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ABSTRACT
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attended a university in the Midwest. The baseline data can assist counselor
educators in their efforts to offer curricular opportunities that promote
technological competence among their students and prepare them to face the
challenges of the information age. The results indicated that students
believe technological skills are important for their professional success.
Counselor education programs can adopt a pragmatic approach to preparing
technologically proficient counselors who are capable of creatively using
technology to advance the profession. Within the framework of an information
age, counselor educators must evaluate how they can prepare students who can
innovatively and appropriately harness the potential of technology. (Contains
1 table and 15 references.) (JDM)

Life in a dot.com world: Preparing counselors to work with technology

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Abstract

There is limited information about counselor education students' perceptions and use of technology, especially the newer technologies such as the Internet. This study investigated the perception of the role of technology in counseling and related professions, attitudes towards technology and the use of the new information technologies among counselor education students. The study included 83 (24 men and 59 women) students who attended a university in the mid-west. The results indicated that students believe that technological skills are important for their professional success. The implications of this study for the training of counselors are also discussed.

Life in a Dot.com world: Preparing counselors to work with technology

In a recent report, the Department of Labor noted that technology has impacted almost every profession in the United States (Department of Labor [DOL], 2000). Therefore, it should come as no surprise that counselors will work in a technological environment (Bowlsby, 2000; Bluhm & Kishner, 1988; Bowman & Bowman, 1999; Granello, 2000; Johnson & Sampson, 1985; Lambert, 1988; Myrick & Sabella, 1995). In the counseling field, computer technology is used for word processing (Owen & Weikel, 1999; Rosen & Weil, 1996; Stevens & Lundberg, 1998), for the management of data and client records (Rosen & Weil, 1996) and for career and professional development (Johnson & Sampson, 1988; Lewis, Coursol & Wahl, 2000; Sampson, Kolodinsky & Greeno, 1997).

Electronic mail and the Internet have greatly extended the application of technology to mental health. These newer computer and information technologies allow for information dissemination (Stevens & Lundberg, 1998; Thompson, 1999; Trapp, Hammond & Bray, 1996), cybercounseling (Bloom, 1998; Lee, 2000; Sussman, 2000), cybersupervision (Coursol & Lewis, 2000; Myrick & Sabella, 1995; Neukrug, 1991; Sampson et al., 1997), support groups in cyberspace (Gary & Remolino, 2000) and for on-line counselor education (Alterkruse & Brew, 2000; Peterson, 2000; Slencak, 2000).

The proliferation of technology in the counseling and related human services fields makes technological proficiency a necessary skill for counselors today (Myers & Gibson, 2000). This requires that counselor education programs provide students with curricular experiences that prepare them to use technology in an effective and ethical manner. In order to offer experiences that will promote technological competence,

programs need to identify the skills that students possess and target areas that require attention.

The purpose of this study was to examine the perception of the role of technology in counseling and the attitudes and use of technology among counselor education students. This study specifically investigated the use of new information technologies such electronic mail and the Internet by students. This study provides baseline data that can assist counselor educators in their efforts to offer curricular opportunities that promote technological competence among their students and prepare them to face the challenges of the information age. Thus, counselor education programs can adopt a pragmatic approach to preparing technologically proficient counselors who are capable of creatively using technology to advance the profession.

Method

Participants

The participants in this study were 83 Master students enrolled in a Counselor Education program at a mid-western institution. The students in this program were training to become community counselors, school counselors and student affairs professionals. The final sample included 24 men and 59 women. The students ranged in age from 22 to 49 years, with a mean age of 29.23 (SD of 7.21). Seventy-five (90.4%) of the participants were Caucasian. Among the participants 65 (78.3%) were full-time students and 18 (21.7%) were part-time students.

Instrument

The author-constructed survey was designed to investigate three areas including the perceived impact of technology on the profession, attitudes towards technology, and

the utilization of newer information technology among counselor education graduate students. In addition, the survey also investigated the access that students had to computer and related technology. The survey was a self-report, forced- choice instrument that required students to rate each item on a Likert scale that ranged from Strongly Disagree (1) to Strongly Agree (5).

Procedure

Counselor education students completed the survey during the 1999 Spring semester. The students were surveyed to provide information about the use and access of technology among students in the program. Students were assured that their responses would be kept anonymous and confidential. Additionally, they were informed that participation was voluntary and would in no way affect their grade.

Results

The means and standard deviations for participants on items in each of the three areas of perceptions, attitude and use of technology, are included in Table 1. The mean rating for items in the area of perceived impact of technology on the profession ranged from 4.55 to 2.75 with SD ranging from .52 to .97. The mean rating for items in the area of attitudes towards technology ranged from 4.68 to 2.05 with SD ranging from .47 to .96. The mean rating for items in the area of the use of specific technologies ranged from 4.31 to 2.94 with SD ranging from .73 to 1.27.

Click for Table

A total of 82 (98.8%) participants reported having access to computers, 81 (97.6%) reported having access to e-mail and 80 (96.4%) indicated that they had access to the Internet. In addition, 68 (81.9%) students rated themselves as possessing an

Intermediate level of expertise with computers and related technology. Only one participant reported no experience with computers and related technology. The mean number of hours that students spent a week on computers for assignments was 5.34 hours, for electronic mail was 3.23 hours and web surfing was 2.80.

Discussion

The findings of this study indicated that students believed that technology would impact the counseling and related fields and were interested in learning to use it. These findings support recent reports in the literature that counseling professionals recognize the importance of technology in counseling and that there is a readiness to develop technological competencies (Myers & Gibson, 2000). This readiness to learn about technology may reflect changing attitudes towards technology among counselors, as more people become accustomed to the new information technologies. Like novice teachers who are more comfortable with technology than their more experienced counterparts (National Center for Education Statistics [NCES], 2000), counselor education students today may be more open to technology and its applications than more experienced professionals.

The majority of students in this study also indicated that they had access to computers, to the Internet and used these newer technologies. This reflects the trend of increased connectivity where 26.3% of homes in the United States were connected to the Internet in 1997 (Department of Commerce [DOC], 1999). Thus, it is likely that many students now enter counselor education programs with greater access to computers and with some knowledge of the newer information technologies.

In the context of an information age, finding even one student had no experience with computer technology is disturbing. With rapid technological advancement, and the growing digital divide, the inability to access technology may create circumstances that unnecessarily impede student progress and development. In fact, Myers & Gibson (2000) found that the inability to access computers was a concern for adult and commuter

students who felt disadvantaged when course information was on the Web. As the digital divides increases, the issue of access is a serious concern for society (DOC, 1999) and for counselors (Lee, 2000). Thus, it is important for counselor education programs to recognize those students who may not have access to technology. Proactive efforts by counselor education programs that make students aware of the campus resources including computer laboratories and workshops on various hardware and software applications, can ensure that all students have access to technology.

While this study makes an important contribution to the literature, it has its limitations. These include the use of a small sample size and the lack of diversity among the participants, which limits the generalizability of the results. Accordingly, the study should be considered exploratory and future studies should include a larger, more diverse group of participants.

Despite its limitations, the results of this study have important implications for counselor education programs as they prepare practitioners for the information age. Today the ability to use technology is a required professional skill for counselors (Myers & Gibson, 2000; Stevens & Lundberg, 1998). Recognizing the digitizing of society and the profession, the Association of Counselor Educators and Supervisors (ACES) has developed a list of technological competencies for counselors that can guide curricular reorganization of counselor education programs as they attempt to prepare students to work effectively with technology.

Introducing counselor education students to the application of technology is important, as they may not recognize its potential because of limited knowledge, training and experience. Programs can adopt proactive measures that enable students to develop

basic technological skills and also learn how to use technology to facilitate the counseling process. Such approaches include incorporating assignments that require students to communicate with faculty and other students by electronic mail, subscribing to a professional listserv, or searching the Internet on a particular topic as part of their coursework. These activities provide tangible experiences and lead to the development of transferable technology skills that students will need in their professional career.

While students in this study reported that they used the Internet, they indicated that they were less proficient with multimedia technology. As counselor education programs redesign their curriculum they can incorporate opportunities such as requiring multimedia class presentations for students to gain experience and confidence with this technology. Acquiring proficiency with multimedia technology is of special importance for school counselors who work in increasingly computerized environment (D'Andrea, 1997; NCES, 2000).

In addition, counselor education programs need to educate students about the versatility of technology and its ability to enhance and facilitate the counseling process (Gerler, 1995). In the area of career development, students need to become familiar with computer-aided guidance systems, on-line testing, job listings, cyberspace job fairs (Behrens, 1998), resume postings and digital portfolios (Lewis, Coursol & Wahl, 2000). Other applications of technology to which students should be introduced include cybercounseling (Bloom, 1998; Lee, 2000; Sussman, 2000), assistive technology (Reiss, 2000), counselor listservs and on-line counselor education (Alterkruse & Brew, 2000; Peterson, 2000; Slencak, 2000). In the future counselor education students may be expected to use computer-assisted technologies to treat various mental health problems

including obsessive compulsive disorder and depression (Mitchell, 1999). Introducing students to the versatile application of technology in counseling prepares students for a work environment that is increasingly using technology to facilitate the counseling process.

As technology is evolving exponentially one of the most important skills that counselors need to develop is the ability to use technology wisely and ethically (Casey, 2000). To ensure appropriate utilization, counselor education programs need to discuss the role of technology in counseling including its strengths and limitations. Casey suggests that recognizing the limitations and advantages together with the development of appropriate utilization protocols, is critical to the judicious use of technology. Counselor education programs also need to address the ethical and legal issues related to technology, the special concerns of the information age such as Internet addiction (Scherer, 1997), cyber-infidelity (Maheu, 2000), and the impact of the digital divide for the counseling profession (Lee, 2000). Making students aware of important resources such as the ACA and the NBCC guidelines for cybercounseling that are available on-line, will also enable them to become informed consumers of technology. When students acquire both knowledge and training in technology the misuse of technology in counseling is less likely to be an issue of concern.

A prerequisite for the preparation of technologically competent counselor education students is technologically proficient faculty with the skills and knowledge to prepare students for a digital world. Perhaps, many faculty are unaware of the advantages of technology (Granello, 2000; Lambert, 1988) because it was often not part of their training. This lack of awareness among faculty impacts the extent to which technology is

infused into the counselor education curriculum. Undoubtly, there is a need for more professional development opportunities to allow faculty to gain the necessary technological skills (Myers & Gibson, 2000). To keep abreast of emerging trends in the application of technology to counseling faculty can attend training opportunities provided at higher education institutions and professional meetings. Faculty can also access such web based resources as the Journal of Technology in Counseling that is available at www.jtc.colstate.edu/ and the Cybercounseling web site available at www.cybercounsel.uncg.edu/

Implications and Conclusions

There is a critical need for research that investigates the role of technology in the counseling process and profession (Casey, 2000; Lambert, 1988; Sampson, et al., 1997). The rapid expansion of technology into the counseling field requires the profession to adopt a more proactive approach to research in this area. Currently, an issue that warrants immediate investigation is the area of cybercounseling. To date there is limited investigation into the process and effectiveness of this treatment modality. Future research studies also need to investigate how the newer information technologies, such as electronic mail and the Internet, are used by counselors in various settings such a schools, private practice and in community mental health centers.

The proliferation of technology in counseling is one of the most notable influences on the profession in the 21st century. The newer information technologies especially the Internet, are challenging the traditional philosophy and values of the counseling profession. Within the framework of an information age, counselor educators must evaluate how they can prepare students who can innovatively and appropriately harness the potential of technology.

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Table I: Means and Standard Deviation for Perception, Attitudes and Use

Items	M	SD
Perceptions		
I believe that I will use computers and related technology on my job.	4.55	.52
I believe that computers & related technology will become an integral part of counseling and student affairs in the future.	4.29	.65
Computers & related technology increase the efficiency of counseling and student affairs professionals.	3.96	.80
Computers enable counseling & student affairs professionals to spend more time providing services to people.	3.84	.79
Computers & related technology depersonalize the work environment.	2.75	.97
Attitudes towards technology		
I think it is important for me to know how to use computers and related technology.	4.69	.47
I am interested in learning how to use computers and related technology.	4.58	.54
Learning to use computers and related technology in graduate school is important for my professional development.	4.39	.66
I am comfortable using computers and related technology.	3.99	.79
Computers are easy to break into.	2.94	.94
I do not have the time to learn about computers and related technology	2.39	.92
I do not trust computers and related technology.	2.05	.96
Specific Technological Applications		
I know how to use e-mail.	4.31	.78
I know how to use the Internet.	4.14	.73
I know how to use library CD-ROMs (Medline, ERIC, PsychLit) to access scholarly information.	3.78	1.06
I know how to use the Internet to conduct my job search.	3.65	1.19
I know how to subscribe to an Internet discussion group	3.21	1.22
I know how to use multimedia programs like PowerPoint or Hyperstudio.	2.94	1.27
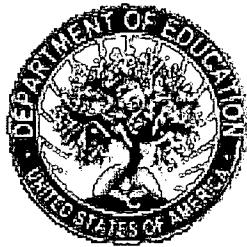
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