

8

Student affairs professionals have an obligation and an opportunity to support students moving through the college-years stages of psychosocial development by helping them use technology in appropriate ways.

Beyond the Horizon

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In the 1900s, student affairs professionals were faced with decisions about how to incorporate new forms of technology into the college community. New technologies during the twentieth century that institutions had to plan and prepare for included the telephone (invented in 1870), television (invented in early 1900s), cable television (available in the 1960s), and (unnetworked) computers (1980s). Professionals along the way have had to make decisions about how to incorporate these new technologies into the college environment. One can imagine sitting at a professional conference in the mid-1960s as discussion about putting telephones in student rooms occurred. As with any other new technology, professionals first focused on the potential problems: students might stay in their rooms talking on the phone the whole time and not engage in face-to-face interactions.

Similarly in the 1970s, professionals discussed how to wire halls to handle more electricity so that students could bring their own televisions and more appliances than the residence hall circuits could handle. Again, imagine student affairs administrators discussing the proliferation of televisions on college campuses. More than likely, they saw television sets as a major obstacle to student learning and engagement. Today we know that television sets did not detract from the student experience; in fact, they quite possibly enhanced the student experience as they were used as a tool to convey information (for instance, showing documentaries in class). Almost all college classrooms today have television sets for instructional purposes.

In the 1990s, the United States experienced a rapid growth of computer technology along with greater availability of cell phones. In the early 1990s,

we saw the demand for high-speed Internet connections in residence hall rooms. In the late 1990s, we saw a substantial increase in the percentage of students owning cell phones as prices dropped and handsets and plans became more affordable. Recently, student affairs professionals have been concerned about the negative impacts of newer technologies: the possibility that social networking Web sites, instant messaging, and text messaging are detracting from student interpersonal interactions. More recently, student affairs professionals have been investigating ways in which they can use these technologies for student benefit. Unfortunately, little research is available regarding the impact that Internet and cell phone technology is having on students and the college community. This volume is one of the formal ways our profession is acknowledging the need to address the topic and become more focused on educating ourselves and developing strategic plans for the future.

Student affairs professionals work with students who are becoming more and more sophisticated at integrating technology into their daily lives. Indeed, college students are voracious consumers of technology and use it at rates much higher than and in different ways than student affairs professionals do (Fox and Madden, 2005; Junco and Mastrodicasa, 2007; Lenhart and Madden, 2007; Rainie and Tancer, 2007). Newer technologies, such as social networking Web sites, instant messaging, blogs, and Web sites with user created content all have the potential to be used to enhance student engagement and educational outcomes (Astin, 1999; Hu and Kuh, 2001; Nelson Laird and Kuh, 2005). Therefore, it is important that student affairs professionals understand these technologies as a way to improve connection with students and as tools to enhance engagement and retention.

Students' technology preferences change as rapidly as the technology is developed (which is at a lightning fast pace; Ayers, 2004; Duderstadt, Atkins, and Van Houweling, 2002; Gumport and Chun, 2005). Therefore, it is important for student affairs professionals to continually engage in professional development to keep abreast of the latest technological developments. It is important to keep as curious a mind-set about technology as it is about other aspects of student development: encourage yourself and your staff to ask students about how they are using technology and how it influences their lives.

In Chapter Two, Greg Heiberger and Ruth Harper examined how students are engaging with technology. While those of us over a certain age may look at social networking sites like Facebook or the increased use of cell phones as hindering student engagement on campus, we find that these are tightening students' relationships. The fact is that technology has had a huge influence on these students' lives and they view interactions online as a normal way of functioning.

In Chapter Three, on technology use related to campus crises, Jeanna Mastrodicasa shows the impact that newer technologies have on making our world seem much smaller and united. When crises occur, such as at Virginia Tech or Hurricane Katrina, students across the country and even the world

reach out to one another through these new technology media to share and show support. Professionals who are using these media for communication are linked in and can gain better insight into student culture and experience.

In Chapter Four, Shelia Cotten describes the connections between technology use and psychological well-being. She reviews specific ways in which online technologies can hurt and also enhance student psychological health. Concerns about the negative impacts of technology are well warranted; however, there are certainly instances where Internet technologies can be used to help students adjust to the emotional demands of college.

Shane Nakerud and Kurtis Scaletta, in Chapter Five, discuss the positive educational benefits of blogging. Prior conversations focusing on blogging in higher education have emphasized the potential negative aspects of blogging use (posting too much personal information online, provocative or psychologically harmful statements posted about other students, and so forth). These authors show that blogs can be, and are, used for educational benefit as a way to improve students' writing and connections to each other using a medium with which they are very familiar.

Chapter Six by Dianne Timm and Carolyn Duven helps clear up some of the misconceptions about the issue of privacy. Professionals often state that there is much to fear about using social networking sites and that institutions should be doing all they can to prevent students from using them. Becoming more aware of students' rights and institutions' rights related to this new technology allows professionals to make good policy and offer appropriate support and education to students.

Grace Salas and Julie Alexander show in Chapter Seven specific technologies that are being used to enhance student success and to help them feel engaged in institutions with large student populations. As Cotten shows that instant messaging can be used for positive psychological benefits, Salas and Alexander show that it can be used for positive educational and institutional benefits.

Research has uncovered a few issues about how students use technology and how it affects their academic and psychosocial adjustment. Numerous studies have found meaningful differences in how students from minority ethnic backgrounds use technology. Minority students use technology at rates lower than and in ways that are less interactive than do Caucasian students (Brown, Higgins, and Hartley, 2001; Junco and Mastrodicasa, 2007; Junco, 2005; Kaiser Family Foundation, 2004; Milone and Salpeter, 1996; National Telecommunications and Information Administration, 2000; Oblinger and Oblinger, 2005; Pisapia, 1994; Sax, Ceja, and Teranishi, 2001; Warschauer, Knobel, and Stone, 2004). It is important for higher education professionals to continue to investigate these differences and provide remediation, as appropriate, to enhance student success.

Research has also found that women use technology in different ways from men, with women using the Internet and computers more for

communication purposes and men using the Internet for playing games and gathering information (Cooper and Weaver, 2003; Jackson, Ervin, Gardner, and Schmitt, 2001; Joiner and others, 2005; Morgan and Cotten, 2003). Incorporate that with the fact that using technology for noncommunicative purposes is related to decreased psychological well-being, and an avenue for concern emerges. It is important to assess how male students are using technology and the effect it is having on their psychological well-being, integration onto campus, and academic performance (Campbell, Cumming, and Hughes, 2006; Morgan and Cotton, 2003; Shaw and Gant, 2002).

While the Internet can be used to enhance engagement for some students, some research suggests that students with certain personality types receive less benefit and possibly experience psychosocial impairment because of technology use. Introverts are at greater risk for psychological harm because of communication technology use (Kraut and others, 2002). Introverts do not experience the same kind of psychologically buffering effect of online communication as extroverts. In fact, one can surmise that communication technology use makes extroverts more outgoing and introverts more withdrawn. In this regard, student affairs professionals are faced with a major catch-22 of technology use: communication technology can help some students connect and have better educational outcomes while also keeping some students from connecting and having worse educational outcomes. It will be important to continue to work on ways to identify the at-risk students and engage them in appropriate interventions.

As technology continues to advance, professionals must stay up-to-date on what is available, how students are using it, and how it may or may not affect their institution. This volume has helped us look at the many ways technology is affecting our lives and the lives of students. In looking at the contributions by the chapter authors, it is easy to see that institutions must be conscious of how resources are allocated related to technology. It goes without saying that education about technology is necessary on various levels. Professionals cannot ignore the ever changing issues. Students are coming in more adept in the ways they use technology and are better prepared to adapt to changes with technology. They expect technology to be quicker and faster, and that can have a bearing on the way in which services are provided.

More research needs to be done regarding how technology can be incorporated into the classroom. The resources available online are numerous; however, few are being used. Identifying the resources and providing training and programming will only contribute to the educational experience.

Mastrodicasa in Chapter Three discussed crisis management through technology. Crises like those at Virginia Tech and with Hurricane Katrina have caused many campuses to devise ways to communicate in emergencies to their students. There are many more options available today than even three years ago, and further investigation into the effectiveness of these

sources is needed. A better understanding of how campuses have incorporated these technologies into their crisis management plans should also be studied further.

Technology is having an impact on students' lives. However, further investigation into the impact on student development is warranted. This could include the impact of technology on students' transition to college, along with further study of the impact on their engagement. Shelia Cotten in Chapter Four discussed the impact of technology on students' well-being, but more is needed—not only studying the impact of technology on well-being and stress, but how technology is being used to educate, support, and disseminate information about well-being.

Some professionals working in student affairs have been slow in adopting and using new forms of technology, and more needs to be studied to fully understand how and why professionals are or are not using them. More needs to be understood about how professionals use and could use technology to interact and communicate with other professionals and with students. In addition, as technology becomes more prevalent, we will need to set professional expectations that are reasonable and understandable.

With all the advances in technology, campuses need to identify ways in which to manage all that is available. In recent months, several institutions have begun to investigate and adopt sources outside the institution to manage their campus e-mail, Web sites, and phone systems. Outsourcing will certainly be a trend that will need to be closely watched because it could be cheaper, require less staff, and provide quicker service; however, it could also eliminate options for institutions to manage input and output by students.

Institutions should look at the impact of outside constituents, such as parents, alumni, and politicians, on the uses of technology. More needs to be learned about how institutions communicate with these groups and what forms of technology can and are being used.

Finally, professionals need to come together to support research in the area of student technology use and student engagement. Larger-scale studies are necessary to gain appropriate response rates and reliable and valid information. Studies can no longer occur on one campus or in one region. They need to occur across the country and even internationally. Professional organizations should be leading the way in researching these topics.

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