It is the authors’ view that admission to our nation’s colleges and universities should not be based on academic indicators alone. Institutions of higher education benefit from having a diverse student body. However, those determining access to higher education should not shy away from using the most valid measures available for estimating students’ academic success. Just as SAT scores are correlated with SES, they are still utilized in admissions decisions (Belz and Geary 1984). We present in this paper a defensible method to ascertain the relative strength of applicants’ academic preparation. Should an institution decide to accept students who are less well-prepared academically, it behooves them both to offer support programs and to adopt retention strategies designed to help compensate for these differences (Marable 1999).

The method presented here for combining two admissions variables into one utilizes performance in introductory college science courses as a common metric. The same technique could be used with other metrics, e.g., SAT II scores in particular disciplines or exams used by colleges for placement into different levels of academic courses. If similar bonus point values result, this would add to the evidence supporting this approach to the recasting of HS GPA. The current study explored only science coursework and grades. While it may be attractive to generalize to advanced coursework in all fields, there is no reason to believe that similar findings would result. Moreover, the use of larger datasets than ours would serve to determine whether advanced biology, chemistry, and physics high school courses should be treated differently.

Acknowledgements
The authors would like to acknowledge those who helped make this large research project possible: Janice M. Earle, Finbarr C. Sloane, and Larry E. Suter of the National Science Foundation for their insight and support; James H. Wandersee, Joel J. Mintzes, Lillian C. McDermott, Eric Mazur, Dudley R. Herschbach, Brian Alters, and Jason Wiles of the FICCS Advisory Board for their guidance; and Nancy Cianchetta, Susan Matthews, Dan Record, and Tim Reed of our High School Advisory Board for their time and wisdom. This research has resulted from the tireless efforts of many on
our research team: Michael Filisky, Gerhard Sonnert, Hal Coyle, Cynthia Crockett, Bruce Ward, Judith Peritz, Annette Trenga, Freeman Deutsch, Zahra Hazari, Jamie Miller, John Loehr, Adam Maltese, and Marc Schwartz. Matthew H. Schneps, Nancy Finkelstein, Alex Griswold, Tobias McElheny, Yael Bowman, and Alexia Prichard of our Science Media Group constructed our dissemination Web site (www.sciencesites.org). We also appreciate advice and interest from several colleagues in the field: Michael Neuschatz of the American Institute of Physics; William Lichten of Yale University; Kristen Huff and Trevor Packer of the College Entrance Examination Board; Charles Alcock, Irwin Shapiro, William Fitzsimmons, Marilyn McGrath Lewis, and Georgene Herschbach of Harvard University; Rory Browne of Boston College; and Kristen Klopfenstein of Texas Christian University. We are indebted to college and university professors nationwide who felt it worthwhile to administer our surveys and to their students for their willingness to answer our questions. This work has been carried out under a grant from the Interagency Educational Research Initiative (NSF-REC 0116499). Any opinions, findings, and conclusions or recommendations expressed in this material are those of the authors and do not necessarily reflect the views of the National Science Foundation, the U.S. Department of Education, or the National Institutes of Health.

References


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Robert H. Tai is an Assistant Professor of Science Education at the Curry School of Education at the University of Virginia. His current research includes statistical studies of the impact of high school learning experiences as measured by student performance in introductory college science. Mr. Tai’s research includes the study of eye-gaze behaviors as a measure of scientific expertise and the study of the transition from graduate student to research scientist. Mr. Tai’s past work includes analysis of ethnic/social differences in high school science education persistence and gender differences in physics education. Critical Ethnicity: Countering the Waves of Identity Politics (1999) is an edited volume among his publications. Mr. Tai currently teaches science education for the science elementary school teachers; his interest in this area grew out of his work at the College of Staten Island of the City University of New York. Mr. Tai also has served as an editor of the Harvard Educational Review and as a high school physics teacher.

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Legal Bases for Dealing with Academic Dishonesty

Academic dishonesty poses a threat to the goals of every educational institution. This article draws heavily from current literature and case law to provide an overview of academic dishonesty, paying particular attention to associated legal aspects, such as due process, the content and communication of policies, sanctions, prevention, and detection.

“This is superior work,” wrote a professor on a student’s paper. ‘It was excellent when Saint Thomas Aquinas wrote it, just as it is today. Saint Thomas gets an A. You get an F” (Alschuler and Blimling 1995, p.123).

Academic dishonesty is of great concern to educators, administrators, and students alike. On the surface, it appears to be a straightforward problem of outlining and enforcing a strict code of honor: Faculty delineate the parameters of acceptable behavior, communicate these policies to their classes, expect students to adhere to the guidelines, and enforce penalties for various types of infractions. However, when administrators delve into the legal aspects of academic dishonesty, the once-clear waters suddenly become murky. To begin with, there is not universal agreement as to what constitutes academic dishonesty: what some call cheating, others call collaboration. Further, policies are not always clearly written or well communicated. In addition, faculty are faced with the difficult decision of whether to handle instances of cheating on their own or to follow stated procedures and refer the student to a disciplinary committee. Finally, faculty and administrators must be very careful not to violate students’ due process rights.

This article provides an overview of key legal bases that inform institutional procedures pertaining to academic dishonesty. The goal is to enhance faculty and administrators’ awareness of due process and of the need to communicate policies in a timely and consistent manner.

Overview of Academic Dishonesty

When dishonesty in the classroom is discussed, most teachers and students think first of cheating, “the academic equivalent of urban crime” (Alschuler and Blimling 1995, p.123), which encompasses a laundry list of unacceptable behavior, such as copying or using unauthorized sources or aids while completing tests and assignments. Other forms of academic misconduct (Maramark and Maline 1993) abound, including plagiarism, falsification, and misrepresentation (Dames 2006; Hatch 1992; Maddox 1995; Roig and Caso 2005). Perhaps the most recent form of academic dishonesty stems from the misuse of technology—the Internet, in particular (Applebome 1997, p.1; McCollum 1996; Ross 2005)—which makes it tempting easy for students to plagiarize papers by cutting and pasting passages from web pages (Hansen 2003; Malesic 2006; Ross 2005; Smith, Dupre, and Mackey 2005). In the classroom, misuse of technology increasingly involves cell phones equipped with cameras and text-messaging capabilities (Van Sack 2004). In short, academic dishonesty can be viewed as a range of deliberate, unacceptable behaviors that students use to gain an unfair advantage on tests and assignments (Northwestern University 2006; Nelson 1995).

Several general studies have examined the prevalence of cheating on many campuses. In his ambitious 1964 project involving 5,000 students at 99 institutions, Bowers (1964) reported that 75 percent of participants had cheated in some way at least once. More recent studies (Birchard 2006; S. Davis 1993; May and Loyd 1993; McCabe, Butterfield, and Trevino, 2006; McCabe and Trevino 1993, 1996) described increases in instances of academic dishonesty.

A few studies have focused on the causes of academic dishonesty, which include social pressure and personal values (Stevens and Stevens 1987), stress, grades, time, workload, and course difficulty (S. Davis 1993; Lipson and McGavern 1993); peer pressure, a high rate of return (i.e., less personal effort, low risk of getting caught, weak sanctions), a value system that “do[es] not prohibit cheating” (Payne and Nantz 1994, p.93); unfair and/or overly demanding professors (McCabe and Trevino 1993); the fear of imminent failure (“Your Cheatin’ Heart” 1992); and the belief that collaboration enhances the learning process (Lipson and McGavern 1993).
Doubtless there are more reasons that students are academically dishonest, but a shorter working list covers the majority of cases. McCabe and Trevino (1993) identified five main factors that influence academic dishonesty: peers’ behavior, the existence of an honor code, the severity of penalties, the certainty of being reported, and the understanding of the institution’s policy on academic integrity. The most strongly associated variable was found to be peer behavior, which “may suggest that academic dishonesty not only is learned from observing behavior of peers, but that peers’ behavior provides a kind of normative support for cheating” (McCabe and Trevino 1993, p.533). A sixth factor may be added to this list: ignorance. “Too many students stumble into plagiarism unawares, because they have never learned how to use sources properly, and sometimes even because they have been taught that research [in high school] means plagiarism” (White 1993, p.44). Not always able to differentiate between plagiarism and correct paraphrasing (Rog 1997), honest students are apt to plagiarize by mistake rather than on purpose (Renard 2000). Similarly, faculty do not always agree as to what constitutes plagiarism or as to the seriousness of alleged infractions (Julliard 1994).

Legal Aspects of Academic Dishonesty

Because academic dishonesty undermines fundamental educational goals, an institution must set forth policies that discourage and penalize instances of misconduct (see Figure 1 on page 17 for an overview of institutional policies). This section summarizes the legal bases that inform policies on academic dishonesty; examines how such policies are communicated to students; and reviews due process in the handling of cases of alleged misconduct.

Legal Bases

A primary legal consideration is the manner in which a case of academic dishonesty is handled: Is it addressed in accordance with a clearly stated procedure or in an arbitrary, capricious, or ambiguous manner? The key federal law in dealing with cases of misconduct is the Due Process Clause of the Fourteenth Amendment, which guarantees the accused party’s right to hear and respond to charges made against him. The consequences of an institution’s providing—and failing to provide—due process to a student has informed case law for colleges and universities. An early case that tested the Due Process Clause in higher education was Dixon v. Alabama State Board of Education (1961), which established the requirements of notice and a hearing as minimal safeguards for students accused of misconduct. The courts will consider a lawsuit if faculty or administrators are charged with acting in a capricious or arbitrary manner (Carr v. St. John’s University, New York 1962; Milam and Marshall 1987; Regents of University of Michigan v. Ewing 1985) or if the stated procedures are overly broad and vague (Soglin v. Kauffman 1969).

A second legal consideration is whether the infraction should be treated as academic or social misconduct. This distinction has not always been clear to the courts, which view scholastic dishonesty as “an offense which cannot be neatly characterized as either ‘academic’ or ‘disciplinary’” (Jaska v. Regents of University of Michigan 1984). When misconduct is considered academic, “by and large the American courts have been loathe to involve themselves..., accepting as a general rule non-interference in a university’s purely academic decisions” (Dwyer and Hecht 1994, p.7). That is, courts generally have deferred to an institution’s academic judgment (Dwyer and Hecht 1994)—as, for example, in such landmark cases as Woodruff v. Georgia State University (1983), Regents of University of Michigan v. Ewing (1985), and Susan M. v. New York Law School (1990) and upheld by more recent court decisions, such as Blaine v. Savannah Country Day School (1997). However, if a lawsuit moves from the academic into the disciplinary arena, the courts are more willing to intervene. Even though such lawsuits involve fundamental constitutional rights—e.g., due process, property claims, or civil rights—not all of the constitutional safeguards afforded to criminal defendants—e.g., the right to produce and/or cross-examine witnesses (Reilly v. Daly 1996)—are guaranteed to alleged cheaters (Dwyer and Hecht 1994; Swem 1987). An especially important point for private institutions (Zumbrun v. University of Southern California (1972) is that contractual procedures and protections in institutional publications (e.g., college catalogues and student handbooks) are enforceable.). No additional safeguards are guaranteed, however, if they are not stated; nor does the list of violations have to be all-inclusive (Boehm v. University of Pennsylvania School of Veterinary Medicine 1990).

Due Process

The courts have found that students retain the right to due process when they are faced with a potential loss of property or liberty rights (Goss v. Lopez 1975). This right is minimal rather than comprehensive (Gaspar v. Brunot 1975), provided that the institution follows its own stated procedures (Melvin v. Union College 1993; Tedeschi v. Wagner College 1980; Woody v. Burns 1966) and that these procedures are neither capricious nor arbitrary.

Students who are accused of academic dishonesty but who are denied due process may prevail in a court of law (Greenhill v. Bailey 1975; Wagner, 1993; Weideman v. SUNY College at Cortland 1992), especially when the sanctions are more serious, i.e., ranging from suspension (Esteban v. Central Missouri State College 1967; Goss v. Lopez 1975) to expulsion (Dixon v. Alabama State Board of Education 1961; Weideman v. SUNY College at Cortland 1992).

“Probably the case that has set forth due process requirements in greatest detail” (Kaplin and Lee 1995, p.486) is Esteban v. Central Missouri State College (1967), in which the courts established a number of safeguards for defendants in disciplinary hearings. Dwyer and Hecht (1994) summarize these due process requirements in three basic legal steps when bringing a student up on a charge of academic dishonesty: “timely notification of any accusation of misconduct, a
timely hearing where the student may hear the accusations from the accuser(s) themselves, and an opportunity for the accused to present their [sic] side of the story” (p.8). Also strongly suggested are the following additional steps: “written notice of the witnesses to appear against the student…, an opportunity to inspect evidence, and written findings of fact and basis for decision” (Weeks and Rice 1986, p.1).

Many, if not most (Jendrek 1989), faculty members choose to bypass existing procedures for dealing with academic dishonesty (Bell 2005) because they are “time-consuming and usually adversarial [and require] the difficult burden of proof” (Alschuler and Blimling 1995, p.124). They feel that their authority is undermined because they “can give an F for lousy work, but not for alleged cheating” (Alschuler and Blimling 1995, p.124). Risacher and Slonaker (1996) oppose using a failing grade as “punitive action against a student for behavior that violates an institution’s academic misconduct policy” (pp.115-116). Instead, they perceive academic misconduct to be a behavioral issue requiring due process for the accused party. Kibler (1993) notes that an F for academic misconduct is both ineffective and misleading: It does nothing to deter a weak student from cheating, and it fails to give the student an opportunity to address the root causes of the dishonest behavior.

Stevens (1996) notes that there are rarely clear-cut procedures for dealing with minor instances of cheating. He suggests that faculty members consider a number of issues when attempting to deal with academic dishonesty individually rather than through established channels: the level of seriousness, the severity of penalty, and the type of notice given (oral or written). He suggests that instructors follow what he terms the Supreme Court’s “due process paradigm” (Stevens 1996, pp.141-143) when handling a minor incident on one’s own:

- **Preliminary Steps:** “The professor should take whatever time is necessary to develop a calm, rational approach” (Stevens 1996, p.142) to consider the seriousness of the incident and the level of sanction to be imposed;

- **Notice Procedure:** The instructor communicates the allegation to the student, asks for a response, and informs the student of the appeal process.

- **Hearing Procedure:** “The amount of process due depends upon the entitlement or interest at stake” (Stevens 1996, p.143) but need not include all the elements of a criminal trial, such as attorneys, witnesses, and oaths (Swem 1987).

### Content and Communication of Policies

Hoekema (1994) offers a three-prong test to determine the legitimacy of an institutional policy on student conduct. Such a policy should serve to:

- “prevent or punish exploitation and harm inflicted or suffered by students; or
- …prevent or punish behavior that undermines the academic values of free discussion and learning; or
- …foster a sense of moral community and mutual responsibility” (p.134).

Clearly, policies on academic integrity must pass muster on the second and third tests, and perhaps on the first as well. Because such policies protect free discussion, learning, moral community, and mutual responsibility, they should be communicated early and often in students’ academic careers.

Two studies provide opposing views of the presence of policies on academic integrity. In his survey of 183 public and private colleges and universities, Aaron (1992) found that 95 percent had an academic integrity code and 98 percent had procedures for dealing with instances of misconduct. A different perspective is offered by Steven Davis (1993), who found that “of 200 catalogs surveyed, only 55 percent contained” (p.15) statements on academic dishonesty.

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The college catalog, departmental booklets, and web pages are but a few of many means of providing students with information about institutional policy regarding academic dishonesty. The student handbook is the most common medium for communicating such policies, followed by the college catalog and new student orientation (Aaron 1992). A comprehensive statement will include parameters of unacceptable behavior (definitions as well as examples) and a description of the disciplinary and appeals process; “at minimum the institution should describe realistically the mutual obligations of both the college and the student” (Weeks and Victor 1982, p.1).

The student handbook is an internal source of law and frequently is viewed as a major component of the contract between the student and the institution. Accordingly, the handbook must be drafted with utmost care. Even though the entire handbook may not be construed as contractual in nature, courts increasingly have imputed contractual relationships. In certain critical areas—particularly those dealing with suspension and expulsion—the courts have found that colleges must follow their own procedures (Weeks and Victor 1982, p.1).

Because of the unique nature of the student-university relationship, courts do not automatically extend all contract law theories to student handbooks. Generally, however, the contractual relationship is present “especially when disciplinary matters are involved” (Weeks 1996, p.3). Even though all students may receive a handbook, they may not read it carefully, or at all. Faculty must take the lead in promoting academic integrity. Aaron (1992) notes the need to inform faculty of institutional policies on academic integrity; this may be accomplished through the faculty handbook, though some instructors may be given student handbooks or may be briefed on the topic during faculty orientation. McQuade (2007) recommends that professors be proactive in discussing with their students the temptations and dangers of “cybercrime” given the increasing array of technology at students’ disposal.

The AAUP Ethics Statement charges faculty with “maintaining honest academic conduct” (ASCCC 1994, p.2) in their classrooms through preventative measures such as written guidelines distributed on the first day of class. The course syllabus is another line of defense against academic dishonesty and must include information about both appropriate and inappropriate behavior as well as the consequences of cheating and plagiarism (Leeds 1992). Beyond the syllabus, faculty must frequently and clearly communicate their expectations of academic honesty to students (Guiliano 2000) “at the beginning of class, before exams, prior to writing papers and doing lab work” (Alschuler and Blimling 1995, p.125). Wilhoit (1994) suggests building into lesson plans a variety of activities that illustrate acceptable and unacceptable scholarship: discussing what constitutes plagiarism; examining hypothetical cases; reviewing conventions of citation and documentation; and requiring multiple drafts. Students thus must be educated both formally and informally as to the procedural and ethical issues involved in academic integrity (Pancrazio and Aloia 1992).

Faculty Action
Now consider the reaction of faculty when they encounter incidents of academic misconduct.

Private institutions enjoy particular latitude when enforcing penalties for misconduct; penalties may include a “jail sentence (failure of the course)” (Leeds 1992, p.3), suspension (Debaan v. Brandeis University 1957), and even expulsion (Carr v. St. John’s University, New York 1962). Instances of academic dishonesty tend to be handled informally and tend not to make the headlines in the college newspaper (let alone the national press). However, handling academic dishonesty on an informal, case-by-case basis keeps the campus community unaware of the actual level of cheating that occurs (Thompson 2005); as a result, it “may never be able to change the campus culture that causes it” (Alschuler and Blimling 1995, p.125). Academic misconduct thus may be the best-kept secret on campus, particularly among senior administrators (Risacher and Slonaker 1996), though not necessarily among faculty (Hard, Conway, and Moran 2006).

Several studies have examined how faculty deal (or fail to deal) with misconduct. Inactivity is common: Lipson and McGavern (1993) found that faculty opt to do nothing 87 percent of the time because “cheating [is] difficult to prove” (p.22). Verbal confrontation (e.g., warnings) is another technique (Dannells 1997; S. Davis 1993; Lipson and McGavern 1993). Faculty often choose not to formally charge a student because institutional policy—particularly if it involves lengthy or unclear procedures—may hinder a unified faculty response to cheating (Dowd 1992; Lipson and McGavern 1993; McCabe 2005). Even administrators recognize that faculty may not be familiar with existing formal channels for handling misconduct: 62 percent believe that faculty tend to handle cases on their own “without utilizing established procedural guidelines” (Aaron and Georgia 1994, p.85), and 41 percent think that “the majority of faculty are unaware of procedural guidelines for handling them” (Aaron and Georgia 1994, p.85).

Reshaping Student Culture
The best-laid plans of mice, men, administrators, and faculty will not deter every student from attempting dishonest behavior. Institutions can promote academic integrity at all levels of campus life by means of an honor code (May and Loyd 1993; McCabe and Bowers 1996; McCabe and Trevino 1993) or statement of ethics, early and frequent training in avoiding questionable behavior, communication and enforcement of policies, and in-class efforts to encourage original and independent thinking—“teach[ing] students how and why not to cheat” (Dowd 1992, p.15),—for example, completing exercises on recognizing plagiarized passages (Landau, Druen, and Arcuri 2002), assigning specific topics for research papers and varying them each term, requiring multiple drafts
(B. Davis, 1993; Sterngold 2004), and discussing assignments both in class and individually (Sterngold 2004). Responses to academic misconduct should be formative rather than punitive: Faculty can “implement strategies that will help offending students understand the ethical consequences of their behavior” (McCabe 2005, p.30).

“Our findings . . . suggest that the most important question to ask concerning academic dishonesty may be how an institution can create an environment where academic dishonesty is socially unacceptable” (McCabe and Trevino 1996, p.30). What is needed is cultural management—academic climate control—that will both “promote and expect academic integrity and . . . help students develop the values needed to deal effectively with the moral and ethical dilemmas facing them” (Kibler 1994, p.93) and “create a campus climate more conducive to academic integrity” (Fishbein 1994, p.58). Such a shift will require support from key administrators and should feature significant student involvement (Alschuler and Blimling 1995). Many universities are proactive in discussing issues of academic misconduct and in promoting honor codes during mandatory orientation not only for incoming students (Empire State College 2004; How to Be Successful 2006; Plagiarism Information 2004) but also for new faculty (Worcester Polytechnic Institute 2006; New Student Orientation 2006). Some application forms (primarily those for graduate programs) announce institutional policies regarding academic honesty (Richland Community College 2007).

Administrators and faculty need to be consistent in addressing issues of academic dishonesty. The scope of unacceptable forms of misconduct must be clearly and comprehensively defined (McCabe 2005), and it must be updated periodically, particularly in view of the rapid expansion of technology. Campus leaders should be aware of the level of academic dishonesty, and faculty should be consistent in communicating their policies on—as well as presenting a consistent and fair response to—academic dishonesty.

Summary
Academic dishonesty is a permanent threat to the educational goals of any institution; consequently, a college or university must do all in its legal power to curtail such conduct. By communicating institutional policies and possible sanctions to students and by providing due process when instances occur, colleges and universities can feel confident that they are promoting an atmosphere in which students may actively engage in an exciting “marketplace of ideas.”

References

ASCCC. Sr. Academic Senate for California Community Colleges.
Davis, S. 1993. Cheating in college is for a career: Academic dishonesty in the 1990s. Paper presented at the 95th Meeting of the Southeastern Psychological Association, Atlanta, GA.
Gaspar v. Bruton, 513 F.2d 843 (10th Cir. 1975).
Greenhill v. Bailey, 539 F.2d 5 (8th Cir. 1975).


Soglin v. Kauffman. 418 F.2d 163 (7th Cir. 1969).


Woody v. Burns. 188 So. 2d 36 (Fla. 1966).


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Latino Students: Engaging America’s Fastest Growing Minority Group

This article explores the best practices according to recent literature for recruitment and retention/support of Latino/a students at postsecondary institutions in the United States. The authors seek to provide a simple framework for the cultivation of a campus climate that is welcoming to all varieties of student populations.

James Olive and Shane White

Recruitment of a diverse student body is a top priority in the strategic plans of colleges and universities across the country. As U.S. society continues to become more diverse, proportionate diversity is not being realized in the classrooms of the nation’s higher education institutions. Much attention has been paid to the recruitment of African-American students and their access to higher education opportunities. This is appropriate given the history of social activism and resulting civil rights legislation regarding equal access. However, more recent changes in the population of the United States suggest that another group should also be considered.

Recruitment

In 2000, Latino/as became the largest minority group in the United States (U.S. Census Bureau 2004). The U.S. Census Bureau projects that over the next 30 years, Latino/as will have the second largest growth rate of any population subgroup, following Asians. It also is estimated that by 2050, Latino/as will comprise 24.4 percent of the nation’s total population, accounting for 48.5 percent of the nation’s population growth during that time period (United States 2004). It is critical that colleges and universities act now to prepare to recruit and retain members of this group.

When colleges began to target minority groups for recruitment, many institutions attempted to recruit all minority groups as a single group. Although this method may be more cost-effective, it is counterproductive in that it does not allow for personalized and segmented marketing efforts that often prove much more effective overall. Just as colleges would not attempt to recruit a talented artist and a gifted scientist in the same way, they should not attempt to recruit members of different minority groups in the same way. This begs the question: How should colleges recruit Latino/a students?

To understand how to recruit Latino/a students, it is critical to also understand the role of the family. According to Zarate and Pachon (2006), parents of Latino/a students are acutely aware of the need to attend college: fully 96 percent of parents in a nationwide study wanted their children to attend college. By mixing marketing and outreach efforts that target parents and students, institutions can leverage the influence of the family. With parents already desirous of their children attending college, encouragement and information from institutions can only boost student recruitment efforts.

Parents are important factors in the recruitment process, but they also present a challenge. One of the barriers to entry for some Latino/a students and their families is language. Given that many Latino/as are first-generation college students and also may be naturalized, first-, or second-generation citizens of the United States, the availability of recruitment information in Spanish—particularly as such information relates to financial aid—is critical (Ortiz 2004; Zarate and Pachon 2006). Translation of materials into Spanish should not be viewed as preventing mastery of English by recent immigrant families (Love 2003). Rather, it serves a functional as well as a symbolic purpose. Understanding admission requirements, financial aid policies, and other first-year college issues is difficult enough for those who speak English. The addition of a language barrier only increases frustration (Love 2003).

General financial aid knowledge is important in the recruitment of Latino/a students. However, the effort to educate Latino/a families about financial aid should not end with translation of pertinent information. Rather, it should extend to include defining those terms specific to the process in the United States, for example, guaranteed loans, grants, and scholarships (Zarate and Pachon 2006). Haskins and Kirk-Sanchez (2006) found that Latino/a students who received detailed financial aid information were more likely than any other ethnic group to enroll in those programs from which the information was received. Explanation of financial
aid assists families and students in part by decreasing anxiety associated with the college search process. This type of educational outreach also provides the family with a realistic view of college costs. This is important in light of the fact that many Latino/a families overestimate the costs associated with higher education and so view enrollment as an unrealistic goal (Zarate and Pachon 2006).

“Growing your own” might be the most underutilized but highest yielding strategy for increasing Latino/a student enrollment. While the Latino/a population is increasing, the number of Latino/a students eligible for college (i.e., high school graduates) is not keeping pace. In a study of the underachievement of Latino/a students, Acosta (1996) found that many high school students were not adequately advised. Poor advising has resulted in a group of students who have not taken college preparatory courses and who are not prepared to take college entrance exams. If colleges and universities were to invest resources at intervention points in middle and high school, they could support the transition of these students toward postsecondary education. Offering tutoring sessions, college planning workshops, and college entrance exam prep courses are additional ways in which institutions may support the academic futures of Latino/a students while promoting their own programs.

Connections with local community organizations are crucial to the recruitment of Latino/a students (Chapa 1998; Terry-Azios 1998). Institutions that become involved in community activities can build relationships with local families and influence their decisions to attend college. Beyond personal connections, Latino/a students respond positively when they see college students with backgrounds similar to their own. Being a positive role model can even motivate Latino/as’ attendance in college (Terry-Azios 1998). Fostering a sense of connection and providing positive role models are ways in which institutions can strengthen their ties to the community. Such ties encourage future enrollment by and cooperation with members of local Latino/a families.

Support

Once a student is offered admission to an institution, student support services become crucial. Becoming acclimated to college life can be challenging. For most students, college represents the first time they must live without the direction of parents or guardians; often, students’ lack of time management skills becomes readily apparent. To be successful in college, students must balance their time between classes, homework, studying, leisure activities, and weekly chores (such as laundry, cleaning, etc.). In addition to these responsibilities, data obtained through the National Survey of Student Engagement (NSSE) in 2003 confirm that more than two-thirds of the nation’s college students hold some type of job, either on or off campus (Nathan 2003). Students quickly realize the necessity of managing their money well. With parents less readily available, students learn to look elsewhere for answers and advice. Many students find that the transition to college is not only a new learning experience; but it also is a new living experience.

Many entering first-year students meet their roommates for the first time during what is commonly referred to as “move-in weekend.” At first, the excitement of moving away from home and of being free from parents’ rules overshadows students’ realization that they are relinquishing their privacy. Students begin to learn one another’s “quirks” and determine how best to cohabitate. But new faces are not limited to the residence halls. Students also must forge relationships with faculty and with students in their classes. This process is not easy for everyone. It can be particularly difficult for introverted students.

The student support field is charged with helping students negotiate the challenges described above while facilitating their intellectual, cultural, and social growth. Consequently, student support departments provide numerous services. At many colleges, the office of student support is responsible for first-year students’ initial college experience: orientation. Providing students, on their first day, with all the information they need increases their overall success rate. Student support divisions further facilitate students’ adjustment to college life through a series of on-campus activities. For example, residence life may be responsible for social activities ranging from intramural sports to community outreach events. Other student support divisions may offer one-on-one counseling, medical services, support groups, and alcohol and drug-abuse prevention programs. Despite the many services typically available, campus administrators are beginning to realize that all student needs still are not being met. In fact, research shows that students who belong to an underrepresented, or minority, group often require services and support above and beyond the norm. Why might this be the case? Consider some possible explanations.

First, unlike their peers, minority students progress through our nation’s education system with the societal expectation that they will fail (Mina et al. 2004). This message is communicated through a wide range of mediums, the most influential being the mass media.

Second, most minority students are first-generation college students. Students whose families already include college graduates know the planning, steps, and “tricks” involved in navigating the postsecondary education process; first-generation college students must figure these out for themselves.
Individuals who manage nevertheless to enroll in a postsecondary institution may encounter additional barriers to success. For example, whereas “majority” students see a large population of students similar to themselves, minority students do not. This can make the formation of a social network even more difficult.

A third explanation for minority students’ need for additional services and support has to do with students’ personal development during their college experience. Even as they learn about themselves and about their fields of interest, they may be required—or at least expected—to teach others about their own culture. Thus, minority students must become “cultural teachers,” a role not required of most “majority” students.

The challenge that inheres within supporting diverse student populations is that “each group desires the protection of its own issues as well as a clear understanding of how these issues should be addressed” (Howard-Hamilton, Phelps and Torres, 1998, p.49). Offices of student support services are responsible for developing and implementing a variety of university policies and procedures that have the potential to impact all students, positively or negatively, directly or indirectly. Federal laws and regulations dictate a significant portion of student affairs actions, but most of what each college or university puts into place is home-grown. Significantly, research continues to suggest that college and university campuses are not hospitable to many students who are considered to be in the minority (D’Augelli 1992; Herek 1993; Heumann and Church 1997; Howard-Hamilton, Phelps, and Torres 1998; Waldo 1998; Waldo, Hesson-McInnis, and D’Augelli 1998). Discriminatory practices by students and faculty, safety concerns, and a lack of curricular diversity are just a few examples of issues that threaten to undermine the success of many minority students.

In response to these and other challenges, student support divisions have begun to offer additional services. Some institutions have established an office for minority affairs, which offers specialized programs and activities centered on cultural awareness and support. Peer mentoring programs and peer support groups are examples of the kinds of services typically sponsored by these offices.

Much of the research on postsecondary minority student support continues to be focused on African-Americans. Even as we acknowledge the importance of all research relating to minority student affairs, we wish to emphasize the need for increased attention on the Latino/a population. As if the plight of the minority student was not difficult enough, research suggests that the Latino/a population presents additional issues which must be considered.

One issue relates to the diversity of the Latino/a population itself. As Torres (2004) points out, Mexican-Americans account for between 48.5 and 66.1 percent of the Latino/a population in the United States; 9.6 percent claim Puerto Rico as their home country, and 4 percent claim Cuba as their country of origin. “Other countries of origin are grouped into geographic regions, with Central and South America represented by 14.5 percent of the population and ‘other Latino/a origins,’ which would include other Caribbean countries, representing 6.4 percent” (Torres 2004, p.5). Student support services staff must acknowledge that students from various Latino/a countries have unique concerns, all of which must be respected and addressed. “Students take note when it is evident that we [colleges and universities] have done our homework. Knowing about the history of different Hispanics helps to build credibility with students and leads to a more authentic understanding of the impact of history on present circumstances” (Ortiz 2004, p.90).

Postsecondary Latino/a students new to the United States may confront a language barrier. The ability to communicate with peers and college personnel is essential to students’ success. However, even if students themselves are able to communicate with college and university staff, the language barrier may impede communication with students’ parents and families. Research underscores the necessity for colleges and universities to acknowledge and respond appropriately to students’ families. As noted above, Latino/as place great value and importance on the concept of family (Rodriguez, Rodriguez, and Davis 2006). Ortiz (2004) states that the “family influences college choice, motivation, and integration of students into campus communities” (p.91). Latino/a students often report an emotional toll resulting from distance from their family, missing special celebrations or events, and not having the chance to meet or bond with new arrivals (Ortiz).

To promote the success of postsecondary Latino/a students, colleges and universities must take action beyond what is done for “all” underrepresented student populations. An important first step is promoting diversity via campus practices and programs. Faculty and staff must be trained to work effectively with diverse student populations. Such training should include information relating to the different cultures represented on campus and should heighten awareness of the kinds of issues that may arise. Pope and Reynolds (1997) describe seven core competencies for effective student affairs practice, including administrative and management skills; theory and translation; helping and interpersonal skills; ethical and legal experience; assessment and evaluation; and multicultural awareness, knowledge, and skills. Given the increased diversity of our nation’s postsecondary student population, the last of Pope and Reynolds’s core competencies would appear to be gaining importance.

Institutional mission statements and departmental policies must be evaluated on a continual basis to ensure that they are inclusive of a diverse student body and the issues that arise from racial, sexual, and cultural differences. Postsecondary administrators should provide financial support for diversity initiatives, and their actions and decisions must demonstrate awareness and understanding of multicultural issues as well as sensitivity toward students who are members of underrepresented groups.

Additional steps must be taken in order to adequately support postsecondary Latino/a students. Given the impor-
tance of the family unit to the success of Latino/a college students, “student services professionals who connect with Latino/a students often serve as institutional mediators between home and college experiences” (Ortiz 2004, p.91). Successful programs and services for Latino/as acknowledge that every student is a part of a larger family system and that students’ families constitute a crucial component of students’ overall college experience (Oliva and Nora 2004). We make the following additional recommendations regarding post-secondary Latino/a students:

- College admission and student support services personnel should strive to connect Latino/a families. The result will be a support system for students as well as families.
- College curriculum committees should identify Latino/a research and textbooks and integrate them into the curriculum.
- Facilitate the establishment of connections among Latino/a faculty, staff, and students. This can be accomplished through on-campus Latino/a group meetings, web pages, and/or a listserv.
- Offer on-campus family activities and programs throughout the year so that students continue to feel connected to their families.
- Provide transportation services (i.e., carpool lists, etc.) so that students living far from home can visit their families whenever possible.
- Four-year institutions must work to establish articulation agreements with neighboring community colleges: Research indicates that more than half of all Latino/a college students enter postsecondary education via community colleges (Ortiz 2004).

Conclusion

Recruiting and supporting a diverse student body should be a core goal of every postsecondary institution. As the demographics of the United States continue to change, it is crucial that colleges and universities also change to meet the demands of various population groups. With the global economy becoming more complex every minute, our institutions of higher learning must adapt if they are to survive. Institutional costs should prove inconsequential in light of the benefits that will accrue as a result of implementing even just a few of the recommendations described above.

References


Howard-Hamilton, M.F., R.E. Phelps, and V. Torres. 1998. Meeting the needs of all students and staff members: The challenge of diversity. *New Directions for Student Services.* 82: 49–64.


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An Interview with Carol A. Twigg

Dr. Carol A. Twigg is an internationally recognized expert in using information technology to transform teaching and learning in higher education. She serves as President and CEO of the National Center for Academic Transformation. The Center serves as a resource for colleges and universities, providing leadership in how effective use of information technology can improve student learning while reducing instructional costs.

During the course of her career, Dr. Twigg has become known as a strong advocate for the use of technology in higher education. A widely published writer and a sought-after speaker, she is an authority on a range of topics including the impact of telecommunications on restructuring higher education, the need to improve productivity in higher education, and the process of engaging college faculty in using instructional technology effectively. In 1995, Newsweek named her one of the 50 most influential thinkers in the information revolution, and in 2003, she was the recipient of the prestigious McGraw Prize in Education.

From 1993 to 1998, Dr. Twigg served as Vice President of Educom (now EDUCAUSE), a national association of colleges and universities dedicated to the effective use of information technology in higher education. At Educom, she advanced the need for new models of student-centered, online teaching and learning, now commonly accepted in higher education. She also initiated the IMS (Instructional Management Systems) project, which is establishing interoperable technical standards for online education and training. Before joining Educom, Dr. Twigg was Associate Vice Chancellor for Learning Technologies for the State University of New York (SUNY) and held a number of senior academic administrative positions at SUNY Empire State College, SUNY’s college without a campus. She has taught at the State University of New York at Buffalo, the State University College at Buffalo, and Empire State College.

Dr. Twigg received her B.A. from the College of William and Mary and a Ph.D. in English Literature from the State University of New York at Buffalo.

Since 1999, you have been with the National Center for Academic Transformation. Can you talk about your career path and the factors that influenced your focus on technology, teaching, and learning?

Well, there is actually a direct connection. It is not as obscure as what one might think. I started out thinking I was going to be a faculty member in English. Just as I was finishing my Ph.D., the market basically collapsed, so I decided to go back to graduate school for a doctorate in higher education. I ended up as an administrator at Empire State College, New York’s “university without walls,” from 1977 until 1993. Empire was considered a nontraditional institution because the college did not have formal classrooms. Students enrolled in independent tutorials that, at the time, used face-to-face meetings, the mail, and the telephone for facilitating learning. So when I went to a conference in 1980 and saw my first microcomputer, I immediately knew that this was going to be very important because Empire State students were distributed all over the State of New York. Today, Empire State’s students are located literally around the world and are communicating through computers and the Internet. But back then, the notion of everyone having a computer in his or her home to use for communicating and for accessing learning resources was inconceivable. I immediately saw that the microcomputer was going to be very important. Once it sparked my interest, I started running faculty development programs and getting the faculty at Empire State interested in using technology. They said things to me like, “You are trying to turn me into a secretary”; “I do not want to do this.” It took ten years, but eventually every faculty member in Empire State started using microcomputers—well before most of higher education. So that was really the context for my initial interest in technology.

We were doing online courses in the mid 1980s, well before most institutions. So the things that people thought were really “cool” in the late 1990s, I had been doing for fifteen years. It made perfect sense for a place like Empire State. Had I been at a traditional institution, I probably would have had the same reaction. But the special circumstances of Empire really helped make the potential of microcomputer technology obvious.

That makes sense, but it’s still probably a little bit ahead of your time.

Well, I think so, but Empire State was a bit ahead of its time in terms of its mission and structure. Most people on college campuses would say, “Why would I need a computer? I can walk across the hall or go to a classroom and talk to someone.”
At Empire, that was not the case. Although we were not quite there, it was clear that everyone would eventually be using computers. People began to realize that computers are really important.

Can you name some of the people who influenced your thinking around technology, teaching, and course redesign at different points in your career?

First of all, the faculty at Empire State had a big influence on me since they clearly focused on building a student-centered curriculum. Empire State was driven by student interest, student needs, and its emphasis on learning rather than teaching. The most important person who had an influence on me was the president of Educom, Bob Heterick, who asked me to join the organization as vice president. He has, without any question, been the most influential person in my career.

Can you talk a little bit about some of the ways in which he influenced you?

While I had thought a lot about computers and understood the concept of networks, Bob’s emphasis on the Internet influenced my thinking the most. It was one of the advantages of being at Educom, which was dominated by the big universities and the networking people. If anything, Educom, along with the National Science Foundation and the Department of Defense, were the powerhouse in networking that helped create the Internet. Bob envisioned the impact of a digital world and understood where everything was going and what that meant. He was brilliant and very influential nationally. An engineer by training, he got interested in computers early on and was regarded as one of the brightest people in the country. He understood all issues about technology, but he also had a primary interest in its impact on teaching, learning, and the structure of higher education. He was a very profound, visionary thinker. I never met anybody else in higher education who even comes close to him.
What a great opportunity.

It was. I thought I was persuading him to hire me, but he was prepared to persuade me to come work for him. It turned out to be a natural fit.

In 2003, you were awarded the Harold W. McGraw, Jr., Prize in Education, an award given to outstanding individuals who have dedicated themselves to improving education in this country and whose accomplishments are making a difference today. What do you view as your greatest career accomplishments?

I think it’s pretty obvious that NCAT has been the only organization in the country to advocate using technology to both improve learning and reduce cost. When we started down this road, we couldn’t find a person in higher education who would say it was possible, even though we knew it was possible. We taught people how to do it, and now, we are literally changing the national conversation about the relationship with cost and quality. It does not mean that every single person in higher education has heard about our work. I can tell you that the leadership in higher education and, increasingly, public policy makers are aware of our work. The idea that “give us more, give us more” is the only solution to improve education has to change for a variety of reasons, and we have shown ways to make that change in a very constructive way. It seems straightforward, but there is a lot behind it.

I was wondering what sort of resistance you have encountered to that model of improving learning while reducing cost.

We encountered a lot of resistance. I mean, if everybody understood it, everyone would be doing it. I will give you an example: When we were originally funded by The Pew Charitable Trusts, we ran a national competition and awarded grants to 30 institutions. We did this in three rounds of ten apiece and had a pretty elaborate process that included workshops leading up to the award of the grants. The first year, people would get up and say, “You are not really interested in quality. You are only interested in cost reduction,” to which I responded, “No, I am interested in both.” There was a lot of that in the first and second years, but by the third round, we heard almost none of it because the results showed that we were interested in improving quality while reducing cost.

You had the data behind you.

Yes, so the resistance started to die down, but every time a new audience in higher education hears about it, you start from square one. Today, I am giving the same talk I have been giving since 1999, because every new audience needs to go through the same thought process that others have gone through already…

…and gradually get used to the idea.

Yes, get used to the idea, see the data, see examples and that kind of thing. So, that’s one side of it. You are really changing the way people think about the relationship of cost and quality. On the other hand, we now face the situation where a lot of people understand that it can be done, but they do not have the will to do it. The next step is to get our audiences beyond recognizing what we have done and convince them to invest themselves in the course redesign process.

Clearly, the cost of higher education is a major issue.

It’s a major issue, but almost no one in higher education wants to grapple with it seriously. That’s what the problem is. To policy makers and the public, there is no question that the problem of rising costs is clear as day, but most people in higher education still do not really think it is that important. They do not have an understanding of the factors that are leading to all these kinds of pressures, the impact on students, and the decrease in the quality of education. Without constructive solutions, you just cut budgets as a way to solve the problem. While there is still a long way to go, most people in higher education always think that budget cuts are temporary, that they will turn around and get more money somehow. They do not understand there is a fundamental flaw in the production cycle. So it is still challenging.

The student body has evolved rapidly on campuses over the last few decades. Has technology helped to address the learning needs of this diversified population? If so, what strengths does technology bring to students’ needs? What problems still exist?

I am going to answer this in several ways. I think for the needs of nontraditional students, for working adults who are close to a majority of higher education students, there is no question that online learning is providing greater access, greater flexibility, as it has had a huge impact. It enables students to complete degrees that they could not have completed. Before, they had to go to classes on a traditional schedule, so I think in that regard, it has a big impact. Most people tend to ask that question because kids with iPods, instant messaging, etc. come to mind. I personally do not think that such technologies have had that big of an impact yet. These large-scale redesign projects uncovered the shift in thought that students are asked to make in using technology to do work, as opposed to play. While they may live on a cell phone, it does not mean that they are going to be using the technology to do math, for example. I think that once students get used to new ways of using technology in teaching and learning, they adapt to it fairly quickly, but they are not automatically attracted to using technology in the academic program. That is the problem you are confronting. So you have to win them over by showing them that they can succeed when they use these new techniques.

There is still a shift going on in the K-12 arena, and they are still learning in very traditional ways, so there is not going to be that natural adaptation.

Absolutely. It’s fine to look at resources and syllabuses on the Web when using it as kind of a distribution mechanism, but
when it comes to the kinds of uses of technology that our redesign projects are doing, it is still a big leap for students, I think. While it has become more and more familiar to them, it’s not an obvious connection.

So it’s mostly, in your view, the adult learning population who benefits from online learning.

Although traditional students like the flexibility of online learning, when you add up all the online courses in higher education, they are still a minority of courses that are offered. I think people tend to overstate the appeal of using technology in teaching and learning for traditional students a little bit in terms of the actual changes that have occurred. Some people assume that young students—the digital natives—magically want to use technology in their courses, and I do not think that that’s true.

On the other hand, we had an instance where the University of Hawaii did a course redesign that was based on using iPods. My initial reaction was, “Oh, this is going to be some kind of a gimmick,” but it really was not. It was highly successful: Students loved the ability to time-shift and listen to lectures on the iPods. It was an introductory computer course which involved programming and things of that kind, so it was an appropriate use of the technology for the particular student audience.

How do you think the global educational marketplace will change the needs of learners, and how should education institutions be thinking about meeting those needs with technology?

This was kind of a big topic five years ago; everybody was getting into the world education business, and places like MIT were going to export education around the world. I think that U.S. institutions have been relatively slow to respond to the international market compared to other countries, and I think that you are seeing such tremendous growth in education around the world, with native countries responding to their own populations. I think the United States tends to be isolationist in education, as it is in all international affairs.

Do you think U.S. institutions should be thinking in different directions about that, or do you think that just happens naturally?

I am going to sound conservative, and I don’t mean to, but we have got such huge educational problems in the United States. They are enormous, and I think that U.S. institutions should first and foremost pay attention to doing a better job with our own students. If you are going to start exporting the product around the world, you had better make sure it’s a good product. Given the tremendous failure rates that we have at U.S. institutions, I think we have got a long way to go. Now, there is clearly a diversity of institutions, so it’s great that the MITs and Harvards of this world export the kind of educational product they have developed. But most U.S. colleges and universities have a long way to go in serving their own students, and in many states, the demand for higher education far outstrips the ability of institutions to meet it.

As the cost continues to go up, we are pricing people out of the market. We’ve got so many issues and problems at home. I know it sounds like, “Oh, we’ve got poor people at home, so why should we help anybody around the world?” but I think that a lot of institutions see exporting education as a way to grow a market rather than confronting the problems at home that they need to deal with.

Well, it is the domestic-international policy debate. To me, I think this debate has been somewhat diversionary in the way it’s been talked about in higher education. Not too percent—obviously, some institutions have very interesting international programs—but everybody was getting on the bandwagon, thinking that technology was going to enable us to just simply export our U.S. higher education system around the world. It’s not quite that simple.

So maybe a two-tier model in which institutions like MIT, with Open Course Ware, and other institutions at that level can provide some sort of service.

There are plenty of public institutions like Penn State and University of Maryland University College that can do a good job. Institutions that have large-scale distance learning programs are accustomed to doing that and have an understanding of what it takes to do it well. I am not a fan of the Open Course Ware system because throwing up course materials on a Web site is not education, so I would look to Penn State before I look to MIT in this regard.

Much of your work has focused on student-centered learning. How do you see emerging technologies, such as ones categorized under Web 2.0, changing pedagogical models, with their focus on collaboration and user-produced content?

The only place where I see changes in using technology to affect student learning is in the large course redesign projects that we work with. I have yet to see anybody produce data that show that Open Course Ware has an impact on student learning, so I do not care whether it is Open Course Ware or MERLOT. There are a zillion of these projects and entities that exist, but it’s typically about what faculty like, what faculty want to do, what faculty are interested in. There is absolutely no evidence that any of these things are having an impact on students’ learning, so that’s really what I want to see. I get enthusiastic about a technological application if I can see that it has some impact on students. That’s what differentiates what we are doing from just about every other use of technology in higher education right now. Having been an officer of the leading technology organization, I know it’s difficult to get people to talk about student learning as opposed to a new technology. It’s very, very difficult.
With the new technologies, students are coming in very used to doing collaborative work online, through blogs and wikis, and they are used to things like YouTube and MySpace, but there are also academic implications for those types of technologies which are much different from the ones we had even five years ago.

Well, whether it’s a blog, a computer conference, or any of these sort of communications applications that people talk about, in most of our course redesign projects, almost none of these applications is used. In other words, so much of the way that people think about students using technology is some form of chat, which has very little to do with learning. Our projects are much more structured, so you might have team-based projects that involve online communication, but they are clearly laid out, with specific goals and objectives, rather than just discussion for discussion’s sake.

I am talking more about using these tools that students have now in a facilitated environment. Do you see that the use of tools is changing the structure of the classroom more rapidly because students are familiar with them, and so instructors can use them to pass some of that responsibility to the student, so that they can take more ownership of their learning? These tools naturally exist in the overall technology environment for students, whereas older models, older technologies—course management systems, even—teachers had to push things out to students, without the opportunity for students to engage in the way they feel comfortable doing now.

I do not see an immediate application of YouTube to a college learning environment. You might say it is possible to share videos on the Web, and I say, “Well, right, that’s true,” but so what? I think that learning experiences for students need to be highly structured. So when you say “students take ownership of their learning,” I’m not sure what that means. If you are teaching college algebra, for example, I do not see any application of these new web technologies. The way in which we have seen tremendous improvements in student success in math is by students working problems, getting feedback, taking quizzes, and things of that kind that are not particularly collaborative. It has to do with practice. I am not saying that you could not have creative uses of these collaborative technologies, probably at more advanced levels for students. They might be of interest to people who have the ability to take more responsibility for their learning. At the level on which we are primarily focused, which is the introductory level, most of these courses are highly structured—highly directive, if you will. Every time someone has tried to make redesigned courses “self-paced,” which implies greater student responsibility, it’s been a miserable failure. As we like to say, “Freshmen don’t do optional.”
If you are really taking it at the introductory level, it’s much, much different.

In our experience with Empire State, it’s also true that adult students, who tend to be much more self-motivated and self-directed, need highly structured instruction. They need structure and pacing—all of these things. While I am open to the idea of students taking responsibility for their learning, I just have not seen that happen in the large projects that we have been associated with, which now number close to 200.

In terms of online learners, how do you think student services need to change and/or adapt to serve those learners? And how do—or should—universities be connecting with them around the admissions process?

While I am certainly not an expert in college admissions, my impression is this is already happening. Just about everybody has web-based applications such as virtual tours of the campuses. Colleges have also moved fairly rapidly with automated registration systems; however, I think more needs to be done with degree audits and self-service options for students in terms of understanding where they are in the process, so they do not get lost. It’s fine to register everybody, but what happens when you want to drop, but you do not know what the rules are? I think that institutions have a long way to go in that regard. It’s kind of like bad voicemail versus good, automated services. To some extent, I think we are in a bad voicemail stage versus a good one. When I make my own airline reservations online, it’s much more flexible than dealing with a person. You can choose seats, among other self-service options. That’s where I think we need to end up, because that’s what students want.

...the high-touch culture in so many institutions where there is that person-to-person interaction...

But with most of these administrative functions, person-to-person action involves waiting in the line. That’s not the kind of person-to-person interaction that people want. Even though people do meet their future spouses by waiting in lines in college, I think we can do better than that.

Anything else that you want to add?

I’d like to add a comment about higher education’s response to course redesign. NCAT started out working with a group of 30 institutions and added another 20, and then another 60 as part of three national programs. We are doing a variety of state-based programs and partnering with large university systems—in Maryland, in Tennessee, in Texas, and in Arizona—to create course redesign programs. We have just formed a new national organization of institutions and companies interested in course redesign called the Redesign Alliance, and we have about 70 initial members. For our first conference, we had to close our registration ahead of time because we reached capacity, at 400. While course redesign is not quite a full-blown movement, it’s beginning to show signs of that at this point. We see things starting really to ramp up, so I think we are moving from being unique to being mainstream as we move forward.

How are you finding your institutions? Are you selecting them? Are they coming to you? How is the demand?

We have a variety of different programs. We decided to emphasize system-wide and statewide programs as a way to scale. In other words, it’s much easier to run a program with all the institutions in Maryland than it is to work with them one by one. However, we also needed ways for individual institutions that wanted to learn about course redesign to have a place to do that. That was why we formed the Alliance and organized the conference and other events. Now, we have a number of venues where people can get involved, and they are coming to us. We have partnerships with all the major higher education publishers, and they are telling their customers about redesign. So interest and demand are coming from multiple sources at this point, and it’s really starting to explode.

Thank you so much for your time.

ABOUT THE AUTHOR

Elizabeth Clark is the Director of Instructional Design and eTeaching Services at Boston College (BC). As such, she is responsible for providing leadership and direction for instructional technology initiatives at BC, developing strategies that support current and future eTeaching efforts. Previously, Clark served as Director of Communications and Public Relations at Andover Newton Theological School, developing and managing the School’s web presence and administering its eLearning program. She was also a web development consultant for a variety of nonprofit organizations around the Northeast. Her professional background includes federal and state policy analysis and planning and program management for human service organizations, which has driven her interest in integrating social computing into academic settings.
Inevitable in the world of collegiate student marketing is the continued pressure to develop tools that give one institution a competitive edge over another. Frequently this measure is assigned to glamorous Web sites, glitzy brochures, videos, and high-dollar advertising. However, obscure and often less valued is the premium stock one can invest in rapid document processing systems to reach a decision and instant outbound notifications to keep applicants informed. Tools that expedite handling, paper reduction, real-time dynamics, and 24/7 self-service are perhaps the new stealth advantages that are influencing strategic student marketing as well as students’ decisions about where to attend.

To augment front office and general customer service operations, Kennesaw State University (KSU) is moving to enrich the “Digital Back Office.” The operational philosophy of the KSU Office of Admissions can be described as “Digital Front Office”—a virtual one-stop-shop providing customer relationship management through high-touch, 24/7 transactional web services along with traditional recruitment and processing. The transactional web strategy services that are in place include online applications, online personalized brochures, virtual advisor Q&A, access to check application status for both applicants and high school counselors, freshman admissions predictor, online high school guidance counselor service center, electronic Georgia High School Directory, VIP personal Web page, personalized e-mail communication plan, chat, telecenter, and automated outbound phone notifications.

With limited funding to expand the number of staff members, transactional web and other electronic services provide alternative approaches to keep KSU competitive.

The purpose of this article is to discuss emerging electronic services reflective of electronic data management using digital imaging and data integration (electronic data push) advantages and how they have inspired more creative deployment to increase rapid response. These services—the “Digital Back Office”—have the potential not only to support the internal operations of the admissions process but also to enhance those services devoted to the recruitment and admission of prospects and applicants.

Emergence of Digital Imaging
Digital images are electronic snapshots taken from a scanned document, such as photographs, manuscripts, printed texts, and artwork. Scanners are found at practically every education institution, and digital cameras—now a standard cell phone feature—are seen almost everywhere. The workflows of data entry and electronic document creation (such as Word, PDF, and HTML documents) also result in digital images.

However, digital imaging was not the first method used to achieve an archival or document storage solution. Microfiche was first used to avoid the tremendous volume of storage needed to archive decades of hard-copy files and records which accumulated from admissions and registrar offices. Preservation microfilming maintains its status as a highly revered and widely practiced preservation reformatting strategy; it also is still widely used in libraries and conventional enrollment services offices. Significant national support is evidenced by The National Endowment for the Humanities’ (NEH) continued funding of the preservation of brittle books and serials through microfilming. Certainly microfiche is a reliable, relatively inexpensive technology that ensures hundreds of years of storage; yet the access potential of microforms pales in comparison to digital technology.

Access Potential of Digital Imaging
The advent of digital technology made it possible to archive and quickly retrieve transcripts and other records, and it was these features that initially attracted records professionals. The
access potential of digital technology quickly convinced admissions officers of prospective uses even beyond archiving. Today, digital imaging promises to revolutionize all aspects of the admissions process—from initial contact to application, and through the various processes involving data entry, the front office, document retrieval, file review, the Telecenter, document management, admission counselor activities—in short, from prospect to applicant to the final admissions decision.

**Early KSU Attempts at Implementing Digital Imaging**

KSU first considered archival imaging by the business office and the registrar in 1994–95, but implementation was not achieved. In the years that followed, the need to convert to a more powerful student records system became the primary (and perhaps the only) concern. When the new student information system (SIS) was finally implemented in 1997, the Office of Admissions was severely handicapped by the manual data entry that was the result of the conversion from legacy operations with three data entry forms to the new system with 21 forms required in the admission process. Because of institutional implementation decisions, it was necessary to maintain the old system for a period of time while converting to the new system. Running parallel systems; long hours; and a steep learning curve returned prospects of a digital imaging system to the radar. Increased stress led for a time to high personnel turnover even as focus on the SIS conversion damaged public relations with high schools and other campus offices.

Digital imaging once again came into consideration when the Office of Admissions proposed its use to restore document processing and retrieval reliability lost during the SIS conversion. A campus-wide approach called the Enterprise Solution sought a limited archival solution that would network many departments throughout the institution.

Various vendors were investigated, including Ikon, Indus, Kodak, SCT Imaging, and various mom and pop shops. After twelve months, the Enterprise approach was abandoned, and digital imaging became a project focused on the need of KSU Enrollment Services. SCT Imaging was contracted to install two stations in undergraduate admissions, one station in graduate admissions, one station in the registrar’s office, and one station in financial aid. In the seven years that followed installation, admissions added six more stations. Installation of the initial equipment and software was rapid, but service proved unreliable. After four months of operation, SCT Imaging announced that it would not directly provide an imaging product or service. A new search ultimately ended with Nolij Web and an open-ended architecture enabling operations beyond archival imaging. These operations provide new efficiencies in electronic data management. Indeed, the promise of digital technology is to end the paper shuffling associated with hard copy!

**Additional Personnel Support and Costs**

To support archival imaging, KSU funded one additional full-time permanent employee (full benefits) for each department in admissions, registrar, and financial aid. A technical position also was approved to support the imaging operations. In front-end archival imaging, time is of the essence, as documents are scanned as they are received. To achieve this, the Office of Admissions traded four half-time temporary employees (no benefits) for an equivalent of three FTEs. KSU expended approximately $100,000 for equipment, software, licenses, installation, and training to support all offices. Fujitsu duplex scanners and Dell computers were purchased. Dual flat monitor stations enable operators to scan and index documents to individual electronic files. The dual flat monitor stations allow access both to imaging and to the student information system, thus eliminating the need to toggle back and forth. An individual applicant’s SIS file is displayed on one monitor while the imaged file is viewable on the other.

**Volume of Archiving and Network of Users**

By October 2003, KSU had archived 3.5 million images on the server. The Office of Admissions collects more than 20,000 applications each year with more than 500,000 supporting “pieces of paper.” More than 350 campus personnel are networked as authorized users. By July 2006, KSU had scanned more than 4.6 million documents.

**Primary Goals: Reduce Time Spent on Record Processing, Streamline System Operations, and Improve Customer Service**

For the Office of Admissions, front-end archival imaging was only a first step. To achieve goals of reducing labor intensive record processing, streamlining the application to decision processing, and improving customer service, it was necessary to go beyond archival imaging. Traditional admissions processes had to be modified to utilize the wonders of digital imaging and electronic data integration to “push” the data into the SIS. An example at KSU was the implementation of workflow within the imaging system. Initially, we chose to target our largest population of applicants: freshmen. After six months, this process was determined to be a success. Workflow then was expanded to include all other classifications of undergraduate applicants. Through workflow and other processes, such as document management within the imaging system, the goals of reducing time spent on record processing, streamlining system operations, and improving customer service were achieved.

**Archival Imaging—Best Accomplished on the Front End**

Quick retrieval of documents and workflow efficiencies by data entry, front-counter workers, counselors, and various offices (such as academic, financial aid, health services, and counseling) are best achieved if archival imaging is done as soon as documents are received. The handling of “hard copy”
credentials entails the opening, date stamping, sorting, and routing of documents—and, hence, delays; such delays are not associated with the electronic delivery of credentials (e.g., applications and SAT/ACT scores). In the near future, initiatives in the State of Georgia will lead to electronic receipt of high school transcripts and University System of Georgia institution transcripts. Until then, we must continue to process “hard copy” transcripts.

Front-end archival imaging of hard-copy credentials has many benefits. From common points of access, front office and data entry personnel as well as counselors may quickly retrieve a document. In the past, counselors and front office workers walked a round trip of 150 yards to search for documents in the records file room. (Never mind the tracking down of files that might be on any of a number of desks!) Archival imaging allows for the quick retrieval of images of hard copy documents stored in remote locations. Moreover, multiple individuals and offices may access a single document simultaneously.

When a document is scanned, an operator indexes the image in Nolij Web to the individual’s electronic file. The image is associated with an electronic account in the student information system. This record may belong to a new applicant, a returning applicant, an enrolled student, or a prospect. The KSU Office of Admissions also creates electronic files when a document arrives without a corresponding application on file. This way, the document is visible in imaging prior to the application even being received. The electronic file provides a unified central repository of documents, letters, transcripts, scores, as well as basic application information (such as name, ID number, citizenship, GPA, application term, etc.). Any scanned document or electronically “pushed image” can be viewed, thus eliminating the need for a hard copy file.

Step-by-Step Procedures

1 Develop Image-Processing Procedures. Although image-processing procedures vary from institution to institution, standard business practices guide document preparation. In addition, procedures in place at various institutions guide such matters as scanning to batch, quality control, naming of documents, and indexing documents as a link to an individual’s electronic folder. Even though the field was only newly emerging, KSU admissions and information technology officers visited Villanova University in 1999/2000 for the purpose of developing image-processing procedures.

2 Use Document Management to Archive Word, PDF, and HTML Documents. Maintaining hard copies of letters and PDF and HTML documents is a labor-intensive process, but document management through Nolij Web eliminates printing, scanning, and indexing of these types of documents. For example, at KSU, the SIS is used to generate merge fields, such as names, addresses, and other relevant information, and Microsoft Word is used to merge for the printing of decision letters. This process creates one Word document made up of numerous letters. The Nolij Web document management process parses this file into individual letters and pushes electronic copies of the letters into an individual Nolij Web electronic file. KSU also uses document management to place applications into imaging without printing and scanning. This process resulted in the saving of approximately eight hours a day, so that one employee could be redirected.

3 Develop a Paperless System Using Workflow. At KSU, all undergraduate applications are processed through workflow. Hard-copy files for applicants are no longer made. As soon as the image of the application is pushed into the electronic file, that file is sent to the operator through workflow for validation. When supporting credentials are received, the file also moves through workflow to the operator to make any needed updates in the SIS for that applicant, and to make a decision as warranted. Files for transfer evaluation also move electronically in workflow within the Registrar’s Office. No longer must hard-copy files be transferred from one office to another.

When developing workflow, certain decisions must be made—for example, assignment of workflow boxes to individuals versus positions, assigning by alphabet or student type or some combination. Also consider what information should appear in the inbox: just the applicant name, or perhaps the term and/or date it entered the inbox?

4 Seek Vendor Providing Electronic Data Integration Technology. For staff members who spend the day manually entering data from an application, the concept of data integration or electronic data push is easy to understand. At KSU, there is no need to enter 90 percent of the data from online applications. Each day, the batch file of online applications is retrieved in a format enabling it to be “pushed” into the SIS record system. Electronic data push technology has expanded the boundaries for applications, credentials and SAT/ACT scores, and document imaging. Electronic data push technology also has established a new frontier for workflow procedures.

Software enabling electronic data integration performs the work of full-time employees. Kennesaw State University receives online applications in the form of a text file from a vendor. SAT and ACT scores are also received in text file format. Nolij Transfer, our electronic integration software, performs matching against our student information system. Data are pushed in either manually or in batch mode. Until we discontinued paper applications, we made use of CAPTIVA software, using intelligent character recognition technology (ICR) to scan paper applications, in conjunction with Nolij Transfer. ICR technology is able to digitize handwriting as well as printed alphanumeric characters. The created data file was in the same format as the data file for the online application. Data were pushed into the SIS using Nolij Transfer.

Data entry operators validate the data in the SIS after applications are matched and pushed into the SIS.
CAPTIVA was excellent companion software in 2005, when 15 percent of applications were paper. Today, 99 percent of applications are online; very few are entered by operators or processed by CAPTIVA.

**Utilize Form Designer (Notepad) Feature Providing Accelerated Access Points.** The critical access points in the admissions process are data entry, front counter customer service, and counselor review. Nolij Web provides the form designer, or notepad, as an optional feature. By creating and activating a form in the imaging system, it is possible to display data directly from the sis. It is also possible to develop the form so that data can be entered into the sis through the Nolij Web notepad. KSU uses a form to display SAT and ACT scores that are electronically downloaded into the sis.

**Recognize That Hard Copies Die Hard.** The flooding that resulted from Hurricane Katrina and subsequent effects on electronic storage and backup systems taught hard lessons. The systems were seen as vulnerable to disasters on a wide scale. Even before this, many administrators doubted the stability of electronic storage and so were reluctant to dispose of hard copies. However, with effective disaster planning, backups can be maintained remotely to ensure the security of electronic files. The move to a paperless process—a truly digital back office—thus can be made with confidence.

**Conclusion**

At KSU, electronic data management through digital imaging, workflow, and electronic data integration have provided a platform to ascend to other levels of strategic enrollment management. Digital technologies have reduced time spent on record processing, streamlined operational systems, expanded student access, improved customer service, and given KSU a new competitive tool.

Front counter staff possess improved customer service abilities given the capability to view document images as well as sis forms. No longer is it necessary to leave the front counter to retrieve a document from a remote storage bin. Admission counselors need not contend with file folders and a mass of hard-copy documents; instead, they are able to review files and relevant documents and the sis forms using a computer screen. If necessary, they can add comments or notations; ultimately, they can make the appropriate admissions decision.

All of the above features have dramatically improved the efficiency of enrollment services by reducing delay, galvanizing document reliability, accelerating communications, reducing hardcopy handling, and curbing the document storage encroachment. This strategy holds benefits for many other enrollment-related departments—e.g., financial aid, counseling, recruitment, orientation, and academics—as documents may be accessed and viewed simultaneously.

KSU sees the future of enrollment services as being supported by a transparent digital back office with stealth operations. Technology is open-ended and fluid, and its capabilities are continually increasing. The digital back office is the new companion to the evolving digital front office of transactional web tools and customer access already in place at KSU. The melding of technologies and enrollment services strategies yields a recruitment advantage as self-service and outward-bound communications provide information to prospects and applicants much more rapidly than KSU ever could provide in years past.

Kennesaw State University enjoys a decade of developing state of the art enrollment technologies in areas such as 24/7 interactive web technology, imaging, workflow, and uploading electronic documents. The university shares these accomplishments through conference presentations, articles and hosting campus visits. Since 2003/04, over 30 colleges and universities visited the KSU admissions office.

**ABOUT THE AUTHORS**

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Forum
Research in Brief

Functional Role of College Registrars as Middle Managers

by Sandra Lepley

Editor's Note: This is the second in a series of four articles related to the functional role of community college registrars and web systems implementation projects. The result of doctoral research in educational leadership, the first article discussed the functional role of community college registrars during web-enabled student information system implementation projects; this article focuses on the role of registrars as mid-level managers during major organizational change, such as systems implementation. The third article will review related literature on administrative role conflict and ambiguity, and the fourth will focus on the registrar's role as a leader during technology change.

Several writers have recognized variations in higher education administrators' roles and functions (Graff 1986; Kerr 1991; Quann 1979; Rashdall 1936). As they emerged in the Middle Ages, the registrar's duties originally were carried out by highly respected and privileged rectors or chief administrative officials; later, some of the duties were handled by scribes or secretaries (Rashdall 1936). In 1289, an official list or Matricula of enrolled students was developed in response to ongoing disputes as to whether a person was in fact enrolled, a scholar, and thus entitled to certain privileges. However, the official title of registrar did not come into use until the 15th century (Rashdall 1936).

Originally published in 1940, Alma Preinkert's The Work of the Registrar was re-published by AACRAO in 2004. Preinkert, a respected university registrar of lengthy tenure, focused on the registrar's role as one of attending to students' problems and articulating with other administrative offices. According to Preinkert, powers and responsibilities accompanied function to establish a registrar's role. Functions broadly involved admissions, student records, and interpretation of student records. Preinkert observed that registrars' duties were better understood at larger institutions.

Quann (1979) studied and categorized college and university registrars' functions, responsibilities, and titles and recognized variations by size and scope of the institution, internal organizational structure, financial resources, and the education and experience of the individual official. Quann (1979) provided a list of duties and responsibilities often found to be within the purview of the registrar. Significant duties included “registration and scheduling, grade reporting and record keeping, transcript preparation and certification, catalog and brochure preparation, veterans' affairs, data processing, and research and reporting” (Quann 1979, p.19). As one of the chief administrative offices, the registrar's office handled all aspects of student enrollment and records, and the registrar maintained the official college seal (Quann 1979). He sometimes served on the curriculum committee and most often reported to the highest-ranking academic official (though sometimes to the highest-ranking student affairs official) (Quann).

Burr (1980) used a survey questionnaire and interviews to study job satisfaction among community college and university registrars in Florida and also identified the job functions of the registrars included in the study. These functions were identified as:

- Selection, supervision, coordination, and evaluation of staff
- Responsibility for student enrollment and records
- Undergraduate and/or graduate registration; scheduling of classes, examinations, and classroom facilities; and maintenance of student records
- Professional and civic activities
- Counseling and advising students, parents of students, and other interested groups or individuals
- Participation in program planning and budgeting (Burr).
Certain aspects of the registrar’s functional role as found by Rashdall (1936), Preinkert (2004), Quann (1979), and Burr (1980) may have been considered unique to that office. For example, responsibilities for student enrollment and records, as well as scheduling classes and classroom facilities, may have been unique functions of the registrar. However, in 2005 web-enabled student information systems allowed these functions to be carried out by students, academic deans, and others who had a legitimate reason for access. The registrar’s role thus may have changed to include monitoring rules that allowed transactions to occur, maintaining established system variables, and keeping abreast of emerging technologies, among other duties.

In 1984, Scarlett predicted that opportunities for admissions officers and registrars to exercise institutional leadership would increase. Scarlett predicted this would happen as a result of the scope of college and university registrars’ work, the urgency of recruiting and retaining students, and the extension of responsibilities in relationships with other administrators. Halfond (1984) and Graff (1986) proposed that the registrar’s role had yet to be totally understood or truly established. After all, registrars had different backgrounds and a variety of institutional reporting scenarios (Halfond 1984). Halfond (1984) proposed that registrars become information specialists, as they often knew what data were available and how such data might prove useful to institutions. Graff (1986) proposed that the registrar was an important potential contributor to an enrollment management team given the effects of the office’s activities on student retention and its role as guardian of data that supported enrollment research.

Brewer (1987) referred to the college registrar as responsible for maintaining student and academic records, the registration process, and a variety of other student services. Brewer (1987) studied college and university registrars’ opinions of computers and recommended further research on the effects of implementing computer technology. Importantly, Brewer (1987) found that registrars’ opinions toward computer technology implementation were factors in the implementation outcome.

In 1992, Gunn and Backes, both experienced university registrars, were convinced that registrars’ new technology, combined with procedural simplicity and staff’s positive supportive student orientation, contributed to institutional success. Gunn and Backes (1992) maintained that registrars’ ideal mission would be to support academics and to introduce services that did not induce dissatisfaction that might cause students to leave an institution.

Lanier (1995) proposed that the role of the college registrar was in a time of change. He urged these professionals to recognize opportunities provided by their highly visible places within the college administration. Lanier suggested that effective registrars must be talented managers, leaders

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with vision, developers of interest groups for change, and able to combine new technology with best service management practices. As stewards of student and academic data, as well as multiple codes (such as those referring to student status) and other data, registrars were obliged to protect those data while working with others and with technology (Siblock 1997).

Little has been published about the registrars' role in enrollment management, yet responsiveness to student needs affects students' continued enrollment (DeCristoforo, 1996). Riesman (1998) observed that community colleges adjusted their offerings and schedules to meet students' and communities' needs. Such adjustments may have directly affected the registrar's role, particularly given the challenges of enabling continuous adaptation and correct documentation as programs changed.

Quann (1996) conducted a field study to compare the functional role of registrars in the United States and China. Using a template he had developed in 1979, he divided the registrars' duties into several functional tiers. These principally involved class enrollment and reporting; computing services and other data reporting; producing and administering academic publications; system analysis and technical services, including staff training; and services for veterans. The fourth tier involved developing and implementing technology. In 1996, Quann summarized the function of the registrar as a principal academic officer usually reporting to the academic dean but not routinely teaching academic courses. Some registrars acted as admissions officers, yet they rarely administered admissions tests. Quann (1996) had a secondary interest in computer automation and so focused on the ability to pre-register students for improved enrollment planning; he found that pre-registration was a common duty of registrars in the United States.

In the 1980s, many colleges and universities developed an enrollment management structure as a form of marketing management to increase enrollments (Huddleston and Rumbough 1997). A national study of enrollment management organizations at four-year colleges and universities revealed that the registrars were part of the enrollment management team in many, but not all, institutions (Huddleston and Rumbough 1997). Like Graff (1986), a recommendation was that the registration function be moved into enrollment management.

Several researchers and authorities have addressed issues relating to data security and accuracy. Guzman (1997) conducted a small Internet survey and found that registrars sometimes shifted part of their responsibility for correct data input to students. He maintained that this was problematic given students' increased fraudulent claims regarding enrollment and graduation. In 2000, Huddleston found that college registrars operated in a complex environment, often utilizing multiple technologies in the handling of student and academic information and processes. Katz (2001) noted that certification of certain student information, such as athletic compliance, was a highly visible and important responsibility of registrars. Protecting their institutions from noncompliance penalties, registrars were required to verify initial and continuing student athlete eligibility and transfer eligibility. Institutional penalties for noncompliance sometimes involved financial consequences, negative image, and media bans. Efforts to enable students to self-manage their enrollment, combined with the complexity of multiple technologies and pressures for accurate reporting, made the registrar's function increasingly challenging.

According to Huddleston (2000), the college or university registrar typically oversaw student enrollment; managed student records, class schedules, and classroom facilities scheduling; and often produced the college catalog and academic calendar. The registrar managed the centralized information systems, and the office's professional staff typically were at the center of technological innovations that served the institution, or the campus community. The registrar's office was believed to be a unit that had a significant impact on students' initial and continued enrollment and graduation—and, thus, on an institution's growth (Huddleston 2000). Further, the registrar was required "to supervise and utilize management information systems for reports and programs of the academic infrastructure" (Huddleston 2000, p. 68). Collaboration with academic affairs was viewed as critical (Huddleston 2000). In response to registrars' institutional involvement with enrollment management, AACRAO seminars and publications began to address enrollment management explicitly.

Typically, the registrar is a middle manager in a college's organizational structure. Blumentritt and Hardie (2000) proposed a new role for middle managers in service organizations: rather than the traditional authority role, the new role was to be one of knowledge management by facilitation, coordination, and communication. Many of the traditional information-gathering and -disseminating duties of middle managers have been eliminated by computers because it has become apparent that complex integrated knowledge requires many of the same efforts, but on a broader scale (Blumentritt and Hardie 2000). In the year 2000, the middle manager was at the intersection of the hierarchy, and integrated systems operated at the intersection of the horizontal organizational structure (Blumentritt and Hardie 2000). The middle manager's handling of knowledge transfer in this scenario thus included identification, acquisition, creation, validation, capture, transfer, and utilization (Blumentritt and Hardie 2000).

Based on the premise that the role of middle managers was often misunderstood after a period of organizational downsizing and reengineering, Balogun's (2003) case study of a United Kingdom utility implementing a preplanned strategic change (including systems, structure, and work practices) led to the broad conclusion that middle managers' focus included making sense of their surroundings and overseeing implementation activities. Balogun (2003) concluded that middle managers have four roles during change implementation: (1)
personal change, (2) continuous business during change, (3) implementing change, and (4) helping others implement change.

Direct observation of middle managers led Van der Weide and Wilderom (2004) to understand that middle managers’ most effective behaviors during change included steering, supporting, self-defending, and sounding. The most successful middle managers were found to be directive and spent a great deal of time steering, or dramatically sharing, the vision of their organizations while the shorter life cycle of innovations increased the pace of change and resulted in jobs being more dynamic (Van der Weide and Wilderom 2004).

This survey of literature regarding college and university registrars’ roles indicates a focus on academic support with awareness of the importance of facilitating student success. Levels of responsibility for information technology vary, but such responsibility may be the catalyst for increased professionalism of the registrar’s functional role, particularly given the importance of creating and maintaining accurate and secure student records.

Delmestri and Walgenbach’s (2005) qualitative research in Europe applied Stewart’s (1982) work regarding managers’ choices. Middle managers in three countries in industries including education, where technical knowledge was considered to be important, shared a common theme of maintaining a positive social environment, handling exceptions, and solving unexpected problems (Delmestri and Walgenbach 2005).

References


About the Author

Sandra Justice Lepley (Fahey) served as both community college Director of Admissions and Records (1986–1997) and Administrator in Information Technology (1997–2001) at Edison College District in Ft. Myers, Florida. She received her B.A. and M.Ed. from Florida Atlantic University, her M.B.A. from the University of Miami, and her Ed.D. from the University of Central Florida.

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She completed her doctoral program in Educational Leadership/Curriculum and Instruction from the University of Miami, and from which this article is adapted. Copies may be purchased online at http://www.aacrao.org/publications/new_form or by phone at (301) 490-7651.
They’ve Never Taken A Swim and Thought about Jaws: Understanding the Millennial Generation

by Alicia Moore

They were born at the same time as Macs and PCs. Starbucks, voicemail, Bill Gates, and AIDS have always been a part of their lives. At rock concerts, they use the lights from their cell phones, not lighters or matches. They’ve never heard Howard Cosell call a game on ABC; Elton John has always been on easy listening stations; and Kurt Cobain’s death was the day the music died. And the best part? Kermit the Frog is older than most of their parents.

Welcome to the Millennial Generation, those students who are even now entering the doors of higher education (and as you’ll soon read, their parents are not far behind). Through the coming decade, this generation will transform colleges and universities as much as — if not more than — the Baby Boomers did, and they will do so in very different ways. Some colleges and universities will figure out this generation, respond, and “rise in reputation;” others will not. Some will tailor their services to meet the needs of this generation and in so doing will build lifelong connections to their alumni; others will not. Some will change their marketing approach to cater to this new generation; others will not (Howe and Strauss, 2003). The bottom line? Some will succeed; others will not. What will your institution do?

Generational Theory
Before reviewing who the Millennials are and how colleges and universities can respond, it’s important to review the basic precepts of generational theory.

Generational research started with the Puritan generation that founded our nation. With a generation comprising roughly 20 years, Gen X is known as the 13th generation.

Basic to generational theory is that each generation is shaped by its own biography, where the biography comprises a series of events to which people with common birth years relate and around which they develop common beliefs and behaviors. It is these commonly held beliefs and behaviors that form the “personality” of that generation (Strauss and Howe 1991; Coomes and DeBard 2004). For example, ask any Silent Generation member where they were when Roosevelt died, and most can tell you, and most will share common perspectives about that event; the same is true for Baby Boomers but with regard to when Kennedy was shot, and for Generation X in regard to the Challenger Disaster.

Feeding into the formation of different generations is the concept that the personality of a generation is cyclical. Thus, approximately every third generation will closely emulate the values and beliefs of three generations prior:

- Each generation breaks with the generation nearest in age to them because that generation’s style no longer functions well in the new era (for example, Millennials prefer to work in teams whereas Gen Xers are very independent);
- Each generation wants to correct what it perceives to be the excesses of the current midlife generation (e.g., Boomers were active protesters whereas many Millennials

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<tr>
<th>Generation</th>
<th>Birth Years</th>
<th>Current Ages</th>
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<tbody>
<tr>
<td>Silent Generation</td>
<td>1925-1942</td>
<td>65-81</td>
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<td>(current elder generation)</td>
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<tr>
<td>Baby Boomers</td>
<td>1943-1960</td>
<td>47-64</td>
</tr>
<tr>
<td>(current midlife generation)</td>
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<tr>
<td>Millennial Generation</td>
<td>1982-2002</td>
<td>25 and younger</td>
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<td>(Strauss 2005)</td>
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are not politically active, nor are they likely to be so in the future); and each generation fills the social role being vacated by the departing elder generation (for example, the Millennials have a strong connection to the Silent Generation’s upbeat and trusting attitude) (Coomes and DeBard 2004).

And hence, a generation is born.

A Word of Caution
Generational theory implies that everyone who is part of a generation holds the same beliefs, values, and attitudes. While the concept is good in theory, one must be cautious and not assume that all members of a generation fit the mold.

In fact, generational theory states that the generational characteristics are generalizations according to which one can draw broad conclusions about the collective group but not necessarily about individuals within the group. For instance, if there is a large age gap between siblings—one that crosses generations—the younger sibling may relate with many of the events and values of the older brother or sister. Further, Coomes and DeBard (2004) conclude that “the big picture seldom contains images of marginalized groups” (p.14).

The Basics about the Millennials
Higher education is on the cusp of an enrollment boom, with enrollment expected to peak at an estimated 15.8 million students by the year 2012—an increase of 12 percent over current levels. More important, the Millennials are the largest generation to date, with more than 80 million having been born since 1980. Add immigration, and the Millennial generation is nearly 90 million strong. By the year 2012, Millennials will account for 75 percent of all higher education enrollment (Coomes and DeBard 2004 citing Center for Educational Statistics 2002).

The numbers paint a basic picture, but understanding the characteristics of this generation will help campuses develop strong services and optimal learning environments for the Millennial generation. Only as they begin to understand this generation’s personality can campuses begin to respond.

Diverse
In the summer 2004 “New Directions for Student Services” series, Robert DeBard states:

The first truth to acknowledge in trying to encapsulate the characteristics of Millennial students who are trying to matriculate through collegiate programs is they are the most racially and ethnically diverse in this nation’s history (p.33).

The numbers tell a compelling story:
- Enrollment of women increased by nearly 5 percent since 1980, bringing female enrollment to more than 56 percent of all those enrolled in higher education;
- Since 1980, the percentage of Asian American students increased by 33 percent while overall enrollment increased by only 22 percent (DeBard 2004 citing National Center for Educational Statistics 2000);
- One in five Millennials are children of immigrants (Howe and Strauss 2003), and the number of children speaking a language other than English at home has doubled since 1979 (Broido 2004); and
- Hispanic students represent the largest anticipated future growth, from 10.6 percent of undergraduates in the year 1995 to an estimated 15.4 percent in the year 2015.

But diversity pertains not only to race and gender. The Millennial generation has been raised in an era of wealth—more so than other generations—due in part to having had two working parents or to couples having waited longer to have children (Atkinson 2004). Even more striking is that it is increasingly rare for a family to have more than one child. And while many children continue to be raised in two-parent households, 25 percent of children born since the 1980s will live with step-parents before they reach adulthood (Broido 2004 citing Mason and Moulden 1996).

Finally, this is a generation that has experienced discussions about sexuality at almost all levels: in schools, in the courts, in the military, on TV, and in the movies. Such conversations are no longer taboo, as they were and as they remain for many older generations. This generation is expressing an increasing level of support for gays and lesbians (Broido 2004 citing Sax and others 2001) and is more comfortable talking about sex than all other current generations.

Pressure to Perform
Howe and Strauss (2003) summarize the “pressure to perform” trait better than anyone:
There’s a new “arms race” among today’s teens and it’s called: “Getting Into College.” According to recent surveys, the two items that worry teenagers the most these days are grades and college admissions. (Twenty-five years ago, the most worrisome items in a teen’s world were threats of a nuclear war; a decade ago, they were AIDS and violent crime.) (p.115).

The Millennials feel pressure to perform in all they do: work, volunteer activities, school activities, sports, grades, and more. This is a generation that has adopted five- and ten-year plans by the time they’ve reached middle school. More and more are required to have portfolio work to graduate from high school; state educational reform efforts compound such pressure by requiring different certifications and/or testing for high school graduates. Employers are asking to see grades (and, in some cases, attendance records); homework levels are ever on the rise; class periods are lengthening; and private tutors are more in demand than ever before (Howe and Strauss 2003). Why? Because Millennials have been taught that what they do now pays off later in life, whether it’s in the college admissions process or in future employment opportunities.

It is important to note that this is also the video game generation: its members log 10,000+ hours of screen time by the time they reach college. And all avid video game fans know that to reach the next level, you’ll likely have to lose at the first one. The lesson learned is that you repeat the process until you master one level and move on to the next. So while performance is key to success, so is trying; eventually, trying represents winning.

**AMBITIOUS/ACHIEVERS**

Not surprisingly, the pressure to perform has led to a generation of achievers. More than 75 percent of college freshmen indicated they had plans to pursue a graduate degree, compared to 66 percent five years prior (DeBard 2004 citing Sax and others 2002). Almost half of teenagers indicate that they plan to pursue a degree that exceeds the credentials needed for their desired field or occupation (DeBard 2004 citing Schneider and Stevenson 1999); average SAT scores are the highest they’ve been in more than 30 years; and more students are taking AP classes than ever before (Strauss 2005).

Many worry that this high level of ambition will make this generation competitive, non-team players. But not to worry: First, this is a generation that always has been given trophies for participation as well as for victory. And more important, parental involvement and societal influence created a generation of team players.

**CONFIDENT, OPTIMISTIC**

Pressured to perform but also rewarded for how hard they try, this generation naturally has become confident and optimistic.

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And why shouldn’t it be? This is the era of loved and protected children who have been encouraged to believe in themselves in all that they do (DeBard 2004); the era that witnesses daily inventions in science, medicine, and technology that improve lives and make people healthier; and the era in which it’s considered cool to be smart.

- More inventions have been created in this generation’s childhood than in any generation before (Oblinger 2003);
- While cures for diseases such as AIDS continue to elude researchers, cures for many forms of cancer and polio have long since been found;
- Technology is constantly improving lives;
- Violent crime by teens; alcohol and drug use; and suicide and teen pregnancy rates are all down for the first time in decades; teen pregnancy and alcohol/drug abuse rates among 8th, 10th, and 12th graders have fallen to all-time lows (Strauss 2003).

It’s getting easier to be a kid. In accordance with the premise that generations are cyclical in nature, this generation clearly echoes the hopeful, optimistic attitude of the Silent Generation.

**TEAM-ORIENTED, CONNECTED GENERATION**

From movies such as Lilo & Stitch to Black Hawk Down, this is the “leave no one behind” generation. Millennials have learned the importance of the team on soccer fields, in classrooms, and at home. “The team is very important to this group,” observes Howe. “Millennials are used to being organized as teams to get things done and being evaluated as a unit, getting a group grade for a project or assignment” (Howe and Strauss 2004; Zemke 2001, citing Howe 2000). More children are involved in family meetings and have input on decisions ranging from what new car to buy to whether the family should relocate to a new town.

In addition to being team oriented, this is a very connected generation; friends, family and others are all considered part of the individual Millennial member’s team. Howe and Strauss (2004) write, “Before morning classes, Millennials can be seen on cell phones, keeping in close touch with friends on campus or back home. At the end of the school day, Millennials use the Internet to stay in constant contact with a larger circle of friends” and family (p.93). A 2003 Educause report states that 70 percent of Millennials use instant messaging to keep in touch with friends; 41 percent use e-mail to connect with teachers and classmates; and 81 percent use e-mail to stay in touch with friends and family (Oblinger 2003). While this is not the traditional form of connection experienced (or even understood) by previous generations, it still constitutes connection—one of this generation’s most important priorities (Howe and Strauss 2004).

**SERVICE ORIENTED**

Service has a twofold definition for the Millennial generation: First, it means giving to others in the form of volunteer or community service. And important to businesses everywhere—including higher education—service is defined as high expectations regarding customer service.

The increase in the number of middle and high schools requiring a service-learning component has helped create a service-oriented generation. However, many posit that the emphasis on taking care of others and supporting the team effort would have shaped a generation of volunteers regardless of school requirements. The data vary, but most reports state that somewhere between 65 and 86 percent of teens have participated in volunteer activities by the time they enter the doors of postsecondary education.

For this generation, customer service is an expectation, not an exception. They expect immediacy in all that they do; they want accurate information about their accounts, class schedules, and grades, and they want the information in real time, as they already receive it from Amazon.com and other online stores (Strauss 2005; Oblinger 2003). More important, if they can’t get what they want from one retailer, they can easily get it from another, 24/7. Beyond everyday types of purchases, this applies to higher education in both the classroom and the student services settings.

In the classroom, Millennials expect to buy “what, where, and how they learn” (Carlson 2003). Research consistently shows that online learning is not taking off at levels previously anticipated, but most studies indicate that students readily and easily supplement class schedules with online classes as needed to meet schedule or degree requirements (note that Boomers and Xers did this with evening classes). When it comes to student services—especially in recruiting and admissions—the immediacy of response is crucial, so much so that many campuses are utilizing software systems to provide real-time service and response, 24 hours a day, on everything from interactive question and answer systems to online degree audits, from academic advising to tutoring services.

**TIME MANAGERS, STRUCTURED**

Soccer and piano on Monday, tutoring and church youth group on Tuesday, soccer and volunteering at the community center on Wednesday, tutoring and volunteering at the Humane Society on Thursday, soccer on Friday, two games and a recital on….well, you get the picture. The Millennial generation is one of the most scheduled—and perhaps over-committed—of any generation. Between being pressured to succeed and being high-achieving, members of this generation fill their discretionary time with numerous activities. In an effort to help them manage their hectic schedules,
Millennial youth have been encouraged to follow the rules and consequently “have come to expect the rules to be clearly communicated and enforced with due process” (DeBard 2004 citing Martin and Tulgan 2001, p.33). Further, parents of Millennials have organized their children’s lives to provide a safe and predictable structure. As a result, Millennials “have come both to trust authority and count on authority” (DeBard 2004, p.36). Millennials’ need for structure and constant activity is carrying over to college campuses: participation in campus activities is increasing, and students are constantly reading the fine points of policies and syllabuses in order to better understand their environment.

PROTECTED
If Generation X was the “This is Your Brain on Drugs” generation, the Millennials are the “Baby on Board” generation, where children are protected at every turn. This is enforced via numerous child safety measures, zero tolerance policies in schools, education reform acts, community resource officers in the schools, and more. After all, their parents witnessed events such as the Columbine shootings and the Oklahoma City Bombing and have an innate need to protect their children from future such acts. The difference between this protected generation and generations prior is striking:

According to today’s regulators and bureaucrats, those of us who were kids in the 50s, 60s, and 70s probably shouldn’t have survived. Our baby cribs were covered with bright colored lead-based paint. We had no childproof lids on medicine bottles, doors or cabinets; and when we rode our bikes, we had no helmets. As children, we would ride in cars with no seat belts. We drank water from the garden hose and not from a bottle. The Horrors! We ate cupcakes, bread and butter and drank soda pop with sugar in it but we were never overweight because we were always outside playing (Original Source Unavailable).

Because their parents play such an active role in their lives, Millennial generation students have come to trust their parents. In fact, some studies state that more than 85 percent of Millennials trust their parents, with most considering their parents heroes; contrast that to Baby Boomers, 40 percent of whom thought they’d be better off without their parents (Strauss 2005)!

The Millennial Generation on Campus: How Colleges Can Succeed
“I had to walk two miles, uphill, in the snow, both ways to school every day.”

How many times has this adage been uttered in the history of this country? And how many times do we not change systems and services simply because “we had to go through it, so you do, too?” If colleges and universities wish to effectively recruit students, create optimal learning environments, and build life-long connections with alumni, then they must incorporate new strategies at every level.

ADMISSIONS AND MARKETING
Throw out the viewbooks with the hip, edgy look that appealed to the grunge Xers, and by all means, get rid of any VCR tapes. This is a new generation, one that is looking for colleges and universities to tell them that great things will happen if they choose this campus, that they’ll be safe and that they’ll stay connected with friends and family. The new message must be one of positive reinforcement (Howe and Strauss 2003).

If colleges and universities are to succeed in recruiting this new generation, old approaches must give way to new ones. Every campus publication, newsletter, mailing, tour, visit program, and phone campaign must appeal to the characteristics of this generation:

- As Millennial students start to make decisions about their higher education options, most will do so with support from their parents, which means that colleges not only are recruiting students, but they also are recruiting parents. And because this is the era of the overprotective parent, all messages must overtly address safety on campus.
- Marketing campaigns must appeal to a more traditional set of values as well as to parents’ need to protect their children in this new environment. At the high school level, the Millennial generation already has resurrected some of the “corny” traditions of its grandparents’ era (e.g., pep rallies and bonfires), and they are predicated to do the same at colleges and universities. Marketing materials thus should showcase the institution’s traditions and history.
- Millennials are team- as well as tradition-oriented. Photographs and videos must appeal to these core traits by showing pictures of “energized teams engaging in campus-wide activities” (Howe and Strauss 2003, p.76) rather than of a lone student studying peacefully on the campus green.
- As a “connected” generation, Millennials make decisions based on their parents’ perspective but are also informed by what their peers are doing. Have prospective or recently admitted students refer their friends. Recruiting one well-known student could easily reap the benefit of a ripple effect on others from the same high school (Howe and Strauss 2003).
- Keep your institution’s name and reputation in front of the prospective Millennial student as much as you can. One statistic states that Millennials see an average of 3,000 ads per week. If your college or university is not part of that advertising stream, Millennials will be likely to enroll elsewhere.
- Be tech-savvy, but don’t fake it. When asked about which forms of communication work best, a group of local high
school students admitted that while they realize that most college administrators and faculty are not competent in all forms of technology, they can be forgiving of that. “However, if a college slaps together something just for the sake of having it on the Web or having it ‘technified,’ the lack of expertise will show through and you will lose me. If you’re going to do it, do it well; otherwise, don’t bother” (Moore, 2004).

While the strategies described above focus on recruiting and marketing, it’s important to not overlook the impact on admissions policies. Having a generation of achievers means that more and more college applicants are over-prepared according to present admissions standards (so much so that many merit scholarship programs report difficulty in meeting the high volume of honors students). Many institutions will clamor to raise their admission standards simply to best their closest rivals. However, institutions must be cautious. Millennials are high achievers who connect achievement with future success, but they also are very focused on participating in an active and diverse campus and community life. They expect to have peers with a wide variety of skills and lifestyles, and they have a strong need to experience this diverse lifestyle while in college. Therefore, admissions programs and policies must be based not only on academic achievement but also on the non-academic concerns that are core values of this generation.

The Classroom

A recent article in The Chronicle of Higher Education states, “A new generation of students has arrived—and sorry, but they might not want to hear you lecture for an hour” (Carlson 2005). This is likely the most honest assessment of the impact of Millennial students on the classroom that I’ve read to date. Let’s face it: The Millennial generation’s learning style is not often addressed by current teaching practices. This being the case, colleges and universities need to adjust their teaching methods—something that will be difficult for the “do as we say, not as we did” Baby Boomer and independent-minded Generation X instructors.

- Members of the Millennial generation grew up working in and playing on teams, so that group assignments, interactive lectures enhanced by technology, study groups, and learning partners are key to their success; no longer do lectures, multiple choice quizzes, and memorization equate to knowledge and learning. In contrast, this generation thrives on problem-solving simulations with life applications. Cress and Sax (in Wilson 2004) posit that this constitutes the most effective form of learning. If this is true, then Millennials’ need for collaborative, interactive learning will position them for success in classroom experiences structured as such.

- The members of this generation trust their parents, and their parents trust them. They expect the same level of respect—and the same level of responsibility—in the classroom. This being the case, group projects, assisting faculty with research projects, peer grading/evaluation, and related activities help Millennial students feel as if they matter. And if they feel they matter, their performance will exceed that of prior generations (Wilson 2004 citing Kuh 2003).

- Staying connected and communicating with faculty is critical to this generation; the traditional handful of in-person weekly office hours won’t cut it anymore. Millennial students would rather communicate with faculty via e-mail, instant messaging, and chat groups—so much so that several campuses now require faculty to respond to student e-mails within 24 hours; some faculty even offer virtual office hours.

- The Millennial generation expects constant feedback regarding their progress. In contrast to the traditional mid-term and final paper or exam, weekly quizzes worth smaller point values, online access to grades and course progress, and final interactive group projects are important to this generation. Some colleges and universities have implemented online quizzes that immediately notify students of errors and that direct them to resources to help them learn the correct information (Wilson 2004).

- This generation’s propensity for filling schedules with activities has forced its members to be very structured. In an effort to manage the overabundance of activities, the rules pertaining to participation in such activities have been made very clear. Given Millennial students’ desire to also be high-achieving, faculty will need to explicitly state their expectations regarding time commitments, grading policies, and homework assignments (Wilson 2004); this will be best done in course syllabi.

- Teach Millennial students the basics. Overcommitted as they are, they may not be realistic about the time required to be successful in college. In addition, this tech-savvy generation has never experienced life without the Internet. As a result, they don’t always know how to evaluate the credibility of resources. Many students are so accustomed to the Internet that they overlook valuable print resources. Some faculty may consider requiring students to consult a minimum number of non-Internet based sources for research papers and projects (Wilson 2004).

- Baby Boomer and Generation X faculty were raised in eras when they had to fight for rights for themselves and for others, and they became comfortable doing so. In contrast, parents of the Millennial generation advocated for their children, and related activities help Millennial students feel as if they matter. And if they feel they matter, their performance will exceed that of prior generations (Wilson 2004 citing Kuh 2003).
appear “unintelligent” to their peers or faculty, “thus hampering their participation” (Wilson 2004, p.61). Instructors may have to provide opportunities for students to connect with other students in the class, and they are encouraged to do more personal outreach outside of class.

ON CAMPUS

We’ve recruited a different student. We’ve adjusted our teaching styles, and we’ve expanded access to faculty. But what about the rest of the campus? What tangible, responsive changes must take place to meet the needs of the Millennial generation? Opportunities to create out-of-class environments to help this generation succeed are nearly endless; some suggestions follow:

This is a service-oriented generation. Does your campus have an active AmeriCorp program? Do you provide opportunities for students to volunteer during their winter, spring, and summer breaks? If so, how are those volunteer activities tied to students’ particular majors and/or degree requirements?

This generation has more discretionary time than any previous generation. Fill it! Campuses must provide a wide array of activities; yet these activities must appeal to this generation’s unique personality. For example, instead of having a book signing on campus, host a chat group with the author; instead of bringing in the latest pop band to perform on campus, schedule a more “traditional” type of event (Howe and Strauss 2003); and instead of the traditional “food, festivals, fashion, and fun” activities that are intended to celebrate diversity, refocus this generation’s inherent appreciation for differences so that it can learn about less tangible issues of power, privilege, and social class (Broido 2004).

It is time to upgrade the traditional hallway-style residence halls. Why? Because more than any previous generation, this generation is not accustomed to sharing a room with others (one survey found that more than 75 percent of incoming freshmen have never shared a room with someone, even a sibling) (Howe and Strauss 2003). The most popular housing style among Millennial students is the shared apartment or mini-suite that allows for shared group space as well as private individual space.

Change the traditional food service program and provide access to meals at a wide range of times. Because this generation has always been on the go, its members are not accustomed to a sit-down meal at the same time every day. Rather, they may need more “grab and go” types of food available 24/7 to accommodate their busy schedules.

The possibility of burnout for Millennial students is strong. Colleges and universities must prepare for this by expanding personal counseling services, offering time and stress management workshops (with lectures available online and interactive elements in person, of course), providing specialized training for on-campus student staff, and developing “stress-free ‘chill zones’ on campus—quiet out of the way places where students can gather to play high-tech video games, or low-tech ping pong, or just sit on cushy couches” to study in small groups (Howe and Strauss 2003, p.118).

On most campuses, the largest percentage of distance learners are those already taking classes on campus. While some might call this “unconventional learning” (prior generations referred to evening classes in the same way), Millennials view it as practical: They can learn material in the fastest way possible, with the least amount of hassle. Moving services such as financial aid, registration, and tuition payment online are expected, but what other services can be provided online? Examples may include library services (checking out books, both on campus and through interlibrary loan); buying textbooks, classroom supplies, and campus apparel; academic advising; career services; and tutoring.

SERVICES FOR PARENTS

“I heard a classic Millennial parents story about a kid who was being interviewed by an admissions officer. The admissions officer said something, and the kid pulled out a cell phone, dialed up his mom and said, ‘Here, can you repeat that to my mom?’” (Lowery 2001, p.9).

Remember, members of this generation trust their parents to a very high degree. Parents aren’t accustomed to just dropping off their children; instead, they stay at the game to cheer them on. This won’t work on a college campus (although many parents may try!), but whether campus administrators like it or not, parents will be a significant part of campus life (Howe and Strauss 2003). Many campuses provide parent orientation days that parallel new student orientation programs. However, how many campuses remain connected with parents throughout students’ stay on campus? Those that do are succeeding and have found a tremendous partnership for student support through parent involvement. Examples of ongoing parent programs include monthly parent newsletters focusing on current student issues and deadlines; joint student-parent service programs during student breaks; parent pages on college Web sites; and online classes for parents that address many of the same topics and utilize the same materials as in their children’s classrooms.

In Conclusion

Each fall, Beloit College (Wisconsin) publishes a “Mindset List,” a listing of activities and events unique to that year’s traditional-aged incoming freshman class. Most freshmen starting college this fall were born in 1989. For this generation,

■ There have always been red M & Ms, and blue ones are not new. (What do you mean there used to be beige ones?)

■ “The Tonight Show” has always been with Jay Leno.
They have no idea that Americans were ever held hostage in Iran.

Condoms have always been advertised on television.

They never took a swim and thought about Jaws.

Their lifetime has always included AIDS.

American Motors has never existed.

Garrison Keillor has always been live on public radio and Lawrence Welk has always been dead on public television (excerpts taken from various Beloit College Mindset Lists, Class of 2003–2009).

To be sure, campuses can implement endless changes to provide a healthy, productive learning environment for the Millennial Generation; the ideas expressed throughout this article are by no means complete. At the very least, campuses must make some changes in order to provide opportunities for the Millennials to succeed. This is a promising generation: Its members want to learn; they accept and appreciate diversity; they are team-oriented; they are confident in who they are; they believe in giving to others; and they believe that life is always improving. All of these characteristics set the landscape for a positive future. Educators should not pursue campus change just for the sake of change; rather, they should continue to work to build the next great generation. What will your campus do?

References


Moore, A. 2004. Bend Senior High School Focus Group on Effective Marketing and Communication Tools for Prospective College Students. Bend, OR.


ABOUT THE AUTHOR

Alicia Moore is the Interim Dean of Student & Enrollment Services at Central Oregon Community College. Her research around generational differences began with a journal article during her graduate program at Colorado State University and expanded to include the Millennial generation for a presentation at the 2003 PACRAO annual conference. She has held various leadership positions within Oregon ACRAO and PACRAO, including OregonACRAO President in 2003-2004.

JOHN AUBREY DOUGLASS
STANFORD UNIVERSITY PRESS, 2007; 332 PP; $24.95
Reviewed by Jolina Kwong

As higher education becomes more market driven, the concept of education as a public good is beginning to fade. The widely accepted notion of viewing students as consumers rather than as contributing citizens of a democratic society should prompt university administrators, academic leaders, and the general public to reconsider the role of public institutions and their place in society.

John Aubrey Douglass, a Senior Research Fellow at the Center for Studies in Higher Education at the University of California, Berkeley, addresses this issue as well as many other important aspects of higher education admissions policies and administrative practices in The Conditions for Admission: Access, Equity, and the Social Contract of Public Universities. Like Douglass's previous contributions to the literature of higher education, to include The California Idea and American Higher Education as well as articles on access and equity and the evolving role of universities in national economic and science policies, The Conditions for Admission will be beneficial to academic leaders, lawmakers, and the general public.

The book is grounded in a historical study of the admissions policies and practices of public universities in the United States. Its intelligent narrative and vivid examples expand the reader’s understanding of the various dynamics of college access and admissions by putting such practices into the context of our nation’s history. By helping higher education leaders understand the past, this book helps them better anticipate the future of admissions policies and university practices.

According to Douglass, public universities at their founding devised a social contract that included the profoundly progressive idea that any citizen who met a prescribed set of largely academic conditions would gain entrance to the state university. This was in sharp contrast to most private institutions, which, throughout most of their history, used sectarian and racial and sometimes social and economic criteria to exclude groups (p. 6).

Douglass explains that over time, states and academic leaders collectively developed five core and interrelated responsibilities that help define and give meaning to the social contract of public universities. Each influenced the admissions practices of public universities; emerged in one form or another by the early twentieth century; and underwent marginal forms of redefinition. Douglass sets forth the following five core responsibilities:

- Public universities have been duty bound to primarily serve the constituents of the states that have chartered, funded, and regulated their establishment and development.
- Public universities have a responsibility to operate as components and partners of a much larger public education system.
- Public universities must encourage participation in higher education by setting clear admissions criteria that, if met, offer access to any citizen regardless (in theory) of socioeconomic background.
- Public universities must provide academic and professional programs relevant to individuals and society.
- Public universities must grow in some form in their enrollment capacity and academic programs as the population of a state grows and changes (pp. 8–9).

Examination of these five core responsibilities hints at the underlying purpose of public universities and their social contract, which, as Douglass states, was to “benefit the individual not as a goal unto themselves, but as a means to shape a more
Transfer Credit Practices of Designated Educational Institutions

The first guide of its kind to be published in 8 years, AACRAO’s Transfer Credit Practices of Designated Educational Institutions (2006) is the latest collection of results from the association’s 70-plus year program of voluntary information exchange on the subject. The 353-page publication details 50 major institutions’ practices for awarding transfer credit from other in-state colleges and universities. Representative of every state in the country, this guide offers a crucial reference that your institution can draw from in tailoring and fine-tuning its own transfer credit system.

Additionally, the book presents state-by-state and alphabetical listings of all institutions with their institutional and programmatic accreditations and transfer credit practice. Institutions from selected foreign countries are also included.

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Community Colleges and Student Information Systems Implementation

Drawing conclusions from a national survey of community and technical college registrars, Community Colleges and Student Information Systems Implementation explores differences in job duties and responsibilities, as well as role conflict and ambiguity implicit in various system implementation strategies. In this 102-page booklet, author Sandra Lepley of the University of Central Florida examines in-house, outsourced, and consortia strategies, and their relation to college demographic characteristics.

Statistical data derived from the 13-question survey is analyzed and presented in 30 easy-to-read tables, rendering a highly useful base of knowledge for any small college registrar considering the planning and installation of a new student information system.

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progressive and productive society” (pp.7–8). However, Douglas also reminds us that an equally important factor for understanding the distinct social contract of America’s public universities is the political and economic environment that continually shapes it. It is apparent in our world today that the social contracts of our nation’s public universities are being challenged.

Douglas writes that focusing on the question of who should or should not have access to a widely perceived and increasingly sought public good is not new, but it has changed in its intensity; in the stakes for individuals; and in its role in creating a more equitable and prosperous society (p.7). He explains that in the postmodern and globalizing economy, access to higher education continues to grow mightily as a determinant of socioeconomic mobility and global competitiveness. Within a highly stratified network of public and private higher education institutions in the United States, demand for access to the most prestigious colleges and universities is now mind-bogglingly competitive; moreover, it will escalate to greater heights as the population grows and as the value of higher education for the individual and for regional and national economic competitiveness increases (p.7).

Douglas declares that now is a good time to assess the success of the social contract and to ponder the future of America’s public university movement. This book wisely and comprehensively addresses how the social contract was formed, how it has evolved, how it has succeeded, and how it has failed.

The University of California serves as a case study for this academic and timely debate which links the social contract of public universities with such issues as access, equity, and admissions criteria. Within the book’s four sections, Douglas also discusses affirmative action, standardized tests, changing definitions of merit, the influence of privatization and globalization, and the very purpose and future of public universities.

Douglas recalls California’s public university’s ambitious beginnings and early leadership in Part One, “Building a Public University and Creating the Social Contract.” Touted as the “University of the State which created it” (p.5), the University of California has grown to become what Douglas describes as a vast enterprise that serves the state with the largest population of all the states in the United States and with an economy that ranks among the eight largest in the world. The University of California has ten campuses and more than 210,000 students, making it the largest research university system in the nation—and, according to Douglass, arguably one of the most prestigious.

The University of California also has some of the nation’s most selective admissions standards; it has often been at the center of national debates regarding access and admissions policies. Its influence and reputation are broad. Typically, decisions and trends at the University of California are predictive of decisions and trends in higher education nationwide.

In Part One of the book, Douglas also explores the significant decisions and deliberate actions of the University’s leaders as they dealt with the important issues of admissions and sectarianism, geographic representation, economic background, social standing, gender, and race.

Further, Douglass sheds light on the delicate balance universities had to maintain between allowing for open access while also striving for selectivity and high academic reputation and prestige; this continues to be a prevailing issue in higher education.

The admissions procedures and university governance of institutions other than the University of California also are cited throughout the book. This expands the reader’s understanding of the issues discussed and further emphasizes the influence and significance of the University of California in U.S. higher education.

Part Two, “The Managerial University and the Post–World War II Era,” continues the historical perspective on college admissions even as it expands on the topics of the Master Plan of California, increased use of the SAT, student eligibility, demand, and under-representation and over-representation within the student population. Douglas addresses affirmative action throughout the narrative. However, in Part Three, “Modern Battles over Equity, Affirmative Action, and Testing,” Douglass specifically examines the controversy surrounding California’s affirmative-action fight, exploring its impact, vulnerability, and aftermath.

In contrast to the book’s previous sections, which recall the history of public universities, Part Four, “Whither the Social Contract? The Postmodern World and the Primacy of Higher Education” discusses the contemporary vitality of the social contract as it relates to four interrelated issues:

1. The appropriate level of autonomy that public universities should have for setting admissions policies.
2. The process of selecting among qualified students and defining merit.
3. The “Crisis of the Publics,” or the significant decline in public funding for higher education relative to costs.
4. The process of privatization of public universities (pp. 237).

In this last section, Douglass compares our nation’s public universities to other nations’ educational movements. He explores concern regarding the decline of America’s higher education advantage and unique university system, which prides itself on being high quality and high access. Douglass also provides extensive notes and index sections, making this book a useful reference or even starting point for further exploration of these topics.

As stated earlier, Douglass writes for an audience of academic leaders, lawmakers, and the public. Nevertheless, this book should appeal to a larger audience that includes students, professors, and admissions and student service personnel. After all, understanding the social contract of public universities and its broad social purposes affects us all!

Comprehensive and complete, this book cannot be taken lightly. I recommend taking one’s time with this book in order to digest all of the information presented. Drawing on
its broad and thorough explanation of the policies and practices of public universities as well as the decisions and voices of academic leaders, this book meets its major objective: to bring the original purposes of a major public university more clearly into view.

The Conditions for Admission: Access, Equity, and the Social Contract of Public Universities should be included in the library of every individual linked in any way to university administration or admissions. Not only does the book provide a history of higher education admission policy, but it also provides details the history of the United States and the significant social events that influenced (and continue to influence) education in our society.

Douglass celebrates the importance of public universities by stating that the establishment and development of public universities changed the course of the nation. More specifically, he writes that public universities have helped increase the paths for socioeconomic mobility; influence the nation’s agricultural productivity; pioneer the field of civil engineering; populate the nation’s workforce; and advance America’s technological prowess.

May we not lose sight of the purposes and value of our nation’s public universities. It is time for all of us to read this book—and in so doing, to revisit the social contract of public institutions.

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