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The Impact of E-mail Use on Student-Faculty Interaction

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While research demonstrates that contact between students and teachers can positively affect students, new forms of technology are transforming the way that students and faculty interact. This paper will examine some of the positive and negative effects that the increased use of e-mail communication has on the interactions between students and faculty. Implications and recommendations for policy and practice are presented.

Close and frequent interaction between students and teachers has long been a central value of education (Wilson, Gaff, Dienst, Wood, & Bavry, 1975). Contact with faculty both in and out of the classroom has many positive impacts on students, and there is a wealth of research spanning several decades that supports this assertion. Studies have demonstrated that student-faculty interactions may enhance student development (Alberti, 1972), foster social and academic integration (Pascarella & Terenzini, 1978), and positively affect students' academically related self-concepts (Woodside, Wone, & Wiest, 1999), educational aspirations, attitudes toward college, academic achievement, intellectual and personal development, and institutional persistence (Pascarella, 1980).

However, with the exception of one study, all of the research referenced was conducted before the advent of many of the technological advances that are now taken for granted, such as e-mail, satellite videoconferencing, Internet-based teleconferencing, and interactive multimedia classrooms. This new technology is transforming "the very nature of how higher education institutions are communicating with and educating students" (Roach, 1999, p. 92). The impact that these new forms of technology will have on student-faculty contact requires further exploration (National Survey of Student Engagement, 2000). As such, this paper will examine some of the positive and negative effects that the increased use of e-mail has on the interactions between students and faculty, and their implication for policy and practice.

Positive Aspects of E-mail Use

E-mail is increasingly becoming the preferred means of communication between students and faculty. In 1994 about 8% of

postsecondary classes were using e-mail; by 1998 this number jumped to 44% (Institute for Higher Education Policy, 1999). According to one professor, "These days, students are more likely to send e-mail messages than to make telephone calls or visit a professor in person" (Wilson, 2001, pp. A11-A12). The ability to communicate electronically has numerous benefits. For one, e-mail removes time and distance barriers that may impede contact, thus allowing students greater access to faculty around the clock (D'Souza, 1992a). Both faculty and students are reporting better and increased communication with one another through the use of e-mail (D'Souza, 1992b; Gilbert, 1995).

D'Souza (1992b) surveyed a class of college students in order to assess the role of e-mail in the learning process and found that their reactions toward the electronic communication were primarily positive. In response to statements about e-mail use in the classroom, the students provided the following mean ratings (1= strongly disagree and 5= strongly agree): e-mail provides better access to the instructor (4.5); the use of e-mail creates more interaction between students and the instructor (4.0); and the use of e-mail helps provide a better learning experience (4.5). The majority agreed that e-mail enhanced communication with their instructor and had a positive effect on the learning process.

Many faculty would concur with these students' positive assessment of the effect of e-mail on learning, and a growing body of literature supports the effectiveness of e-mail as a pedagogical tool (Haworth, 1999). More faculty are using e-mail to complement and enhance the traditional learning environment and reinforce class discussions by extending conversations beyond the classroom (D'Souza, 1992b; Roach, 1999). This can be especially important in large lecture classes where students may feel alienated from the professor, as well as their fellow classmates (Meacham, 1994). For example, using a class Listserv can make these types of classes feel smaller, promote greater communication among class members (D'Souza, 1992a), and foster collaborative learning tasks and activities that enhance course material (Hardwick, 2000).

Proponents of the use of e-mail in the learning environment also emphasize that it allows for a moderately-paced academic conversation (Ehrman, 1999). As opposed to fast-paced in-class conversation, or the slower process of receiving feedback on homework, e-mail is "fast enough to foster real conversation, but slow enough to give students

time to think about what they have read and heard and compose a reply" (Ehrman, 1999, p. 44). In addition, e-mail use enables instructors to provide immediate feedback to students who may have questions or concerns regarding course material. As an added benefit, these instructors can offer more personalized attention to students and attend to their individual needs and concerns without taking up valuable class time (D'Souza, 1992b).

Others assert that e-mail can especially enhance communication for those groups of students who may participate less actively in class, such as women, minorities, and those for whom English is not their primary language (Gilbert, 1995). Furthermore, e-mail can be an excellent tool for fostering interaction among students who are affected by shyness, fear, or low self-esteem (Jensen, 1993). Some students may feel more comfortable interacting in this format as it provides a sense of anonymity (Ehrman, 1999; Haworth, 1999) and a "non-threatening, two-way communication link" (D'Souza, 1992b, p. 263). Indeed, "race, gender, sexual orientation, physical deformity, education, social class, and age are not part of the Internet experience" (Blimling, 2000, p. 7), a condition which can bolster email as "safe" means of communication.

Negative Effects of E-mail Use

While more and more educators seem to agree about the benefits of this new technology paradigm, there are others who fear that this increased reliance on electronic communication may become a substitute for one-on-one human contact (Blimling, 2000; Haworth, 1999). According to Malveaux (2000), "To the extent that the Internet increases access and information, it's a good thing. To the extent that it is seen as a substitute for hands-on learning, it is both a mistake and yet another way to widen, not close, the gap between those who have access and those who do not" (p. 38).

Dierks (1990) stresses the importance of promoting e-mail-use with students in the classroom because it prepares them for the new high-tech working environment where e-mail use is typically encouraged and expected amongst employees. On the other hand, professional leaders also place a high value on verbal communication and interpersonal skills, which are critical for effective teamwork and communicating with various stakeholders in a given field (Education Commission of the States, 1995). Certainly, it is a rare job that is completely devoid of

human contact and allows employees to communicate strictly via e-mail. Blimling (2000) asserts that by fostering virtual relationships via e-mail, "students may be sheltered from the full complexity of human relationships" (p. 7) that is essential for their development. Less frequent contact with faculty, as well as peers, could mute the development of interpersonal communication skills and limit the experiences which socialize students into post-college environments, such as workplaces, families, and communities (Ehrman, 1999; Kuh & Hu, 2001).

Haworth (1999) conducted an analysis of college student e-mail use and concluded that e-mail does not significantly increase the interaction between students and faculty, but rather, just redistributes it to an alternate form. While this new electronic form may be more expedient, there is something unique that occurs during one-on-one interaction that cannot be obtained in an e-mail transaction. Jensen (1993) summarizes the importance of personal contact as follows:

Warm and fuzzy professors patiently "hold hands" to soothe frustrated students who have learning or personal problems. No hypermedia author can anticipate all possible questions that learners might raise, nor set up interactive navigation buttons for millions of conceivably possible questions. Professors can beat the machines in capacity to react to unforeseen questions raised and make adjustments to unforeseen paths of discourse. Some cues in complex combination (for example, the perspiration on a student's brow, atypia stammering, moistened eyes, phone messages from a parent, and the like) are best dealt with when there is physical proximity between a student and a human listener and teacher. (p. 13)

Furthermore, as Coyle (1971) posited, students expect more from faculty than just teaching, such as advising, mentoring, and helping with problems, and will turn to instructors as a logical source of help with problems related to their academic progress. This type of assistance might be provided more effectively via personal contact.

Another issue that advocates of e-mail use may overlook is the fact that not all students have equal access to the technology. While campuses are becoming more and more "wired" by offering Internet access in the residence halls and at public computer stations around campus, not all institutions are acquiring this technology at the same rate (Bernstein, Caplan, & Glover, 2000). Kuh and Hu (2001) found that students at research universities and private colleges and universities tend to use computer and information technology more frequently than

their counterparts at other types of institutions. This may be a reflection of institutional affluence, in that these institutions have more money to invest in technology, thus making it more available and accessible to students. The researchers also discovered that students from higher socio-economic backgrounds appear to use computer and information technology more frequently, which might be another case of affluence increasing access. Malveaux (2000) asserts that African Americans and Whites have different access to computers and the Internet and raises the question, "Will a people already at the periphery of the technological revolution gain or lose by its acceleration and proliferation into higher education?" (p. 1).

Research has demonstrated that students at more wired campuses report more contact with their teachers and more substantive interaction with their peers (Hu & Kuh, 2001). In addition, Kuh and Hu (2001) found that, given equal access to the technology, students of different racial and ethnic backgrounds did not differ significantly in their use of technology. The key here is that students must have access to the technology in order to receive the benefits that it can offer. If, indeed, some groups of students, such as minorities and those of lower socio-economic status, have less access to the technology, this may have a negative effect on the amount of interaction between professors and these underrepresented groups. With all the literature that supports the positive effects of student interaction with faculty, these students may be at a major disadvantage.

Implications and Recommendations

Research suggests that e-mail use can have a positive impact on the interaction between students and faculty. However, it is given that all students have equal access to the technology, and that e-mail is used to complement, and not replace, face-to-face interaction. With these thoughts in mind, the following recommendations are offered to educational practitioners, policy makers, and researchers.

First, it is critical that public and institutional policies ensure that all students at all colleges and universities have equal access to the technology. Since information technology appears to level the playing field for learning for students from diverse racial and ethnic backgrounds (Kuh & Hu, 2001), it is important that no student is disadvantaged because of inaccessibility.

Second, institutions need to weigh the costs and benefits of

providing these services in relation to other institutional priorities, since allocating funds to technology means there will be less money for other needs (Kuh & Hu, 2001). For example, perhaps student-faculty interaction could be promoted more effectively by allocating resources to hire more faculty, thus lowering the student to faculty ratio and increasing student access to their professors. This is an issue that all institutions will need to examine through periodic evaluations of the impact of technology on student learning.

Third, more research is needed to promote effective use of e-mail in classroom settings. E-mail can be successfully integrated into the curriculum in a number of ways (D'Souza, 1992a, 1992b; Meacham, 1994), and faculty are in the best position to encourage the use of e-mail as a learning tool. However, many faculty have not been trained on the best ways to make use of the technology and may not be comfortable in using it themselves. In addition, course-related uses of e-mail can significantly increase faculty workload as they spend more time outside of class attending to e-mail correspondence (Gilbert, 1995). Research that demonstrates ways to use e-mail to promote learning and increase interaction, without overloading the professors, would be beneficial for both students and faculty.

Conclusion

Faculty are one of the most important agents of socialization for students in college (Pascarella & Terenzini, 1991; Weidman, 1989), and contact between students and faculty is hailed as a critical element for promoting student motivation and involvement (Chickering & Gamson, 1987). As the literature reviewed in this paper suggests, e-mail use can have a positive effect on increasing interaction between students and faculty, and ultimately, student learning. The asynchronous nature of e-mail offers students greater convenience of access, and students may feel freer to express themselves via this medium because of the sense of anonymity and moderate pace that it offers. Faculty can then respond to the concerns and questions of students in a more expedient manner, and offer personal attention that may not be possible during class. Furthermore, e-mail can also be used to extend discussions beyond the classroom and connect students with their peers, both tenets of good practice that promote student learning.

On the other side of the coin, there is evidence that e-mail use does not actually increase the amount of contact between students and

faculty. Instead, it simply changes the mode of interaction. Critics argue that e-mail strips the personal approach offered by in-person meetings, and deprives students of opportunities to develop critical verbal and interpersonal skills. Others assert that unequal access to technology, particularly among minorities and students from a lower socio-economic status, may place some students at a disadvantage.

Given that this technology is relatively new, educators need to be sensitive to these issues and invest time and money in evaluation and research that will further explore the impact of e-mail use on student-faculty interaction. Clearly, e-mail can be used in many ways to complement and enhance the relationship between students and faculty. Ultimately, educators should strive to find a balance between personal and electronic means of communication.

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The Academic Support Center Environment: An Assessment of Student Use at the Student Academic Assistance Center

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This study assessed the services provided at a Student Academic Assistance Center (SAAC) at a large, public, Research I university in the Midwest. Students who used the SAAC responded to a survey that measured motivation for using the SAAC, the academic support services offered, preferred educational environments and satisfaction with the SAAC. Results showed that students used the SAAC approximately once a week, preferred one-on-one tutoring, sought academic support when needed, and were satisfied with their use of the SAAC. An implication of the study is support for SAACs as valuable resources for college students.

Introduction

Undergraduate students sometimes find themselves in learning distress; often due to: poor previous academic preparation, lack of effective study skills, topic apprehension, lack of focus during classroom learning and/or study time, or low motivation. With specific assistance, many such students can be helped to succeed. Some students are consciously aware that they have problems and some of these even understand why problems occur; others remain unable or unwilling to admit that they need help. In recent years, several institutions have recognized this problem and have made available professionally and peer staffed tutoring centers. (Petress, 1999, p. 247)

A public, Research I institution in the Midwest is one such university that has implemented academic support services through a Student Academic Assistance Center (SAAC). The SAAC was developed to address the needs of many new students for accessible assistance in the math, writing, and study skills crucial to academic success at a large university; to provide opportunities for these students to interact in a non-threatening environment; and to improve students' overall college experience (Morgan, 1996).

According to the university's Office of Institutional Research (2001), in its first year of operation (1996-1997), the SAAC had a positive effect on persistence for both resident and non-resident freshmen of all ability levels. In the 1999-2000 academic year, research also