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A review of online career services in the twenty-first century

Marsha Yvette Saddler
University of Northern Iowa

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Abstract

The need to examine and explore the status of career services online is not only timely, but necessary in the ever-changing technology movement that has affected the very culture of student affairs in American higher education. The purpose of this paper is to accomplish that task by providing a synopsis of research gathered from three main categories of online career services, and to discuss how using the Internet to deliver these services can enhance the career development of college students.

A REVIEW OF ONLINE CAREER SERVICES IN THE TWENTY-FIRST

CENTURY

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Carolyn R. Bair

5-1-02
Date Approved   Advisor/Director of Research Paper

Michael D. Waggoner

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Date Approved   Second Reader of Research Paper

Michael D. Waggoner

5·14·02
Date Approved   Head, Department of Educational
Leadership, Counseling, and
Postsecondary Education

Introduction

Ever since the World Wide Web has become a part of over 100 million homes and businesses in the United States, the Internet has become the vehicle of choice for communicating, banking, networking, and even shopping. This technological paradigm has not been excluded from American higher education. Technology has become an integral part of higher education, and the Internet is a critical aspect of this movement. One of the most formidable and pervasive changes taking place on college and university campuses concerns the impact of technology on students, faculty, and administrators (McRae, 1999).

Today's college and university students have a vastly sophisticated familiarity and knowledge in relation to computers, multimedia, and the Internet. They have grown up with technology in a fast and responsive world and are comfortable with self-service options that allow them to have a world of information at their fingertips (Beede & Burnett, 1999). Peter Sacks (1996) states that these students appear more

insistent, more focused and specialized, and more critical of student services than ever before. Students are demanding services that meet their expectations for service delivery. Postsecondary institutions use technology in many ways to accommodate the changes that the current college students bring to higher education, such as distance education, electronic mail, and WebCT. These initiatives have changed the way in which students learn and receive information in college.

This phenomenon has a direct effect on student affairs administrators. It is critical for them to stay abreast of the many changes occurring on college and university campuses today, especially since these professionals are committed to the development of the whole student by connecting their academic and co-curricular lives. A few of the automated student services that have been made available to students through student information systems provide telephone and Internet registration, web access to student records, web based admission packages, bedroom

Internet ports, and Free Application for Federal

Student Aid web accessibility (Volchok, 2000; Zelesky,

2000). These services alone have made processes much

easier for college students and student services

practitioners alike, without causing an enormous

detriment to the foundational paradigm in the field of

student affairs: face-to-face communication (Barratt,

2000).

Although these technological impacts have been

put into place and utilized for the past few years,

there is no other area of the student affairs

profession that has offered the highest percentage of

services offered online than career services (McRae,

1999). Career services are able to reach students and

assist them in three major areas with the use of

technology and the Internet: Recruiting and Job

Hunting Services, Computer-based Career Guidance

Systems, and Career Planning Services. All of these

resources that career services has employed work

towards the ideal of using the Internet as a resource

for enhancing career development in students.

Therefore, the need to examine and explore the status of career services online is not only timely, but necessary in the ever-changing technology movement that has affected the very culture of student affairs in American higher education. The purpose of this paper is to accomplish that task by providing a synopsis of research gathered from the three main categories of online career services mentioned above, and to discuss how using the Internet to deliver these services can enhance the career development of college students.

Recruiting and Job Hunting Services

On-line recruiting is the most common and wide-ranging category of on-line career services. This process provides a two-way service for both job seekers and employers. Just like any other industry, human services organizations are utilizing the Internet to support businesses (McShulskis, 1997). The majority of the human resource management services offered on the Internet deal in the area of recruiting. According to Mike Frost (1997), director

of on-line services for the Society for Human Resource Management, "The web has created the ability for instant information, instant recruiting, and instant networking" (p. 4). Therefore, when the human resource departments of businesses combine with career services in higher education institutions, an explosion of Internet recruiting, also known as cyber-recruiting and e-recruiting, and job search is created. The Internet makes the frustrating and tedious processes of job hunting and hiring a lot simpler by connecting employers and students through career departments within colleges and universities.

At this point, career services not only provides assistance for college students by enhancing their capabilities to network with employers on-line, they also help employers find prospective, educated employees from institutions around the country. In order to accomplish these responsibilities successfully, career services must remain current regarding the many recruiting and job hunting sites that are made available on the Internet. As a result,

students who attend institutions of higher learning are consistently aware of the job search opportunities that are available to them.

Companies like TMP Worldwide and Career Builder are the leading on-line recruiting services that have launched two of the largest on-line job sites, The Monster Board and Careerbuilder. TMP Worldwide is an interactive company with a unique suite of Global Career Solutions and a client base that includes more than 90 of the Fortune 100 and more than 480 of the Fortune 500 (http://www.tmp.com/TMP800/aboutus/ aboutinfo.asp?type=who). The Monster Board, located at http://www.monster.com, brings applicants and employers together through on-line recruiting day or night, at home or in the office. Career Builder is a leading on-line source structured to maximize recruitment and optimize job searches for candidates anywhere in the nation. Within Careerbuilder, job seekers are exposed to more than 300,000 continuously updated jobs, and 25,000 of the top employers hire the talent they need. More than 6 million individuals

visit Careerbuilder each month (http://www.headhunter.

net/JobSeeker/AboutUs/Index.htm).

Through the Monster Board and Careerbuilder,

applicants register job preferences, including their

geographic and professional choices, as well as their

qualifications by posting resumes. The information is

screened for its compatibility with positions offered

within the job database. Candidates receive

notification via e-mail if a match is found.

Additionally, these sites contain search engines,

which categorize thousands of job listings according

to location, job type, or salary range, which makes

searching much easier. In a study of the top 100

colleges and universities selected as most wired by

Yahoo Internet Life, a national publication, and

Peterson's Publishing, 100% of the institutions

provided their students with access to on-line career

services such as these (McRae, 1999). (See Table 1 in

the Appendix for Internet locations of more recruiting

and job search sites.)

Moreover, many colleges and universities have employed their own on-line recruiting methods. An example of one of these projects is evident on the University of Northern Iowa's website through their career services link. The Career Center at this institution has a service known as the UNI CareerLink that is accessible to UNI students. Registration with UNI CareerLink provides UNI students with a strong link to prospective employers as well as access to resources that are critical to a successful search for a job or internship opportunity. Students can utilize the UNI CareerLink WebRegistration and WebResume system 24 hours a day. The registration process can even be completed on-line. Although the Career Center has been utilizing a web-based recruiting system for a number of years, the UNI CareerLink was uploaded and available to students in July 2001. This on-line e-recruiting system was also put into operation by the Career Center to allow students to:

- Put resumes on their website and make it available to over 1000 employers who have been given access by their office.

- Interview with prospective employers on campus. UNI CareerLink allows qualified students and alumni to sign up over the Web for on-campus interviews.

- Be referred directly to positions at employers' request. UNI CareerLink allows the generation of resume referrals based on employer needs and allows employers to access this data directly over the Web.

- Access job and internship vacancies. Vacancies are posted on UNI, CareerLink by Career Center staff and employers. Full-time, co-op/internship and graduate assistant/fellowship listings are included, as well as other experiential opportunities.

- Apply electronically for positions. UNI CareerLink allows you to send electronic applications for vacancies posted in the system.

  (http://www.uni.edu/careercenter/careerlink/er_re gistration.html)

The Virtual Career Fair is another model of an on-line e-recruiting system located at the University

of Florida's website through their career services

link. For access to this university's method of

connecting students with employers, students must

first be registered with GatorTRAK. GatorTRAK is an

on-line recruiting mechanism made available through

the college's Career Resource Center that enables

students to upload their resumes and transcripts,

search for interviews, submit their resumes, and sign

up for on-campus interviews with employers

(http://www.crc.ufl.edu/gatortrak/newuser.html).

After students have registered with this on-line

career service, they have the opportunity to

participate in the Virtual Career Fair. The Virtual

Career Fair is an online version of a traditional

Career Fair, an event where students and alumni

network with potential employers, where students view

122 job listings and submit resumes via the web to 26

companies from 31 different industries (Bragg, 2001).

> This is how the service works: (1) students view a
> page of various industry types (Sales/ Management,
> Healthcare, Engineering, etc), (2) click on their
> areas of interest, (3) peruse virtual booths that
> contain job listings, (4) read the job descriptions
> and company information, (5) submit their resume via

the web to employers for positions that interest them, and (6) follow-up with the recruiter by using the contact information provided (http://www.crc.ufl.edu/virtual_career_fair/VGCF-Info.html).

Students are capable of visiting the Virtual Career Fair 24 hours a day throughout the duration of the event and thus avoid the scheduling conflicts that can occur during traditional career fairs (Bragg, 2001). Like the UNI CareerLink, the Virtual Career Fair is a fairly new concept for the Career Resource Center at the University of Florida. This institution held its first on-line career fair during the summer of 2001, from July 16 to August 17. According to Bryan Patterson, the Assistant Director for Career Events at the university, "It's the wave of the future. I hope to accomplish a new way of helping students get connected by providing a more accessible venue to contact employers" (Bragg, 2001, p. 1-2).

There are many benefits that recruiting on-line provides for employers and job seekers at colleges and universities. Some of these include reaching a larger audience, having more geographical exposure, and

providing a more economical process for everyone

(Mosley, 1998). Electronic registries offered through

the Internet sites or career departments in

postsecondary institutions allow staffing companies to

establish relationships more rapidly with job

applicants than any other means of recruiting

(Saftner, 1997).

Although these positive aspects of on-line

recruiting may exist, they have not replaced

traditional recruitment methods. Hence, it is still

imperative for career service areas of student affairs

to assist students in their career decision making

process before they reach the point of job seeking.

Computer-Based Career Guidance Systems

Computer-based career guidance systems have been

a reality in the United States for the past 35 years

(Harris-Bowlsbey, 1992). The use of these mechanisms

assists career counselors and advisors with guiding

students through their career development process.

They made their start in the late 1960s, funded by the

state, federal, and other foundation grants, and

created by those who felt integrating technology with career development in order to aid individuals with their decision making was significant. This type of career assistance became a part of many college and university career departments by the late 1980s (Katz, 1990).

Computerized career systems are made up of four basic components, an outline of the system, assessment tools, databases, and search strategies. The outline of the system expresses the developer's theory of what individuals need in order to reach developmental tasks or make informed career decisions (Harris-Bowlsbey, 1992). This area includes activities that assist the learner in learning more about their self-interests, abilities, and/or values; to relate this self-information to available occupational options; to teach and apply good decision-making principles to the making of choices; and to provide significant databases that represent options for further education, job placement, or other implementation steps (Harris-Bowlsbey, 1992).

The second component of computer-based career guidance systems are assessment tools. They contain information about the user, such as interests, abilities, experiences, personality type, and/or values, in order to create the linkage between the user and possible occupational options. The assessment data may either be obtained by taking inventories on-line, or by entering the results of having taken them in print form. Databases, the third section of computerized career systems, are files of frequently-updated and accurate information about areas that the users choose to learn more about, for instance, occupations, schools, military programs, programs of study, financial aid opportunities, apprenticeships, and employers. They are structured files of elements of data that people need in order to make well-informed decisions (Harris-Bowlsbey, 1992). The last part of this type of technological career service is search strategies. Within this sector, users of computer-based systems can classify and prioritize characteristics that they value most. Search

strategies can allow users to select options that meet their criteria and identify those that are worthy of further investigation.

One of the most popular computer-based interventions being utilized today throughout career services in higher education is Discover. Discover is a developmental guidance process introduced more than 20 years ago to help individuals identify their strengths and needs, as well as build a plan based on their personal profiles. It provides economical and efficient assessments of an individual's career-relevant interests, job values, and abilities. Discover features large amounts of information about occupations into six clusters, based on work tasks that can help individuals focus on preparing for meaningful and appropriate employment. This computer-based career guidance system also includes:

- An occupation database that provides detailed information about hundreds of occupations in the current U.S. labor market; a searchable file that includes detailed descriptions of typical college

courses, related majors, related occupations, and types of schools that offer the programs;

- Educational options that identify postsecondary education or training alternatives for their career choice;

- School database that provides information about virtually all two-year and four-year colleges, graduate/professional schools, most vocational-technical schools, and a detailed search process to identify the schools that have the features each individual wants;

- Financial aid/scholarship searchable database off financial aid sources and provides an estimate of federal eligibility, based on family or personal financial information;

- Job-seeking skills that prepare individuals for a successful job search by learning good interviewing skills, writing a resume and cover letter, etc.;

- Administrator reports Helps monitor the amount and type of system use by individuals and by groups, tracks individuals' career plans, provides lists of individuals by occupational cluster or interest, and much more.

(http://www.act.org/discover/overview/benefits.
html)

Discover has proven to have many positive effects

on the career development of students. Several

studies support the effectiveness of Discover as a

method for increasing users' career decidedness, the

degree to which an individual is decided on entering a

particular career, and occupational certainty, an

individual's commitment to a specific job choice

(Brownfield, 1987; Fukuyama et al., 1988; Gilman,

1987; Glaize & Myrick, 1984). Discover offers

superior results as a method to increase occupational

certainty when compared to other computer-assisted

career guidance programs. According to a study

conducted by Sampson et al. (1993), some participants

used Discover and others used another computer

assisted career guidance program. The researchers

found that those that used Discover increased their

occupational certainty, whereas the occupational

certainty of those who used the other program did not

change. In addition, there have been several other

studies that have revealed that Discover can be an

effective tool to increase users' career maturity, an individual's readiness to cope with age-appropriate career development tasks (Garis & Bowlsbey, 1984; Langley & Schepers, 1990; Luzzo & Pierce, 1996; Nocella, 1985; Yonkovig, 1987).

Discover has also been found to help users successfully progress through the various stages of career development, as outlined by Donald E. Super (Campbell, 1983; Garis & Bowlsbey, 1984; Garis & Niles, 1990; Kapes et al., 1989; Nocella, 1985; Yonkovig, 1987). Donald Super's most central statement of Super's theory relates to the importance of an individual's self-concept in the process of career choice and development (Super et al., 1963). Also, in Super's theory, individuals seek to live their vocational self-concept through their choice of work (Harris-Bowlsbey et al., 2000). The five specific life stages related to career development in Super's theory are Growth, Exploration, Establishment, Maintenance, and Disengagement.

This computerized career information delivery system increases the self-efficacy, or confidence, in a student's ability to successfully engage in the career decision making process, as well (Fukuyama et al., 1988). Additionally, the results from several studies show evidence of Discover's effectiveness in increasing users' vocational identity (Barnes & Herr, 1998; Gilman, 1987; Kirschner, 1989; Sampson et al., 1993; Shahnasarian & Peterson, 1986). This means that individuals have a clear idea of their career-related interests, abilities, goals, and personality after using this program.

The final benefit that was found in students who utilize the Discover system involves career exploration behavior. The frequency with which a person engages in career information-seeking behavior, including making use of career resources and consulting with others about career information, was shown to be enhanced in those students who used Discover as opposed to those who had not used the system in their career decision making process

(Campbell, 1983; Garis & Bowlsbey, 1984; Gilman,

1987). This is partly due to the direct access to

information and the quick and easy retrieval of

current, comprehensive, meaningful information.

Other Computerized Career Information Delivery

Systems that are being utilized on the Internet and in

colleges and universities as on-line career services

today are, Visions, Visions Plus, CareerNet Visions,

Choices, Coordinated Occupational Information Network

(COIN), the Guidance Information System (GIS), the

System of Interactive Guidance and Information Plus

(SIGI Plus), and the Computerized Version of the Self-

Directed Search. Although all of these programs have

interactive components that provide self-assessment

activities for interests, temperaments, work values,

and other work-related factors, career service

counselors must be sure that they are not

administering these computer-based interventions as a

uniform treatment for students, but rather are

prescribing them in a way that take into consideration

the unique personality characteristics of each client

(Lenz et al., 1993). Also, individual career planning

and counseling is vital for students in understanding

what these assessment tools can tell them about their

lives and their careers, and how they can effectively

use them to improve their career development and

accomplishing their career goals.

Career Planning Services

This section of on-line career services is one

that has been in existence for the shortest time.

Within the past few years, career planning services on

the World Wide Web have emerged in the areas of

college and university websites and independent

Internet companies. The information provided on

academic sites has dramatically improved. Such sites

include information about career paths and

possibilities, and not only focus on the academic

programs of an institution (Stevens & Lundberg, 1998).

Many career services offices at universities have

consolidated on-line career counseling information via

their Web home pages and links to other websites

located on the Internet (Levenson, 1995). There are

also a few advantages to involving technology in the
career planning and advising services that are given
in higher education. First, career counselors who
are fluent in using the Internet will have a highly
interactive mode of communication and quick access to
current sources of information (Stevens & Lundberg,
1998). This benefit can stimulate both the
counselors' and the students' interests, and the
student-counselor communication can improve.
Communication among counselors can become easier also,
fostering the sharing of ideas (Stevens & Lundberg,
1998). New resources are readily available to career
counselors, and the potential to develop new
relationships on a global scale emerges for them as
well.

Through independent Internet companies that have
developed websites to serve the campus market,
telementoring is becoming an increasingly popular way
for students to seek career advice and counseling by
using the Internet. Telementoring is either formal or
informal, and consists of exchanges between students

and professionals via e-mail or the World Wide Web

(Bennett, 1997). The National School Network Exchange

has a site offering telementoring information and

opportunities. Educators are combining the concept of

mentoring with the reach and convenience of recent

telecommunications technology (Goldman, 1997).

Mentoring involves an experienced person giving

guidance, knowledge, and encouragement to someone who

is learning (Goldman, 1997). With the advent of

telecommunications, more students can become involved

in a positive relationship with a professional, who

can provide attention, academic assistance,

validation, advice, and support. Mentors who may not

have time for face-to-face meetings find

telecommunications affords them the opportunity to

still participate and share their expertise with

students (Goldman, 1997). Mentors can be found

through professional associations or local

corporations. Some telementoring programs are

constructed on career guidance and personal

development (Bennett, 1997).

Cybercoaching is another new approach to utilizing the Internet to enhance career planning. This is an extremely new concept that has become a part of the Internet, but is becoming a more popular way for individuals to gain advice and encouragement. Cybercoaching uses the World Wide Web or e-mail as a way of motivation (Murphy, 1998). Pep talks include advice on securing job interviews and practicing interviewing skills.

One website entitled America's Career InfoNet offers links to related information including career guidance and counseling, in addition to information on earnings, job duties, training, and employment outlook (http://www.acinet.org/acinet/). Also, the Career Development Manual website is an interactive career planning guide that begins with self-assessment, continues through to employment contacts, and ends with career and life planning (http://www.adm.uwaterloo.ca/infocecs/ CRC/manual-home.html). (See Table 2 in the Appendix for Internet locations of more career planning sites.)

When accessing and using career services in the
area of counseling on the Internet through independent
companies, it is important for career counselors to be
aware of sites that are created for the primary
purpose of obtaining commercial benefits. Websites
that fall into this category often do not have the
students' nor the institutions' best interest in mind.
There are certain criteria that practitioners should
try to follow when using the Internet for career
planning, investigate the sources authority and
thoroughly examine the accuracy of the content
information (William, 1998). When investigating the
authority, make sure that the credentials of the
person or organization that posts the information is
checked. In relation to the content information,
perhaps it can be compared with other resources that
are considered valid and reliable, try to note how
regularly the information is updated.

Conclusion

Student affairs professionals should carefully
consider the technological service needs that current

students are requiring in American higher education.
As the area of career services has shown in numerous
efforts in the past and present, the World Wide Web
can enhance many new types of learning and development
in college students. There are numerous websites on
the Internet devoted to career services. A great
portion of what is offered consists of job placement
and recruiting efforts, enabling students to explore
large databases and search engines for job openings
and to post resumes. The use of computer-based career
guidance systems have expanded the population of
individuals who receive career assistance across the
total life span, from elementary to college to the
adult years, and allows individuals to make choices
related to school, work, and other life roles that are
valued. Career planning information on the Internet
has progressed in recent years to reach populations of
students through private companies and postsecondary
institutions. Overall, all of this information has
led to the increased popularity of using the Internet
as a resource for career development.

Appendix

Table 1 - Recruiting and Job Hunting Websites

Site Name	Internet Address
Best Jobs USA	http://www.bestjobsusa.com/index-jsk-ie.asp
Careerbuilder	http://www.headhunter.net/JobSeeker/Index.htm?siteid=cmhome
Careershop	http://www.careershop.com/
CareerSite	http://www.careersite.com/
CareerWeb	http://www.careerweb.com/jobs/
Hot Jobs	http://www.hotjobs.com
Monster	http://www.monster.com
NationJobs Network	http://www.nationjob.com
Net Temps	http://www.net-temps.com/
Preferred Jobs	http://www.preferredjobs.com
SearchEase	http://www.searchease.com/default.htm

Table 2 - Career Planning and Advice Websites

Site Name	Internet Address
America's Career InfoNet	http://www.acinet.org/acinet/
Career Development Manual	http://www.adm.uwaterloo.ca/infocecs/CRC/manual-home.html
CollegeView	http://www.collegeview.com
Creative Job Search	http://www.mnwfc.org/cjs/cjs_site/index.htm
JobHunters Bible	http://www.jobhuntersbible.com/index.html
Jobweb Resource	http://www.jobweb.com/resources/library/
Mapping Your Future	http://mapping-your-future.org/planning/
Mind Tools	http://www.mindtools.com/index.html

REFERENCES

ACT, Inc. (2002). Discover Overview. Retrieved March
     2002, from
     http://www.act.org/discover/overview/benefits.
     html.

America's Career InfoNet (2001). Informed Career
     Decisions. Retrieved April 2002, from
     http://www.acinet.org/acinet/.

Barnes, J. A. & Herr, E. L. (1998). The effects of
     interventions on career progress. *Journal of
     Career Development, 24,* 179-193.

Barratt, W. (2000). Technology and student affairs: An
     unlikely pair. *Student Affairs On-line, 1.*
     Retrieved March 2002, from
     http://www.studentaffairs.com/ejournal/Spring_200
     0 /article4.html.

Beede, M. & Burnett, D. (1999). The compelling case
     for change. In *Planning for student services:
     Best practices for the 21st century.* Ann Arbor,
     MI: Society for College and University Planning.

Bennett, D. T. (1997, April). Providing role models
     online. *Electronic Learning, 15.*

Bragg, J. (2001, August 6-August 15). No suit, no tie,
     no problem at virtual career fair. *The Gator
     Times, 2,* 1-2.

Brownfield, K. N. (1987). A comparative study of
     career decision making with two computer-assisted
     career guidance systems (Doctoral dissertation,
     University of Tulsa, 1987). *Dissertation
     Abstracts International, 48,* 306A.

Campbell, R. B. (1983). Assessing the effectiveness of DISCOVER in a small campus career development program. ERIC Document Reproduction Service No. ED 253 782.

Career Builder (2002). About us. Retrieved April 2002 from http://www.headhunter.net /JobSeeker/AboutUs/Index.htm.

Frost, M. (1997). Keeping pace with outplacement. *HRMagazine, 42,* 32.

Fukuyama, M. A., Probert, B. S., Neimeyer, G. J., Nevill, D. D., & Metzler, A. E. (1988). Effects of DISCOVER on career self-efficacy and decision making of undergraduates. *Career Development Quarterly, 37,* 56-62.

Garis, J. W., & Bowlsbey, J. (1984). *DISCOVER and the counselor: Their effect upon college student career planning and progress.* Iowa City, IA: ACT Publications.

Garis, J. W., & Niles, S. G. (1990). The separate and combined effects of SIGI and DISCOVER and a career planning course for undecided university students. *Career Development Quarterly, 38,* 261-274.

Gilman, K. A. (1987). A comparison of computer-assisted and noncomputer-assisted group career guidance experiences using SIGI PLUS and DISCOVER for adult learners. (Doctoral dissertation, Texas A&M University, 1987). *Dissertation Abstracts International, 49,* 201A.

Glaize, D. L., & Myrick, R. D. (1984). Interpersonal groups or computers? A study of career maturity and career decidedness. *Vocational Guidance Quarterly, 32,* 168-176.

Goldman, M. (1997, February 2). Perspective on
     telementoring and mentor center. National School
     Network Telementoring & Menter Center. Retrieved
     March 2002, from http://nsn.bbn.com/telementor_
     wrkshp/goldman.html.

Harris-Bowlsbey, J. (1992). Building blocks of
     computer-based career planning systems. ERIC
     Document Reproduction Service No. ED 347 478.

Harris-Bowlsbey, J., Suddarth, B. H., Reile, D. M.
     (2000). *Facilitating career development: Student
     textbook*. Columbus, OH: National Career
     Development Association.

Kapes, J. T., Borman, C. A., & Frazier, N. (1989). An
     evaluation of the SIGI and DISCOVER
     microcomputer-based career guidance systems.
     *Measurement and Evaluation in Counseling and
     Development, 22*, 126-136.

Katz, M. R. (1990). Yesterday, today and tomorrow. In
     J. P. Sampson & R. C. Reardon (Eds.), *Enhancing
     the design and use of computer-assisted career
     guidance systems*. Alexandria, VA: National Career
     Development Quarterly.

Kirschner, J. E. (1989). Congruent versus incongruent
     vocational treatments for career indecision in
     college students: A comparison of DISCOVER and a
     career workshop (Doctoral dissertation,
     University of Maryland College Park, 1989).
     Dissertation Abstracts International, 50, 3163A.

Langley, R., & Schepers, J. M. (1990). Computerized
     career guidance: An evaluation of the DISCOVER
     system. *South African Journal of Psychology, 20*,
     287-293.

Lenz, J. G., Reardon, R. C., & Sampson, J. P. (1993). Holland's theory and effective use of computer-assisted career guidance systems. *Journal of Career Development, 19*, 245-253.

Levenson, L. (1995). High-tech job searching. *The Chronicle of Higher Education, 41*, (44), 16-17.

Luzzo, D. A., & Pierce, G. (1996). Effects of DISCOVER on the career maturity of middle school students. *Career Development Quarterly, 45*, 170-172.

McRae, M. S. (1999). Online student services in American higher education: Contemporary issues and future implications (Doctoral dissertation, University of North Texas, 1999). *UMI Proquest Digital Dissertations*, AAT 9934675.

McShulskis, E. (1997). Electronic recruiting becomes increasingly popular. *HRMagazine, 42*, 24.

Mosley, A. (1998). WWW.recruiting. *Business and Economic Review, 45*, 23-25.

Murphy, K. (1998, September 14). Career coaches see internet as tool for counseling clients. *Internet World*.

Nocella, T. K. (1985). Computer assistance in career counseling (DISCOVER) (Doctoral dissertation, University of Denver, 1985). *Dissertation Abstracts International, 46*, 199A.

Sacks, P. (1996). *Generation X goes to college: An eye-opening account of teaching in postmodern America*. Chicago, IL: Open Court Publishing.

Saftner, T. J. (1997). Job hunting on the internet. *Career World, 26*, 16-17.

Sampson, J. P., Reardon, R. C., Lenz, J. C., Ryan-
     Jones, R. E., Peterson, G. W., & Levy, R. (1993).
     The impact of DISCOVER for Adult Learners and
     SIGI PLUS on the career decision making of
     adults. ERIC Document Reproduction Service No. ED
     363 824.

Shahnasarian, M., & Peterson, G. W. (1986). The use of
     computer-assisted guidance with prior cognitive
     structuring intervention. ERIC Document
     Reproduction Service No. ED 272 678.

Stevens, D. T. & Lundberg, D. J. (1998). The emergence
     of the Internet: Enhancing career counseling
     education and services. *Journal of Career
     Development, 24,* 195-208.

Super, D. E., Starishevsky, R., Matlin, N., & Jordan,
     J. P. (1963). *Career development: Self-concept
     theory.* New York: College Entrance Examination
     Board.

TMP Worldwide (2002). About us. Retrieved April 2002
     from http://www.tmp.com/
     TMP800/aboutus/aboutinfo.asp?type=who.

University of Florida Career Resource Center (2002).
     GatorTrak. Retrieved April 2002, from
     http://www.crc.ufl.edu/gatortrak/newuser.html.

University of Florida Career Resource Center (2002).
     Virtual Gator Career Fair. Retrieved April 2002,
     from
     http://www.crc.ufl.edu/virtual_career_fair/VGCF-
     Info.html.

University of Northern Iowa Career Center (2002). UNI
     CareerLink Registration. Retrieved April 2002,
     from http://www.uni.edu/careercenter/careerlink/
     er_registration.html.

University of Waterloo (2002). Career Development
    Manual. Retrieved March 2002, from
    http://www.adm.uwaterloo.ca/infocecs/CRC/manual-
    home.html.

Volchok, D. J. (2000). Student affairs and technology:
    An introduction to the integration of dot.coms
    and student affairs. *Student Affairs On-line, 1.*
    Retrieved March 2002, from
    http://www.studentaffairs.com/ejournal/Summer_200
    0/art1.html.

William, T. R. (1998). Using technology to deliver
    career services. *Association Management, 50,* 12.

Yonkovig, M. J. (1987). A comparison of the effects of
    the DISCOVER computer-assisted guidance system
    for mainframes and for microcomputers upon
    college students (Doctoral dissertation, The
    Pennsylvania State University, 1987).
    Dissertation Abstracts International, 48, 3083A.

Zelesky, J. (2000). By way of the pendulum: The effect
    of technology on the future of student affairs.
    Student Affairs On-line, 1. Retrieved March 2002,
    from
    http://www.studentaffairs.com/ejournal/Spring_200
    0/article6.html.