

35TH INSTITUTE ON REHABILITATION ISSUES

ELEARNING AND VOCATIONAL REHABILITATION

*Jane Elizabeth Burdeshaw, Alabama Department of Rehabilitation Services*

*Charles Compton, California Department of Rehabilitation*

*Margaret Cooney, California State University, San Bernardino*

*Larry Dickerson, University of Arkansas at Little Rock*

*Sandra Hansmann, University of Texas Pan American*

*Linda Hedenblad, Southern Illinois University, Region V TACE*

*Richard Helling, Graduate Student, Auburn University*

*Belinda Langton, South Carolina Vocational Rehabilitation Department*

*Randall McDaniel, Auburn University*

*Linda Mock, Chairperson, Oregon Commission for the Blind*

*Lee Pearson, Assumption College*

*Robert Peters, University of Wisconsin-Stout*

*Frank Puckett, Southern University*

*Julie Smart, Utah State University*

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## Introduction

“Adult learners have been another significant factor affecting the demand and growing need for more eLearning programs. Since the onset of globalization, researchers have acknowledged the need for on-going educational pursuits as being a key ingredient to attaining a successful career and standard of living. Researchers have approximated that the practical life of a technical degree (i.e., the elapsed time until skills must be updated in order to remain current) is now less than five years; therefore, today’s graduates must continually renew their knowledge, abilities, and expertise (Folkers, 2005, ¶ 5). This need for lifelong learning as a key factor in remaining competitively employed is fueling distance education modalities around the world” (Portugal, 2006)

The 35th Institute on Rehabilitation Issues is designed to address eLearning (Electronic Learning) within the Vocational Rehabilitation System. It is intended to describe the impact on and the potential for persons receiving services and to those who are delivering and administering services. The document is also designed to identify barriers to eLearning and advocate for support and adoption of eLearning within vocational rehabilitation (VR) and look into the future to describe what might be possible.

Following are the objectives of the 35th IRI and the chapter in which it is discussed.

1. Understand the digital divide and advocate for universal access. (Ch. 1, 4)
2. Understand the driving forces behind the eLearning evolution. (Ch. 1)
3. Recognize emerging opportunities for eLearning and its application for VR. (Ch. 1, 2)

4. Create a compelling vision for the integration of technology into the world of VR. (Ch. 2)
5. Recognize eLearning application for VR personnel and consumers. (Ch. 2 & 5)
6. Identify the competencies and attributes of successful eLearners. (Ch. 3)
7. Promote assessment, development, and modeling of successful eLearning. (Ch. 3 & 4)
8. Promote excellence in eLearning design and access. (Ch. 4)
9. Promote use of eLearning within agency structure for both employees and consumers. (Ch. 5)
10. Identify the challenges of implementation of eLearning within VR Agencies. (Ch. 5)
11. Promote collaboration and understanding between educators and VR agencies. (Ch. 6)
12. Understand the benefits gained from eLearning graduate programs. (Ch. 6)
13. Recommend strategies for effective implementation of eLearning technologies in VR agencies. (Ch. 7)

The 28th IRI described a future with widespread adoption and use of handheld computing. The 35th IRI must report that while technologically feasible, the widespread adoption and use has not been realized. There are many philosophical and technological issues associated with the use of an electronic environment and eLearning. State agencies, businesses and the educational sector struggle with the electronic environment, the technology, concepts and realities of open use versus restricted access. Open and unfettered access represents freedom to some and the potential for abuse to others. During editing discussions several voices identified state agency and educational institution willingness to provide open access while other voices identified reluctance. Other voices suggested a tension that can exist between those who wish for open access and those who might be concerned with philosophical and technical abuse of the electronic environment. We encourage all parties to explore the philosophy of open versus restricted access along with the contextual realities of our time and environment. Discussions of open versus restricted access are important to inform us of the challenges faced by various entities. Educational institutions commonly follow open access guidelines because they follow freedom of speech principles. State agencies are responsible to protect confidentiality and funding resources and are concerned with exposure to breaches of the electronic environment. The exploration and investigation can provide solutions to these issues as we become better

informed as administrators, faculty, counselors, staff and consumers.

Therefore, participants in the 35th IRI encourage the following players to advocate for more widespread and universal adoption and use of eLearning to improve VR services, case service delivery and administration of services, as this document was written to address each of these groups.

Participants of Rehabilitation Services  
 Service Delivery Personnel (Counselors)  
 Support Staff  
 Resource providers for the Vocational Rehabilitation System  
 Administrative Personnel  
 Educators  
 Others significantly involved in the Rehabilitation System

The writers of this document recognize that there are differing degrees of commitment to the use of technology, from encouraging to discouraging the use of eLearning and its opportunities. The varying degrees of commitment can create a tension between the open use of technology and restricted access to these technologies. From a counseling perspective the exploration of tensions is a means to gain better understanding of the persons and issues involved in complex situations. Exploration can lead to awareness and the offering of potential solutions that reduce the tension and lead to a more effective environments. In the context of eLearning and electronic environments, these discussions develop awareness and increased understanding which in turn can lead to empowering all parties within the system to benefit from the full range of opportunities available. It is concomitant upon all parties involved in eLearning to recognize potential tensions and to accept and embrace technology, find the expertise to establish the safe and appropriate use of technology and develop a culture that empowers eLearning.

Just as there are varying degrees of commitment to the use of technology, there are also those who adopt technology more readily than others. Rogers (2003) [in Saladin & Hansmann (2008)] has theorized that acceptance or adoption of technology or innovation comes at differential rates among the population. Similarly, we can expect participants of services, support staff, professional counselors and administrators to adopt eLearning and associated technology at differential rates. This may account for some of the tension associated with adoption of this somewhat new form of education.

eLearning as an essential strategy within Vocational Rehabilitation requires an attitude of openness with a focus on access to the tools of the e-environment. Counselors, staff and administrators need to share a

vision of an organization that is responsive, flexible and proactively faces the challenges of our electronic world. eLearning is one avenue through which this vision can be realized.

An organizational culture that promotes eLearning must embrace technological change and risk taking to reward and empower educators, consumers, counselors and staff. A progressive and flexible VR program will promote the relevance and health of the agency, engender respect, attract new tech savvy staff and retain committed employees. A culture within the public agency that embraces change, adapts quickly and nurtures intrinsic rewards results in a vital organization committed to the fulfillment of human potential.

It is our hope that the following document will inspire and assist employees of state programs at all levels to transform their organizations.

### ***Consider the possibilities, not only the challenges:***

#### ***Policy Development***

As the eLearning environment is realized within VR, numerous changes are possible. Vocational Rehabilitation administrator Clark is preparing policies for staff participation in eLearning to meet CSPD standards. Clark seeks input and technical assistance from RSA staff via the virtual network utilizing a laptop to view and communicate with them. The discussion helps Clark to develop the skeleton that will ultimately provide electronic access to staff and consumers pursuing training or education. Topics covered include purchasing electronic devices, access and use of the Internet, accessibility for various populations, and the recognition that employees and consumers require unfettered access to accomplish both educational and professional objectives. The discussion ends on an up note as Clark and RSA staff discuss the experiences of adult children as they begin the first professional job, post college. Later that morning, Clark brings the agency leadership team together to complete the eLearning policies, at which time they submit e-documents with electronic signatures to RSA for approval. RSA, after review, approves and returns the documents later that afternoon.

Clark, in a discussion with agency training staff, has, somewhat reluctantly, agreed to use eLearning strategies to deliver short term training to counselors in the field. He would have preferred to have a single, face to face meeting with all staff at a site commonly used in the past. With budget constraints he has been challenged to focus resources on the most significant need within the agency, case services. He understands the demands that he places training staff under to produce short term

training on the newly developed policies guiding the use of technology and eLearning within the agency. Clark has struggled with the cost of bringing staff together for training versus the eTraining that he has agreed to and he is aware that he is not the only administrator so challenged. In the end he realizes that compromises need to be made so the focus of the agency can be on the people they serve.

Later that week, counselors in the field attend short term training through the use of a Personal Digital Assistant (PDA) delivering the newly developed policies. Technical assistance is provided by the staff training director and several members of the leadership team. As the policy is described, staff applaud it because they feel it will allow them to greatly improve services to consumers. Several counselors use the PDA to text questions to gain clarity regarding the parameters of the policy. Clark has become satisfied that the e-environment is the most effective tool to provide staff with vital information as critical service issues emerge.

#### **New Paradigms**

Betty, a new agency staff member, is attending a graduate program utilizing eLearning-delivered coursework. Located in a remote area of the state, Betty gave up on attaining a graduate degree years ago because it would require leaving or moving the family. Parents and siblings discouraged Betty from pursuing the goal because they felt they would lose contact. Betty was overjoyed when learning that the new job with VR would assist with tuition and media while she attended graduate school.

Betty routinely accesses electronic libraries to gather research on the form and function of disability. Additionally, Betty uses Web resources to cite authors, write papers and communicate with instructors and fellow students. The agency intranet provides a secure network to communicate with supervisors and co-workers regarding work assignments and to clarify policy questions, submit purchase requisitions, consumer plans, etc.

Being from a rural area, Betty understands the difficulties and problems that can be encountered by consumers in similar circumstances. She is traveling to an outlying county to meet with consumers and a recent snowfall has closed the mountain pass that she needs to cross to get home. She has several appointments that now need to be delayed. Betty decides to stop at a diner for coffee and work until the pass is cleared. She calls her supervisor to provide information regarding the delay and seek suggestions. He asks if she has wireless service and suggests Betty call her consumers and use Skype or net meeting to connect with them. Betty forgot about the built in camera on her laptop and now realizes she can call Will, a consumer who lives on the other side of the pass. Will is rather tech savvy as he has had to learn to use computers to connect to the outside world

after his accident. He fell while rock climbing with friends and sustained a high level spinal cord injury and minimal use of his arms and hands resulted. Will uses Skype for a form of face to face communication and voice input to control his computer and home environment.

During the conversation Will provides Betty with digital copies of doctor's reports, and Betty begins to open another case file with documentation for eligibility. The conversation covers Will's wants and desires and career aspirations. He is a bright young man who has come to realize, in the nine years since his accident, that a small town in the mountains does not offer the opportunities that an urban environment can offer. Will relies on his computer to connect to a larger world, where he learned of Vocational Rehabilitation. Betty feels a sense of accomplishment replace her fears and frustrations as she is able to complete her meetings online.

Doug is working with Josh on an employment plan; they are huddled around a terminal using the Internet to explore interests with an online inventory. Josh is bright and motivated. He enjoys gaming online and is exploring a career in electronic game development. Doug, a dedicated VR counselor, is encouraging Josh to consider the various careers associated with game development. Josh has an assessed math aptitude that is off the charts and would provide a foundation for a plethora of career directions.

Doug uses the Internet to check Bureau of Labor Statistics information on employment for a number of professions. He also gets Josh started using the electronic version of the Occupational Outlook Handbook to review job titles, duties, nature of the work, training required of that occupation, etc. Doug engages Josh in conversation and counseling regarding job titles and duties, helping Josh explore a wider array of career opportunities. Doug finds that if he calls it homework, Josh is more likely to become engaged and continue searching ideas at home. At the end of their time together, Doug gives Josh more homework and asks for several pieces of disability-related documentation and diagnostic information recommending accommodations for his learning disability. Josh tells Doug that he will create a PDF file and send it to him tonight. Doug also asks Josh to review, with his parents, the types of occupations he has been exploring both with Doug and on his own, including the educational requirements. Doug reminds Josh that, at the next meeting, they will be talking about various occupations and training or education required of each.

Josh uses his cell phone to update his calendar for the next appointment and makes notes to remind himself of his homework. Josh and Doug started working together two years ago when Josh was a freshman in high school. Doug, along with the transition coordinator, helped Josh with the cell phone as an accommodation that Josh has used to become a much improved student. Doug, in turn, uses his laptop to make case notes in the

file and develop his tickler system on his calendar for reminders, notes, eligibilities, etc. The spell check and grammar checking software Doug employs has improved his case reporting, case noting and documentation and aided him as he dealt with his own learning disability.

Administrators, employees and consumers in VR are empowered to explore resources, research ideas and develop plans for education, training and personal/professional development. The e-environment has enabled a revolution in VR by allowing all parties to have access to resources previously restricted by fear. The world has changed rapidly and many sectors of society have adapted electronic communication and resources along with virtual meetings to accomplish goals and activities never dreamed of before.

As we leave our dreams of possibilities and refocus on our current situation let us once again encourage all parties in the discussion of rehabilitation and eLearning to strongly consider the possibilities that are before us. We have opportunities along with challenges within this environment and most of the time we must run to stay current with the changing tide of the electronic revolution. What follows are recommendations that are designed to encourage the adoption and use of eLearning within vocational rehabilitation.

### **Recommendations regarding eLearning and the use of technology within Vocational Rehabilitation**

The 35th IRI participants recommend the following:

- Development of agency policies that encourage and support the adoption and use of electronic technology to assist all participants and employees of VR agencies toward the end goal of employment for persons with disabilities.
- Use of eLearning to aid in the accomplishment of the requirement for a Comprehensive System of Personnel Development for Vocational Rehabilitation agencies.
- Use of eLearning to assist VR agency training directors with the responsibilities of the employment position to aid in the development and maintenance of well trained counselors, support staff and administrators.
- Use of electronic technology by professional counseling staff to provide services to participants of rehabilitation services.
- Timely provision of electronic technology to meet the accommodation needs of participants of rehabilitation services when appropriate.

## **Chapter One:**

### **Distance Education and Access for All**

We are in the midst of one of the most profound changes to educational delivery in history. Not since the advent of modern printing has education experienced anything approaching the influence of today's technologies on teaching and learning. From daily operations to how curricula are delivered, technology is drastically changing the approach to education (Currie, 2008). The Internet has opened up new ways for instructors to deliver curriculum and for students to access courses. The explosive growth of online education in the last five years is one example of how technology has provided an alternative way for millions of students across the country to access courses. But has it increased access for all?

There is mounting evidence that people with disabilities who live in poverty, as well as other individuals of lower socioeconomic status, may not be able to access distance education courses at the same rate as their wealthier counterparts. Inequality in access due to economic means is often referred to as the "Digital Divide," and it affects people with disabilities particularly hard. In this chapter, we will examine the growth and prevalence of distance education and how the digital divide affects the ability of people with limited means to access online educational opportunities. We will also discuss ways to bridge the divide to ensure access for all.

#### ***History and Growth of Online Education***

The terms "distance education" and "online education" are used interchangeably in this report. While there are still some higher education courses that are offered via Instructional Television Fixed Service (ITFS), 93% of all distance education courses taught in 2008 are online (Casey,

2008). The Sloan Consortium defines distance education as a course in which at least 80% of the course content is delivered online (Allen & Seaman, 2007). Web-facilitated courses are those in which less than 30 percent of the course content is offered online. These courses use Web-based technology to facilitate what is essentially a face-to-face course. Hybrid courses blend online and face to face delivery with 30-79% of the coursework being offered online (Allen & Seaman, 2008). For purposes of this report, we will only be dealing with full online courses.

Distance education began with rudimentary vocational courses delivered by postal service. The correspondence course became the earliest instructional delivery system, and the first recorded course was the Pitman Shorthand training program in 1852. The participants were mainly female, a trend that would continue to present day when it comes to distance education. The radio reduced instructional delivery time and was being used to delivery lessons primarily between 1918 and 1946. The use of television began as an instructional medium in 1934. In 1963, to further support the expansion of distance education, the FCC created the Instructional Television Fixed Service (ITFS) noted above, which continues, albeit minimally, today. With every major advance in information delivery, distance education has grown and flourished. Nothing however, has impacted distance education like the computer and the Internet. Distance learning today consists of millions of people worldwide accessing sophisticated online delivery systems capable of granting everything up to and including doctoral degrees (Casey, 2008).

Several factors have been cited as to why the shift to online education is happening, including improved access to educational services using online technologies, changing paradigms for teaching and learning that integrate well with these technologies, heightened educational competition and globalization, dramatic improvements in online systems capabilities, and the underlying economics of providing education online versus traditional means (Dykman & Davis, 2008). Student convenience and ease of access are also cited as primary reasons for the shift, which continues to happen in greater and greater numbers. Nearly 22% of all US higher education students were taking at least one online course in the fall of 2007. The growth is occurring the fastest in community colleges as they account for one half of all online enrollments for the last five years (Allen & Seaman, 2007 & 2008).

### **Community Colleges and Online Education**

Community colleges serve diverse segments of society through a flexible and open access policy. By their very nature, community colleges provide

a good fit with online learning (Liu, 2007). When asked why they offer online courses and programs, all types of higher education institutions cite improving student access as their top reason (Allen & Seaman, 2007). Community colleges are no exception to this rule. Community colleges across the nation have expanded online course offerings at rates significantly higher than traditional courses.

According to the U.S. Department of Education's Institute of Education Sciences Web site, in 2006-2007, there were 11,200 college level programs across the nation that were intended to be completed entirely by distance. 66 percent of these programs were reported as degree programs and 34 percent as certificate programs. Table 1 indicates the percentage of distance education programs offered by higher education institution in the U.S. Community colleges offered the most course offerings by far, with public four-year programs at a distant second.

Table 1

Total number of 2-year and -year Title IV degree-granting postsecondary institutions and percent that offered distance education courses, by course type and institutional type: 2006-07				
Institution type	Total Number of Institutions	Percent offered any distance education courses	Percent offered college-level credit-granting distance education courses	Percent offered noncredit distance education courses
All institutions	4,200	66	65	23
Institution type				
Public 2-year	1,000	97	97	50
Private for-profit 2-year	500	18	16	0
Public 4-year	600	89	88	42
Private not-for-profit 4-year	1,500	53	53	10
Private for-profit 4-year	300	70	70	2

The State of California is an example of how explosive the growth of online education has been in the community college system. According to the Distance Education Report on the California Community College Chancellor's Office Web site, in California community colleges, there has been an 808 percent increase in distance education course sessions since 1995-1996. Distance education credit and non-credit courses have grown by 27% since 2003-2004, and have sustained an average annual growth rate of 24 percent during the 11 years that the California Community College Chancellor's office has been keeping records. In that same 11 year period, the distance education student headcount has grown from 54,524 to 301,073, a 552 percent increase. The percentage of students enrolled in

DE course sessions rose from 2.52 percent of the total to 11.81 percent of that total in the 11 year period of the study (2008). Online course offerings have grown from one or two courses offered in the initial phases, to full degree programs now available entirely online. According to the Fast Facts database from the American Community Colleges Web site, students at 41% of public community colleges can earn a degree entirely online and 92% of all institutions offer at least one Internet-based course (2008).

Theoretically at least, the move to online education should support the mission of the community colleges to increase access for all students, including low-income and minority students. Proponents of distance education believe that online learning can contribute to an institution's vitality by enhancing diversity among its student body. They indicate that the flexibility of eLearning is especially beneficial to economically disadvantaged students who must pursue their education while remaining employed. Online courses are also seen as helpful to students with learning disabilities and those for whom English is a second language. Online courses allow for endless repetition, the opportunity to test comprehension along the way, and to read, hear, and see the instruction offered (Ebersole, 2008).

The concept of increased access for diverse student populations is espoused repeatedly by advocates of online learning. Research on the issue is nearly non-existent, but the belief that minorities and people of lower socioeconomic status may not have equal access to the electronic age because they do not have the income to afford computers and broadband access has been studied. The existence of the "Digital Divide," remains a concern for many who believe that whole segments of the population are being excluded from the benefits that computer ownership and Internet access affords the majority.

### ***The Digital Divide***

A review of the most recent literature on the subject indicates disagreement about the extent and severity of the digital divide. Discussions center around two important aspects; computer ownership and broadband Internet access. Dial-up access still exists, but the slow speed of the connection makes running many software applications and plug-ins impossible. A major study funded by the Pew Internet & American Life Project indicates that only 10% of Americans have dial-up Internet connections at home (Horrigan, 2008). The benefits of high-speed Internet connections are many, and the relative affordability has been hailed as one of the determining factors in bridging the digital divide. An article in *Computers, Networks & Communication* states:

Broadband Internet access helps create wealth and opportunity for communities that are wired. While there remains a substantial gap in broadband use of the wealthiest Americans and the poorest, a drop in price has allowed for a greater number of minorities to join in the broadband revolution (*The alliance for digital equality; study finds broadband access key to empowerment of minority communities, 2008*).

While encouraging on the face of it, these comments find little support in the results of studies on the subject. The PEW study indicates that 55% of adult Americans now have broadband Internet connections at home. Access however, is largely determined by income level. Only 25% of low-income Americans, those whose household incomes are \$20,000 or less, have broadband access at home as of April, 2008. This number represents a 3% reduction in the total percentage of the same income group from the prior year. Based on the data, it appears that the gap between the technology "haves" and "have-nots" remains unrelenting. The digital divide continues to grow, just at a slower rate. The issue remains primarily an economic one when it comes to broadband access. As stated above, less than 25% of homes at the federal poverty level have broadband access at home, while more than 85% of those earning above \$75,000 per year have broadband in the home (Fullwood, 2008).

Computer ownership is the second aspect of the digital divide, and as with broadband access, the news is mixed. According to an October 24, 2007 report on the Government Technology Web site, only one-third of families living below the federal poverty level own computers, but that number has increased from less than a quarter in the last 3-5 years. The lower price of computers has helped to increase ownership across all income levels, but the price remains prohibitive for many poor families and for more than 20% of community college students across the nation (Liu, Gomez, Khan, & Yen, 2007).

This news is especially discouraging for people with disabilities, as they are more likely than people without disabilities to live in poverty. According to the 2007 Disability Status Report prepared by Cornell University, in 2007, the poverty rate of working-age people with disabilities in the US was 24.7 percent (Erickson & Lee, 2008). The poverty rate of working-age people without disabilities in the US was 9.0 percent. Working-age adults with disabilities are more than twice as likely to live below the poverty rate as those without disabilities. In addition, the rates of computer ownership and broadband access for people with disabilities who live in poverty is less than half of those living below the poverty line who do not have disabilities. These daunting statistics have led some researchers to conclude that the digital divide for people with disabilities is greater, deeper and more isolating than for any other community affected by it

(Lester, Holland, & Brown, 2000). The growth and prevalence of online education allows people with disabilities an opportunity to pursue higher education by eliminating the physical access barriers posed by on-campus attendance. However, computer ownership and broadband access present a challenge to people with disabilities due to the cost, and many must also deal with the cost of assistive technology required for them to be able to use the computer, navigate the Internet, and participate in online training. People with the most significant disabilities such as those with spinal cord injuries and people with blindness, require the addition of assistive technology to use their computers and access the Internet. Since many of these people are SSI/SSDI recipients, they are living at or below the poverty level, so the cost of needed technology can be prohibitive. It is sadly ironic that in an age where technology can open up a world of educational opportunities never before considered, those who can benefit the most are excluded from participating. It is imperative that we bridge the digital divide for the underprivileged and level the playing field so access is granted to everyone.

### ***Bridging the Digital Divide***

In order for there to be any kind of solution to the digital divide, there must be a solution to the problem of broadband Internet access. The average cost of broadband access is \$30-\$40.00 per month, and it is not even available in many rural communities in America. M2Z Networks Inc. has proposed a radical plan to build a nationwide wireless system that will provide free broadband access for all Americans. The company plans to offer wireless Internet access to anyone equipped with an access card or access chip, which it will provide free of charge. In exchange for the FCC giving them the broadband spectrum, M2Z will pay the U.S. Treasury 5% of its revenues from a premium service it plans to offer, but the basic service is free. M2Z's plan will help lift the U.S. out of 15th place among industrialized nations in broadband access and help rural and low income families access the Internet with the frequency of urbanites and Whites (Roach, 2007).

Collaborations and partnerships are one of the most popular and effective ways that the digital divide can be bridged. One example in Palm Beach consists of employees from Palm Beach County, the school district, Florida Atlantic University, Palm Beach Community College, the Palm Beach Education Commission, and the South Florida Water Management District. Named "The Palm Beach Broadband Task Force," the project identified 20 of the neediest families in a local Palm Beach community and provided them with computers, broadband access, and training on

computer use. The project provides the technology and training for use in a number of areas, including online courses at the local community college. Though small in scope, the project is an example of a successful collaboration that can help the poor access technology that they could never afford on their own (Frank, 2008).

Another example of how partnerships can be formed to bridge the digital divide is the San Diego Broadband Initiative. Funded through the California Emerging Technologies Fund (CETF), the initiative works to accelerate the growth of technology in San Diego County by delivering hardware, software, applications, training, technical services and related resources to 1,625 low-income families in San Diego's urban disadvantaged neighborhoods. Partners include no less than twelve non-profit organizations in San Diego County serving the poor and disabled. Local business partners include Northrop Grumman, Dell, and the County of San Diego. It is anticipated that over 500 people with disabilities in San Diego County will receive computers and low-cost high speed Internet access as a result of this initiative. Further information can be obtained from their Web site at [www.sdbroadband.org](http://www.sdbroadband.org).

### ***The Role of the Public VR Program***

While collaborations and partnerships are helpful, and may one day solve the problem of access at the societal level, the public vocational rehabilitation program remains the chief way that the digital divide can be bridged for adults with disabilities (Lester, Holland, & Brown, 2000). The purchase of computers, high-speed Internet access, and appropriate assistive technology as provided through a person's Individualized Plan for Employment (IPE), can open up a world of possibilities for people with disabilities, and allow them to achieve their educational and vocational goals through participation in online education. Although the public VR program in many states continues to struggle with dwindling resources, connecting consumers to the electronic age must remain a priority even in the leanest of times. The VR mission of employment, independence and equality cannot occur if the consumers of the public program are not provided with the tools necessary to access higher education. Computers and broadband access are as essential to the student of higher education today as pencils and paper were twenty years ago. The public VR program must be committed to providing access for their consumers, and VR counselors must be aware of the necessity of that access before their consumers will be able to participate in higher education at the same rate as their non-disabled peers.

Computer ownership and broadband access are the two most basic

elements of equal access. Within the context of the public VR program, there are several other factors that also have to be considered. The technological competency of the VR counselor and consumer, as well as needed assistive technology must also be addressed before access is realized. In addition, the VR counselor must be aware of the potential access problems that people with disabilities face even when they have the proper equipment and Internet access. Assistive technology often results in incompatibility with operating systems and other software programs, leaving the person with a disability frustrated with slow moving systems that crash regularly. A complete assessment of needed software, hardware and compatibility should be completed when AT is necessary for a person to utilize technology. An ounce of prevention in these cases is often better than a pound of cure.

### **Conclusion**

One can imagine a day in the not too distant future when laptop computers are purchased like textbooks, and at about the same price. Those laptops will be able to access a nationwide wireless network anywhere in the country, and that access will be free for all. Assistive technology is provided to all who need it, and the playing field is level for people of all incomes and abilities. Until that day, advocates for the poor and disabled must do all they can to ensure that access to our electronic world and online education is a reality today.

## **Self-Study Questions**

1. The “Digital Divide” refers to:
  - a) Difficulty that individuals of different cultures experience at school
  - b) The fact that individuals of lower socioeconomic status do not progress as far in school as though who are wealthy
  - c) Inequality in access to technology based on economic means
  - d) The growth of online education
2. As of 2008, what percentage of distance education courses were offered online?
  - a) 100%
  - b) 85%
  - c) 72%
  - d) 93%
3. What factors have lead to the explosion in online education?
  - a) Changing paradigms for teaching
  - b) Improved access to technology
  - c) Convenience for students
  - d) All of the above
4. What is the number one reason cited by colleges as to why they offer distance education?
  - a) It is cheaper
  - b) Ease of access for students
  - c) Improved technology
  - d) It takes fewer teachers to manage
5. Which type of higher education institution offers the greatest percentage of online courses?
  - a) Community Colleges
  - b) State Universities
  - c) Private Non-Profit Universities
  - d) Private For-Private Universities
6. T or F: People with disabilities are more than twice as likely to live in poverty as those without disabilities?

7. T or F: Forming partnerships with private and public organizations to help purchase computers and broadband access is one possible way to bridge the digital divide for people with disabilities?
8. T or F: The cost of assistive technology makes the digital divide even greater for people with disabilities?

## **Chapter Two: Emerging Opportunities for eLearning**

In an era of technology development, changing economic conditions, and rapid information growth, it is difficult to predict months much less years in the future. However futures forecasting is predicated on the belief that trends in society can be assessed over the long term to suggest the future. From that perspective, trends in distance education and educational technology will be explored in this chapter as references to what eLearning might look like in the near future. Current networking options and Internet tools are presented with references to their Web sites to allow readers some notion of the breadth of these tools. The chapter wraps up with several scenarios of how these improved devices and tools might be used by a VR administrator, counselor, and consumer.

Traditional education and training was developed in the industrial age where education was viewed as a commodity. Students were seen as worker-like drones in a classroom who should report for their education during specified times in segregated buildings where they sit in organized rows to absorb the information being provided to them by the information expert – the teacher/trainer. Education in this system has been bundled into a series of linear steps planned by the teacher/trainer and taught to the average person in the group in terms of difficulty and pace. This is an inefficient model in that it minimally involves the learner in personalizing the education and it slows up half the class who understands the material but have to wait on the other half who are struggling. It requires a large investment in teacher-trainers as well as physical structures that spend much of the time heated or cooled but unused.

That educational model is disappearing for several reasons including technology development, information development and availability, a change in the demographic of learners, the need for lifelong learning to stay competent in a field, and an expansion in learners from the

population bulge, foreign students, and traditionally underrepresented groups. Further, generations growing up in the computer age – Gen X or Y and beyond – are generally more comfortable and desirous of doing it themselves with computers. Many have spent multiple hours gaming as well as using computers since grade school to develop their own presentations, publications, virtual social networks, and programs/applications that appeal to their generation. They are not content to sit passively to be talked at. They are much more inclined to develop models of information gathering or sharing or socializing utilizing the virtual environment. Younger counselors and consumers in VR are from this population. To reach this group with educational content, educators/trainers will in the future be required to develop their programs, problem solving, or knowledge acquisition in a way in which these learners can relate. The *Sage on the Stage* training model with passive learners is at the end of its time for most learning.

Other forces changing our educational landscape are the desire for self-directed and self-paced or personalized learning- i.e., learning on-demand; more interest by learners in specific material rather than traditional degrees; and an economy that is requiring a reduction in publically funded educational expenses. These trends are being facilitated by development in hardware, software, and connectivity. The following sections will discuss some of these trends in more detail and suggest current improvements in education and training and how those will be changing education/training for central agency staff, counselors, and consumers in the foreseeable future.

### **Hardware Technology Development**

Computers began life as calculating machines running on vacuum tubes that took up to two floors of a large building to house. They now often function as small portable devices that can do a variety of tasks dependent on software installed or as specific purpose pieces of technology designed to do one or a few things well, such as monitor the gas and/or electricity flow into your automobile engine. Over the history of the development of computers, they have doubled their capacity every 18 months (Downes, 1998) and the trend has been to make ever-smaller devices with increased capacity that are cheaper to purchase. As an example, a computer back up hard disk drive that held 120 gigabytes of information in a box the size of a paperback book recently is now in a box the size of a deck of cards that holds 250 gigabytes and is cheaper. This storage unit will likely be replaced by a thumb sized flash drive with even more capacity at a lower price. Similarly, computer projectors of just a few years ago were so large they

had to be carried in a rolling carrier while modern projectors can now be pocket sized and used to enlarge the small screen found on portable devices up to 60” diagonally. Projectors in the near future may well fit within the structure of the cell phone/computer. In the recent past, the largest selling computers were desktop units while the trend has been to move to increasingly smaller laptops due to their portability and equal computing power.

In addition to technology devices becoming smaller and more powerful, multiple devices are being combined into one with better functionality and portability. Newer smart phones for example have the capacity to take pictures or video, serve as personal information managers, provide music, TV, or movie entertainment while allowing convenient Internet access in a unit small enough to fit in a pocket or purse. Nanotechnology holds the promise of reducing storage hardware to microscopic proportions and proposed methods of accessing computer storage suggests that computer storage could come in all types of forms such as being mixed with paint and sprayed on clothing; therefore, your logo tee shirt could conceivably become part of your computer.

In terms of education/training, computers and Internet access devices are expected to become even more powerful and portable. Downes (1998) predicted a personal-access computing device that he envisioned the size of a clipboard that would provide the window into personalized eLearning. Such a device could provide electronic paper that can be manipulated with the fingers to open and shut programs by whisking them on the screen. A decade later, computer introductions are indeed about the size of a clipboard. Light-weight tablet computers, under three pound computers, inexpensive subcompact notebook or netbook computers, and increasing abilities of smart phones appear to bear out his prediction. Regardless of the specifics of the devices, future computing will be small, light, powerful and most importantly, portable. These devices will have the ability to form a broadband connection from most any location to the Internet. This frees information exploration and educational delivery from the confines of specific locations and allows the access to information and the educational experience to be ubiquitous.

Portability and easy access to information are the driving forces. Podcasting and Internet training events that allow viewing and interaction with a computer or smart phone are examples of efforts in this direction. These efforts will accelerate, suggesting that training events or information will be available to rehabilitation personnel on their personal access device from any location. Technologically, the door is then open for information gathering and personalized self-paced learning with these pocket devices. Accelerating this trend are recent efforts to open up the development

of applications for smart phones to the general public. An application development kit for the iPhone for example can be purchased for under \$100 and the application development is more dependent on a good idea than technological sophistication.

### ***Internet Development***

The Internet became available to the masses with the development of the World Wide Web in 1989 by Englishman Tim Berners-Lee who placed a graphical user interface over the existing Internet. That process allowed easy maneuverability and the opportunity for Web browsers to take over the complex work of information searching. Internet World Stats (2008) from Global Village Online estimates that Internet users have grown from 16 million or .4% of the world population in December 1995 to 1,552 million or 23.3% of the world's population by December 2008 – a 97-fold increase. During the 1990's it has been estimated that the size of the Internet has increased by 100% per year (Wikipedia, 2009). In terms of information, Google (2008) found in July 2008 it had cataloged over 1 trillion unique addresses on the Internet, most considered to have multiple pages of information. They describe the size of the Internet as infinite.

The major constraint to the use of the Internet has been connectivity, both in speed and location. In terms of speed, accessing the Internet is similar to running water (information) through a pipe (cable). With a larger diameter pipe, more water can flow. Slow connectivity (smaller pipe) leads to slower speeds at which information can be transferred, processed, and displayed. A slow video connection, for example, is much like watching a movie in slow motion or with major pieces left out – a miserable experience. With the increase in media utilized in eLearning, fast connectivity, i.e. fast data flow, is essential. Notice for example how slow a video on YouTube loads on your computer in a process called buffering on a slower connection and compare that frustration of waiting on it with the same video loading on a faster connection with no wait. Connectivity speed becomes a huge factor. Factor into connectivity a multimedia presentation or a group videoconference with many students and the importance of connectivity speed becomes even more apparent for eLearning.

In terms of location, development efforts have been directed towards wireless connectivity that untethers the computer from the physical restraint of a cable, or, for larger broadband cables that can transport more information faster. The ladder is generally referred to by the number of millibits of data that can be transferred per second (mbps). Essentially,

a wireless connection has a broadcast base station that the computer communicates with wirelessly through the air. Those stations are then wired through other computers to the Internet. Multiple computers can be connected simultaneously with the base station so that it can serve many users. Wireless connectivity has been limited in the distances it can reach and the speed with which it can process data however this is changing rapidly. Home and most work networks are limited to a radius of coverage measured in feet, newer broadband wireless connections available from wireless phone companies use a radius of miles. With the growth of this technology, computers in the near future will be able to connect to the Internet from most locations including moving vehicles.

These connectivity changes in speed and location allow the vocational rehabilitation professional of the future to be able to participate in complex eLearning environments from any location. Thus, they can take their classes or undergo training from home, the office, or commuting between. That is seen with the free WiFi networks in coffee houses and restaurants but will be available to more people in an increasingly large radius from tower base stations.

An improvement to the Internet happened with the advent of Internet2. This network consortium of more than 200 universities, 70 large corporations, 45 government agencies and over 50 international partners required members to contribute a sizeable payment to join in the development of a fiberoptic connected Internet (Internet2 (2009)). Development began on Internet2 in 1996 in the United States with the purpose of better supporting education, research, and global commerce. While similar to the first Internet, Internet2 allows faster throughput of more data (larger pipes). It will be increasingly the route of choice for distance education because of the larger bandwidth required of video streaming, conferencing, and other preferred educational delivery methods. Thus an easy prediction in the future of distance education is that educators and trainers will have more options to communicate with higher data streams that can be interacted with wirelessly on small portable devices. The data logjams that slow performance of the Internet will become fewer and the tools to move data (pictures, video, etc.) will be more sophisticated and available at any location for a nominal cost. In practical terms, this means that VR training staff or university classes can be uploaded or streamed from anywhere to be downloaded to VR staff participants accessible from anywhere. Not only do these advances affect training but also allow the VR counselor working in their office or in rural settings to be able to instantaneously access reference data or other important data needed in their job.

### The Use of the Internet for Everything

The Internet was first used as a method of communication to instantaneously move messages from one place to another. With the overlay of the World Wide Web, it became the preferred method of accessing and sharing information from news stories to items for purchase. However, a major shift is occurring in how we interact with the Internet. Once a business model was developed providing free Internet space and software programs while still allowing companies like Google to make a profit, the shift began. What had been seen as primarily a tool for communication (i.e. e-mail) the Internet is poised to become the center of our commerce and office functioning. Sometimes referred to as Cloud Computing, the idea is that we can search information, store information, and keep most of our computing resources on the Internet rather than on our personal computers. In addition to information, programs to use the information such as word processing, presentation software, spreadsheet software, mapping software, database software and all other software can be kept on the Internet rather than the computer. This also allows targeted programs with access to software and data from any Internet connected location (wired or wi-fi).

Thinking of the Internet rather than a personal computer as the center of our computing world changes the computer hardware configuration needed. Essentially, the computing device can become a dumb terminal where connectivity, readability, and portability become the important purchasing decision factors. Instead of needing large capacity storage devices such as hard disk or flash drives, programs and information such as data, presentations, correspondence, writings, photos, video, etc. are stored free to the user on space provided by either work or private companies. Interacting with that data or even using some programs such word processing programs can then be done completely online.

For the state rehabilitation professionals and training staff, this implies that training information for them or their consumers will be available anytime in a more interactive graphically rich format that can be accessed from anywhere. In the future, student's interaction with the processes and places of technology enhanced education may be all but unrecognizable to today's student. Degree education will be much more interactive, game like, entertaining, and available from a variety of sources – private and public - by whoever takes the time to develop it, not just from educational institutions. Information will continue to be democratically available, not reserved for the few and the privileged. The trend for lifelong or continuous education/information development will be accelerated as evidenced based practice becomes a central part of caseload management both for the counselor as well as the service consumer. In short, the rehabilitation

professional of the future will have unimaginable access to information presented from multiple sources in an entertaining or graphically stunning manner.

Early uses of the World Wide Web (WWW or simply, Web) focused on converting print media to online digitized formats, followed by online access to other forms of media, such as photography and music. Initially, the Internet itself functioned primarily like a directory created by experts or owners, with mostly static content posted to a Web site to be didactically consumed by a viewer. In terms of availability of information through taxonomy-based directory systems, the early Web was useful. In terms of information creation and sharing, it was not. Today, Web users are interested in creating open virtual environments and participatory communities for connecting, socializing, generating and sharing information (Tapscott & Williams; 2006). Some of the most popular tools for doing so include social networking Web sites, weblogs, wikis, and podcasts, as well as the emerging trend of geotagging.

### Social Networking

A *social network* is group of people who are interpersonally connected to one another through associations or affiliations such friendship, interests, or beliefs. As social, relationship-oriented beings, people seek connections with other people, and in-person social networks have existed for millennia. Recently, the growth of the Internet and the Web has facilitated online social networks on many levels of online connection. *Social networking* refers to the use of a variety of Web sites designed to facilitate online activities such as chatting, texting, video and file sharing, and participation among individuals and community groups (Coyle & Vaughn, 2008). In social networking lingo, the contacts an individual makes and maintains are *friends*. To initiate or receive a request to connect to someone's network is a *friend request*, while accepting a request or being accepted is being *friendened*.

### Common Social Networking Features

Most social networking Web sites have similar basic functions and features. The cornerstone of social networking is the user's personal profile. Through their personal profile, site members present themselves to the online world. Most profiles include a personalized Web address, personal photos, and "about me" narratives that may include lists of favorite music, movies, books, hobbies, and other personal background information. Site members often download useful or entertaining software applications to use a part of their profile. Profiles also usually include a journal section.

The most popular social networking sites emphasize an easy-to-use yet highly personalized profile (Bonfield, 2008).

Networking tools, such as chat and instant messaging are also critical to the social networking experience, allow members to stay in contact with each and to build on each other's networks of friends. Almost all social networking sites allow members to post informational bulletins, event notices, form groups, and create and participate in forums. Most sites also have preset forums around broad interests, such as "Health" or "Travel." Sites also typically include e-mail options, tools for file and photo sharing, and mobile access ("Social Networking Services Review"). Music downloads, movie trailers, television clips, and personal and commercial videos are popular, as is online gaming. Classified advertisements, lists of employment opportunities, matchmaking and personal advertisements are also common on most sites (Kanter, 2008).

Social networking is about building relationships, so well-designed sites include useful search functions and reliable technical assistance (Cravens, 2008). Most sites allow members to search the site by name, e-mail address, high school, college or university name, city, zip code, interests, and keywords. Sites typically offer technical assistance around the clock through live chat, telephone, or e-mail options. Most also include a "Frequently Asked Questions" (FAQ) section to address common user concerns. In addition, social networking sites permit members to set their profiles to "private" or block access. Few sites still allow non-members to search or access member profiles ("Social Networking Services Review").

### **Friend of a Friend Social Networks**

A number of Web-based options exist for social networking. "Friend-of-a-friend" (FOAF) Web sites catering directly to socializing and with high interactivity and functionality are very popular (Kanter, 2008). These social networking sites typically include directories of people and interest topics. By locating a person with interests similar to one's own and making a request to be added to their contact list, a person may expand their social network (Bonfield, 2008) However, the growing trend for these types of social networks is to communicate and keep in touch with current friends. Some examples of popular FOAF sites are Facebook, MySpace, and Friendster.

#### **Facebook**

Facebook, located at <http://www.facebook.com/>, has been the largest and most popular social networking site available. Facebook began in 2004. Initially it was restricted to college students, but is now open to everyone, including international users. According to a recent New York

Times article, Facebook expects to have 200 million members this year (Stone, 2009). The organizational slogan is "Facebook helps you connect and share with the people in your life", and its mission aims to "give people the power to share and make the world more open and connected". According to statistics available on the Web site, less than half of Facebook users are in college, and its fastest growing demographic is people 35 years old and older. Facebook differs from similar Web sites in its strong privacy controls and regularly updated and improved features and functionality (Lowensohn, 2007). Over 500 groups related to disability and rehabilitation exist on Facebook, including groups such as "Reframing Disability", "Disability Dignity", and the Commission on Rehabilitation Counselor Certification (CRCC).

#### **MySpace**

MySpace is another popular social networking site designed for a general audience located at <http://www.myspace.com/>. The company slogan is "A Place for Friends," and the site describes itself as "an online community that lets you meet your friends' friends." The MySpace Web site promotes photo, journal, and video sharing, as well as online chat and study groups. It encourages users to connect with friends, friends-of-friends, and family members. A classified ad section is available, and currently MySpace permits nonprofit organizations to list employment opportunities at no charge. According to a recent review, MySpace includes more than 10,000 nonprofit and philanthropic groups ("Social Networking Services Review"). The site does not list any disability or rehabilitation groups in its preset forum list. However, a search for "disability" locates approximately 200 related groups, and several hundred profiles for rehabilitation counselors are available. Notably, MySpace privacy protections are not as extensive as Facebook's, and site visitors can view any user profile that has not been restricted by the member ("What is MySpace?").

#### **Friendster**

Friendster, located at <http://www.friendster.com> was one of the earliest FOAF social networking sites. While not as large as Facebook or MySpace, Friendster still has more than 100 million global members, according to site statistics. Friendster is designed to help members communicate with people they already know and discover new people and topics of interest. It is available to adults age 18 or older. Friendster does not list any disability or rehabilitation groups in its preset forum categories. However, a number of disability interest groups are available through member-created forums. Friendster organizes groups by subject matter, and has a significant listing of nonprofit and philanthropic organizations.

### **Niche Market Social Networks**

Some of the earliest social networks developed through Internet message boards and list services, such as Yahoo Groups. Just a few years ago, younger individuals primarily used online social networking. However, social networking now involves a highly diverse group of users, spanning all age groups, backgrounds, interests, and cultures. Increasingly, sites aimed at niche markets, such as older users, individuals seeking higher degrees of meaningful exchange, and philanthropic sites are available (Cravens, 2008; Kanter, 2008). Sites such as Gather, Tribe, Tokoni, and Care2 are examples.

#### ***Gather***

Launched in 2005, Gather targets members who are 30 years old or older, but members may join at age 14. The site address is <http://www.gather.com/>. Gather's primary tag line is, "Social networking with Substance." From a marketing standpoint, Gather is positioned as a social network for adults and its more sophisticated focus may account for its relatively small membership of 500,000 registered users ("Social Networking Grows Up"). The site also has a Gather Groups platform that allows members to collect group usage statistics and archive shared group content among other group functions (PR Newswire, 2009). These functions make Gather appealing for groups seeking a lower-traffic, more mature social networking experience. Cravens (2008) notes that Gather has more tools of use to nonprofit and charitable organizations than most other social networking Web sites.

#### ***Tribe and Tokoni***

Tribe and Tokoni are online communities that include all of the elements of social networking, but focus on authenticity, privacy, and accountability and significantly downplay features such as matchmaking. Tribe's Web site (<http://www.tribe.net>) is much sparser in appearance and content than most social networking sites. Tribe organizes member connections around special interest "tribes" in particular cities. According to site statistics, 45,000 tribes are active in the online community. Current tribes include "Disability Connection," "Wheelchairs United" and "Insiders' View of Disability." Tokoni, which means "help" in the Tongan language, (<http://www.tokoni.com>) launched at the end of 2007, and focuses on storytelling as a means of sharing wisdom, inspiration, and collective knowledge. In December 2008, Tokoni collaborated with Universal Giving (<http://www.universalgiving.org>) to encourage members to share their personal experiences as volunteers or donors (Busch, 2008). Tokoni currently lists approximately 60 stories and story collections with the key word "disability."

#### ***Care2***

Care2, at <http://www.care2.com/>, is a social networking site designed for individuals who are interested in healthy and green living, environmental and animal activism, and human rights. Care2 began in 1998 and currently has about 10 million members. According to Care2's Web site, it boasts the world's largest listing of employment with "socially responsible companies." Care2 also has four hundred nonprofit partners and only accepts advertisers who exhibit environmental and social responsibility. The site includes several features that clearly distinguish it from other social networking venues, including one-click monetary donations to a wide variety of non-profit organization, a one-click option to search for and sign petitions, and a "My Daily Actions" log, used by members to record the step taken each day to improve the global condition. Numerous disability-related groups have a presence on Care 2, including groups such as "Disability Advocacy Group" and "ThisAbility: An Access, Awareness, and Inclusion Group." Dozens of ongoing discussion groups on issues related to rehabilitation systems, specific disabilities, services and service providers are evident.

### **Professional Social Networks**

As social networking has gained popularity, it has also gained notoriety as a relatively unregulated field typified by highly personal profiles and photographs that do not always promote professional image some users seek. New networking sites, designed to provide users with a more professional platform for connecting with colleagues are available. Among professional networking sites, LinkedIn and Ryze are two popular options.

#### ***LinkedIn***

According to the LinkedIn Web site, (<http://www.linkedin.com/>), the company began in 2003 when its five founding members invited 300 professional contacts to join their online network. LinkedIn has a distinctive business focus, encouraging members to create professional, not social, profiles. Members use the site to locate industry experts, former colleagues, to collaborate with current colleagues, and to seek employment and new business opportunities. The site includes functions for sharing resumes and for providing references and referrals. Site statistics indicate LinkedIn has more than 38 million members representing 170 industries and 200 countries, including executives from every Fortune 500 company. LinkedIn's basic service is free, but business accounts for premium memberships are also available.

### **Ryze**

Like LinkedIn, Ryze Business Networking is a professional, career-focus site, although it is considerably smaller with approximately 500,000 members. Its address is <http://www.ryze.com/>. On Ryze, “networks” replace user groups, and a number of preset networks are established. Members may also create their own network groups for a fee. More than 1,000 organizations currently host Ryze networks. Examples of highly active user created groups include, “Real Women, Real Success,” “Entrepreneurs,” and “Immigrant Success Network.” A basic search of the site for disability, rehabilitation, or human services networks did not find any direct matches.

### **Video-Based Social Networks**

As the popularity of social networking increases, new and innovative means of networking also grow (Associated Press, 2006). Video-based social networking developed around communities seeking central locations to share images, movies, and other video files. Like their text-based counterparts, video-based social networks are typically easy to use, with simple commands for uploading photos and videos. Most also offer tools for sharing, storing, and managing video file content along with social features, such as personal profiles, interest groups, tagging, and searching (“Social Networking Services Reviews”). Today, social Web sites dedicated to video content are extremely popular. Many are available, but two of the most popular sites are Flickr and YouTube.

### **Flickr**

Flickr, in operation since 2004, is located at <http://www.flickr.com>. Flickr is a social networking site centered on photo and video sharing and management. Flickr offers free and pay-for-service options for the user, depending on the size of the images the user wants to store. Flickr allows users to share photos with friends, allows the users to edit the images, organize their photos, attach key word tags and notes, and map the locations of the images (“What is Flickr?”). Members can publish images under a Creative Commons license, which allows other people to add them to their own Web sites, increasing the member’s presence elsewhere on the Web. Members can also create and share image collections and join interest groups (“Flickr”). A basic search of Flickr groups resulted in more than 20 disability or rehabilitation related groups, such as “Blind Photographers,” “Disability Arts and Culture,” and the international group “Disability Options Ghana.”

### **YouTube**

YouTube, at <http://www.youtube.com/>, launched in 2005 and today is the leading video networking site online. Through YouTube, members can upload and share original video. The site also includes commercial video, like TV clips and movie trailers. Users can post and watch videos on the Web, through cell phones, on blogs, and through e-mail. YouTube includes a special “Nonprofit Channel,” allowing groups to increase their online visibility and connect with clients, supporters, and donors. A search on “rehabilitation counseling” yielded just over 350 videos, including videos of Senator Ted Kennedy’s remarks to the senate regarding disability funding and a number of informational videos from various service providers. YouTube viewers can also access informational videos about rehabilitation and related professions, such as “How to Become a Mental Health Counselor” and “A Career as a Rehabilitation Counselor,” produced by the US Department of Labor.

### **U Stream**

U Stream is a platform for live Web streaming that allows users to create and broadcast their own videos through an online channel, much like a television station. A group of entrepreneurs interested in connecting deployed military personnel with their loved ones through live, synchronous broadcasting and viewing developed U Stream in 2006, which is located at <http://www.ustream.tv/>. Currently, U Stream offers a wide variety of channels including channels dedicated to broadcasts on sports, education, entertainment, gaming, and animals, along with a channel labeled “24/7,” offering live traffic feeds, security cameras, and life casting—around-the-clock broadcasting of one’s daily life. According to recent estimates, U Stream has more than 1 million users who created more than 1.5 million hours of live broadcasts each month ([https://watershed.ustream.tv/about-us/about\\_us/about\\_us\\_overview](https://watershed.ustream.tv/about-us/about_us/about_us_overview)). Users can even broadcast from an iPhone or Nokia S60 mobile device. Politicians, non-profits organizations, and teachers are among diverse U Stream users who create their own interactive Web broadcasts. U Stream has both subscription-based and a pay-as-you-go pricing structures.

### **Using Social Networks**

Social networking has many personal, professional, and community applications. The 2008 national election cycle demonstrated the reach social networking could have for a candidate. National and state level legislators are also using social networking sites to keep in touch with constituents, and constituent groups use social networking to communicate with each other about their public servants. In addition, public administrators and

employees at all levels are using social networking to communicate with the public and access their target audience (Miles, 2009).

Increasingly, people are using social networking to find employment and to support businesses. Online networking can help people reconnect with previous employers and coworkers or create new employment contacts. Social networking and professional networking sites in particular also play a significant role in job seeking. Recruiting Web sites such as Monster (<http://www.monster.com>) regularly search popular sites for profiles and resumes of interest. Employers also commonly check social networking sites seeking new employees or checking the online profiles of job applicants. Individuals can maximize the likelihood of finding work online by connecting with alumni, professional associations, and companies of interest.

Educational and human service settings also make use of social networking sites. Individuals who use social networking sites such as Facebook and MySpace improve technology skills, creativity, and openness to new ideas and to diversity (University of Minnesota, 2008)—skills highly applicable to service providers and to consumers seeking employment. Research suggests social networking sites are useful in mental health counseling with adolescents (Clemens, Shipp, & Pisarik, 2008). In counseling more generally, social networking sites may provide a convenient and interactive means of keeping in contact with consumers in remote locations or for whom time and scheduling are concerns, but should not replace face-to-face counseling and guidance (Coyle & Vaughn, 2008).

### Weblogs

*Weblogs*, or *blogs*, are asynchronous online personal diaries that are also known as micro-published Web sites (Williams & Jacobs, 2004) or personal knowledge publishing Web sites (Paquet, 2002). A blog may be as simple as short text-only posts or may contain audio and video files, hotlinks, documents, and other more complex features. The person who authors a blog or comments on a blog is a *blogger*. *Blogg*ing is the act of authoring or commenting to a blog, and the context or “world” of blogging is the *blogosphere*. *Followers* are individuals who regularly read a particular blog; because blogs are relatively specialized publications, they allow readers to follow a particular person or area of interest.

#### *Common Blog Features and Functions*

Paquet (2002) describes five features or traits common to almost all blogs—personal authorship; structured posts with hyperlinks; a reverse chronological order for posted messages and comments; public, no-cost

access to the site; and a permanent archive. Many hosted blog sites and blog building tools include other features as well, such as security settings. Personal authorship is the first key feature of a blog. The author of the blog writes original posts or shares other materials, such as photos or documents, on which readers can comment. Blogs generally have a primary author or small group of authors who are responsible for content.

Individual posts are the most common unit of communication within a blog. Active blog authors post new messages frequently, so posting messages is usually easy to do, with few to no technical skills required. Most blogging Web sites and downloads allow authors and readers to paste Word documents into the blog. Usually, authors have the option to post photos and video as well. Reverse chronological order is yet another key blog feature (“What is a blog?”). When an author makes an entry to a blog, the system displays entries in a most-to-least recent format by default. Thus, the most current and usually most pertinent information is most prominent.

Perhaps most importantly, blogs allow authors to use hyperlinks in the title or text of their posts. A hyperlink is a “hot” connection linking one Web page to another online location. A hyperlink can connect many different types of digital objects, such as Web pages, images or videos, or e-mails (Paquet, 2002). The blog author can select internal and external links that give the blog authority, connectivity, and interactivity. Moderation and management are also important. Authors can moderate readers’ comments posted to the blog, deciding which to publish and which to delete, such as inappropriate language or images. Blogs also automatically archive posts and comments, so older messages are easily retrievable (“What is a blog?”). Hyperlinks, moderation, and archiving make blogs both simple and meaningful to use.

Most blogs are public and can be accessed at no cost to the reader. That is, they are visible to anyone online without a fee for viewing. However, blog authors are able to limit access to their blogs if they wish, so that only individuals with permission may view and comment (Paquet, 2002). In addition to these security features, most blog services offer around-the-clock customer support through telephone hotlines, live chat, and FAQ lists. Technical support may also provide user statistics, so the blog author can see how many people are accessing their blog.

There are many different types of blogs, generally distinguished by the type of content they carry, such as personal blogs, travel blogs, academic blogs, medical blogs, or business blogs. However, regardless of the type of content, blogs require some form of hosting to be available online. Many options exist, and fall into two broad categories—third party hosted blogs or self-hosted blogging platforms.

### ***Third Party Hosted Blogs***

A number of companies host blogs on third party Web sites dedicated to blogging. Hosted blogs are usually free or have low-cost upgrade and/or subscription options, are easy to set up, and need few technical skills to use. Hosted blogs offer a set of templates for the appearance and layout of the blog, as well as options for displaying, moderating, and archiving posts. Many hosted blogs use sub-domain names and addresses, rather than a “.com” address owned by the author, which can make changing hosts difficult without interruption (Owusu, 2009). Blogger.com, LiveJournal.com, Typepad.com and Wordpress.com are examples of hosted blogs.

### ***Blogger***

According to the Web site at <https://www.blogger.com/>, Blogger started in 1999 as an independent company, although Google now owns it. Blogger is currently available in 41 languages. Authoring, moderating, and managing post are simple tasks in Blogger, and do not require any special knowledge or skills other than basic word processing. However, users who have some basic HTML skills will have access to additional features. Blogger allows users to upload photos, video, and audio, and offers free Picasa Web Albums accounts, allowing users to create online photo albums and order hardcopy photo prints. Blogger members have the option to have a custom domain. Blogger does not support categorical organization of posts or other information, and to add documents, users must use GoogleDocs.

### ***LiveJournal***

LiveJournal began in 1999 as a community collaboration tool built around personal journals. Currently, the site at <http://www.livejournal.com/> includes more than 19 million journals (<http://www.livejournal.com/stats.bml>). It combines common blog features with social networking tools, including a “friends list” which allows users to create networks of individual contacts and other blogs. Through LiveJournal’s functions, users can set strict privacy settings. As a result, for some users LiveJournal functions more like an online diary than as a blog. In addition, the “friends page” feature automatically collects the recent journal entries of individuals on the user’s friends list. The site also allows paid and sponsored users to record journal entries by voice, which could be very useful to individuals who have difficulty typing or seeing.

### ***Type Pad***

Typepad, located at <http://www.typepad.com/>, started in 2003. The service publicizes itself as the “best blogging tool for professionals and

small businesses.” Like other hosted blog sites, Typepad is easy to use without much technical knowledge or skill and includes a variety of design templates. Currently, users can subscribe at one of three levels. Typepad supports on-the-go mobile device blogging through the iPhone. Disability activist group “Justice for All” and the American Association of People with Disabilities maintain a Typepad blog, the “JFActivist,” as do many other individuals with disabilities and disability and rehabilitation related organizations.

### ***WordPress***

Wordpress initially began as a downloadable blogging platform (WordPress.org). However, consumer feedback suggested a need for a hosted site, and the company responded with WordPress.com at <http://wordpress.com>. As with other hosted blogging platforms, WordPress offers a set of design templates, and its ease of use allows bloggers to have a functional site in minutes. Wordpress.com has simple but intuitive moderation functions and topic categories. According to the company Web site, it is currently available in 50 languages. Although WordPress bloggers need no HTML skills to use its features, users who have some technical prowess can completely customize their site. Basic blog set up and most add-on features are free in WordPress.com, although the company offers some advanced options at a fee. The disability and rehabilitation communities are well represented on the site, with more than 3000 results directly related to people with disabilities. In addition, more than 900 groups related to independent living maintain WordPress.com blogs, such as “The Independent Living Institute” and “Independent Living 101.”

### ***Self Hosted Blogging Platforms***

Blog owners must install self-hosted blogs on their own Web site; so to use a self-hosted blogging platform, the user must have a Web domain name and a Web hosting account. Instead of using tools provided by a hosted blogging site, the blog owner uses content management software to configure, customize, and self-publish the blog (Owusu, 2009). Self-hosted blogs give the blogger many configuration and customization options, with near total control over the blog’s appearance, analytics, and tools. Self-hosted blogs also typically offer significant storage space and bandwidth, so including numerous graphics, photos, and videos is possible. Self-hosted blogs are best for individuals or groups with technical skills, or for small business and organizations wanting features and flexibility not offered by hosted blogs (Haycock, n.d.). WordPress.org, TextPattern, and Moveable Type are just three examples of self-hosted blogging platforms.

### **WordPress**

WordPress.org, at <http://wordpress.org/>, is the self-hosted (and original) version of WordPress.com. For individuals with limited technical skills, the site offers a helpful “WordPress for Dummies, Second Edition,” part of the series of “Dummies” guides available in many fields. WordPress.org began in 2003, and according to the company’s press releases is currently the world’s largest self-hosted blog tool. WordPress.org offers password protected posts, along with other advanced privacy features. Site statistics indicate users have deployed WordPress on several hundred thousand Web sites, which get millions of views per day. In 2007, users downloaded WordPress.org 3.8 million times worldwide. The company has not yet released download data for 2008.

### **TextPattern**

TextPattern is a blogging platform targeted toward users with good HTML skills. The TextPattern Web site is <http://textpattern.com/>. An advantage of TextPattern is the ability to add an unlimited number of users with a variety of site access privileges determined by the owner-publisher. For example, a user could be designated a publisher, managing editor, copy editor, writer, or designer. A partner Web site, TextPattern.org (<http://textpattern.org/>) provides a directory, tips and tutorials, and other technical usage resources. TextBook is a user-created resource that provides information on features, capabilities, system requirements, installation, and more (<http://textbook.textpattern.net/wiki/index.php?title=Index>). The company also offers a commercial book aimed at Web designers and content management personnel, “TextPattern Solutions.” TextPattern is available in 40 languages and is free to download.

### **Movable Type**

Moveable Type started in 2001. It is located at <http://www.movabletype.com/>. The company advertises itself as a highly flexible, scalable solution for high-traffic loads and large communities. Of special interest is the Moveable Type “Facebook Connect” feature that can be included in any blog it powers. The feature automatically shows the blogger’s Facebook user name and photo alongside his or her comments, and automatically alerts everyone in the blogger’s Facebook network about the comment through a the mini-feed. Moveable Type also includes Motion, a tool that allows users to create a combination of private and public areas within their blog. A basic version of Moveable Type is downloadable free, but more advanced versions able to accommodate multiple users range significantly in price. The company offers a highly technical online community for developers at <http://www.movabletype.org/>.

### **Microblogging**

Microblogging combines the post-format of blogging with the immediacy of instant messaging. Through microblogging, users post short updates, usually 140 characters or less to their microblogging Web site profile. Microblogging is a networking service, so users can post and receive messages through a variety of Internet-connected devices, such as cell phone or personal data assistants (Nations, n.d.). Most microblogs offer instant notification of new messages, so users can track each other in real time. Microblogs may be private, limited to a specific group, or completely open to the public (“What is Microblogging?”). Many microblogging Web sites exist, but Twitter is currently the most widely used.

### **Twitter**

Twitter is free, real-time short messaging service (SMS) available at <http://twitter.com/>. Twitter, which launched in 2006, combines aspects of blogging and social networking. It allows member to post short 140-character posts or *tweets* accessible to friends, family and any other followers the author might attract. Like blogging and social networking sites, Twitter has various design templates so members can customize the appearance and layout of their Twitter page. Flash Tweet is a mass-following tool that allows members to follow a friend or other person of interest and follow all of their friends, too (NBC News, n.d.). Soon, Twitter members may be able to send hands-free tweets while driving through the OnStar service’s voice-activated calling system (Schonfeld, 2009). Numerous individuals and groups in disability and rehabilitation-related fields use Twitter. For example, “Disability Tips” sends tweets about social security and other programs, while “PeepsHelpsPeeps” offers adults with disabilities alerts on many issues, such as prescription drug benefits and healthcare.

### **Using Weblogs**

Most serious bloggers focus on topics of personal or professional interest, but many also work to attract a public audience, and the value placed on audience commentary and feedback correlates positively with the author’s sense of community (Gumbrecht, 2004). A well-written, well-edited blog can attract a significant audience, and become highly influential within a particular community of practice or interest. In addition, blog readers can create a highly relevant information resource by combining the output of specific blogs in their area of interest (Paquet, 2002).

By crafting and reading special interest blogs, users spend more time engaged with targeted materials, tailored resources, and people with similar interests or concerns. Increasingly, bloggers use their sites or

their comments on other sites to highlight their employability or special skills, and organizations include bloggers in public relations activities and encourage blogging about company events. Bloggers can post their resumes, link to companies and organizations of interest, and enhance their profile among potential employers. Through blogs, employers can gain insight into the individual's communication skills and knowledge base (Bui-Friday, 2009).

## Wikis

*Wiki-wiki* is the Hawaiian word for “quick,” but online, a *wiki* is a collection of interlinked Web pages and documents using server software to allow users to create, share, and edit content in a collaborative workgroup format (Bold, 2006; Leuf & Cunningham, 2001; William & Jacobs, 2004). Wikis are information databases, where users can work collaboratively, authoring new content, editing each other's content through common Web browsers, and linking to internal and external resources and data, all while tracking all the changes. Through these authoring, editing, and tracking features, wikis effectively facilitate online group work and collaborative learning (Coyle, 2007; Cunningham, n.d., “Why Wiki Works”)

The first wiki was the Portland Pattern Repository (<http://c2.com/ppr/>), which started in 1995 to collect solutions to computer programming problems. Today, the Portland Pattern Repository and its WikiWikiWeb (<http://c2.com/cgi-bin/wiki?WikiWikiWeb>) includes tens of thousands of technical pages. However, wikis have expanded far beyond technical purposes (Nesbitt, 2009). *Wikipedia*, an online public encyclopedia started in 2001, is the most well known wiki in the world. In 2008, Wikipedia had more than 684 million site visitors, about 75,000 active contributors, and 10 million article entries in more than 200 languages (<http://en.wikipedia.org/>).

### *Characteristics of Effective Wikis*

Cunningham (n.d., “Wiki Design Principles”) suggests all wikis should incorporate several basic design principles. First, wiki activity should be open and transparent to site users and visitors, and content should be open to editing by any reader who can effectively contribute. In addition, wikis should show clearly how pages link to other pages, including content still in development, and wiki editing and style should mirror common writing conventions. Wikis also need precision in page and document titles in order to avoid confusion, name clashes, and problematic searching, and activity on the wiki should be observable and transparent to site users and visitors. A well-designed wiki should avoid duplication of content, and editors should edit redundant content and delete extraneous material.

## *Common Wiki Features*

Most wikis use similar basic formatting tools, such as special syntax or wiki markup language (Cunningham, n.d., “Wiki Markup Language”). Wiki markup language differs from HTML, and this technical requirement may contribute to the limited popularity and use of wikis. As with social networking and blogging sites, hosted wiki sites generally offer common tools and features. For example, most wiki sites include photos, tables, lists, and emoticons. Users can usually embed video and audio files as well. Some wiki sites include blogging and polling functions, too. Wiki privacy and security setting are variable, though most can be set as private with password protected Web pages and documents (Schwartz, Clark, Cossarin, & Rudolph; 2004).

## *Third Party Hosted Wikis*

Like blogs, wiki authors may self-host their wiki on a personal or organizational Web site, or have the wiki hosted by a third party. Self-hosted wikis require a Web domain name and Web hosting account, and may require technical skills. Hosted wikis may offer greater convenience and ease of use. Wikimatrix (<http://www.wikimatrix.org/>) offers a thorough list of various wiki services. Some examples of popular wiki hosting services are PBwiki, Wikispaces, and Wetpaint.

## *PBwiki*

PBwiki, located at <http://pbwikis.com>, promotes its wikis as being as easy to make as a peanut butter sandwich, hence the name. According to its Web site statistics, PBwiki provides more hosted business and educational wikis than any other host service, with more than 800,000 wikis online. Using PBwiki, multiple users can view the wiki without having editor privileges, so stakeholders can view but not alter a wiki project. PBwiki supports copying and pasting directly from Word documents and will automatically group versions of the same document for easy tracking. Users can embed audio and video files as well. PBwiki offers a free basic version and has specific packages available for businesses, educators, and public projects ranging widely in cost and features.

## *Wikispaces*

Wikispaces started in 2005, and like many other wiki hosts, has options available for businesses, non-profit organizations and educational applications. It is available at <http://www.wikispaces.com>. Unlike some wikis, no technical knowledge is needed—not even basic wiki markup or syntax. Wikispaces statistics indicate the organization has about 2.1 million members and 900,000 wikis. Wikispaces includes tools for discussion

groups and live streaming video. Members can easily develop new pages and workspaces, and if permitted, visitors are able to edit pages without having to sign into an account. The host offers free wikis, along with “Private Label” and “Private Label Premium” accounts, each with different associated costs and features. Wikispaces has a great deal of international versatility, and allows users to contribute to wikis in any language (“Top 100 Tools: Wikispaces”).

### **Wetpaint**

Wetpaint, which is available at <http://www.wetpaint.com/>, launched in 2005. Wetpaint wikis are hybrids, with features borrowed from blogging, social networking, and discussion forums. Wetpaint offers hosted wikis as well as self-hosted wikis deliverable in an existing Web site. Most Wetpaint wiki services are free, but premium service option is available for a fee. Finding wikis of interest is easy using Wetpaint, which organizes wikis in categories, such as art, music, sports and entertainment, hobbies, and more. Wetpaint prominently features wikis about celebrities, movies, and television on its home page. PRWeb (2009) reports Wetpaint includes more than 1 million social Web sites and has a traffic load of about 8 million visitors every month. An “Easy Edit” feature eliminates the need to know wiki syntax or markup, and with “Wetpaint Droplets,” users can connect their wiki to their Facebook or MySpace page.

### **Using Wikis**

As previously mentioned, wikis began as collaborative tools in technical settings, but have gained users across many different fields (Bold, 2006). Wiki textbooks are also becoming more common, especially at the university level and in distance education. Wikibooks (<http://en.wikibooks.org/>) is an example of a popular wiki textbook source. The site contains approximately 35,000 pages, and includes WikiJunior for children and Simple English Wikibooks for individuals with limited literacy.

Wikis also have significant potential for use in state-Federal VR agencies and other rehabilitation-related organizations. An agency could easily publish a collaborative wiki human resources manual, service provision and policy manuals, or historical archives, just to name a few possible applications. More generally, wikis could archive agendas, minutes, organizational materials, vendor information, and provide a consensus-building tool for planning and managing a wide variety of projects and events. Wikis could also support public information exchanges, especially in settings with multiple partners in remote locations (Goodnoe, 2005). In particular, Fitch (2007) suggests wikis are ideal tools for managing types of detailed data typical to human services because

they provide transparency and accountability and leverage the power of organizational knowledge.

### **Disability and Rehabilitation Wikis**

Ravid, Kalman, and Rafaeli (2008) suggest wikis empower historically disenfranchised stakeholders because they tend to be written from broader perspectives, free of commercial publication constraints, and usually available at no cost. Considering these advantages, wikis may be useful in developing and sharing information in the disability and rehabilitation communities. Several disability-specific wikis exist, including Disability Wikia, a wiki focusing on general disability issues and Disability MD Wiki, a wiki for individuals interested in the medical aspects of disability. Disability 911 is another related wiki, organized around emergency preparation for people with disabilities. AbilityNet uses a wiki to build and disseminate content about disability generally and assistive technology for people with disabilities specifically. In addition, Wikipedia has hundreds of wikis related to disability, rehabilitation, and related topics, including entries on rehabilitation counseling and rehabilitation engineering.

### **Podcasts**

A *podcast* is a series of digital media files, such as audio or video embeddable or linkable through any computer or device able to receive media files, including cell phones, personal data assistants, social networking sites, blogs, and wikis. The term may describe the file content as well as the method used to deliver the content, which users also refer to as *podcasting*. The term is a combination of the terms broadcast and iPod, an Apple media device (“Podcast Alley”). Podcasting is similar to television broadcasting, in that podcasts are produced, *pushed* (provided or sent) at scheduled times, and are available for subscription. The digital content creator-developer is a *podcaster*. Podcasts are available for download through a *podcatcher*, an application that automatically downloads podcasts when Web sites post them (Indiana University, n.d.). NewsFire, Juice, Doppler, and Smartfeed are just a few examples of popular podcatchers. Nearly all podcasts and podcatchers are available at no cost.

### **Using Podcasts**

Many Web sites provide regular podcasts on widely divergent topics. For example, CNN Audio and Video Podcasts (<http://www.cnn.com/services/podcasting/>) offers hourly and daily podcasts on current news and special investigative topics, some related to health and disability. Likewise, the Scientific American (<http://www.sciam.com/podcast/>) offers podcasts on various technical and scientific topics that may also be of interest to the

disability and rehabilitation communities. In addition, weekly podcasts from the National Institute of Health (<http://www.nih.gov/news/radio/nihpodcast.htm>) address common health-related concerns. Recent NIH podcast topics include health disparities for minorities, signs of heart disease and heart attacks, trends in prescription drug abuse, and exposure to pandemic flu, just to name a few. Rehabilitation counselors and related professionals and paraprofessionals could use these types of podcasts for continuing education.

Consumers may also find podcasts useful educationally and vocationally, in investigating a particular field or topic. Several high-profile educational institutions offer podcasts to students and to the public, including Stanford University (<http://www.stanford.edu/>; search “podcasts”), The University of California Berkeley (<http://webcast.berkeley.edu/>), and Harvard University (<http://www.harvard.edu/>; search “podcasts”). Many university-based podcast programs attract worldwide audiences, and podcasts can help adult learners expand their knowledge and skills even without face-to-face classes. In addition, individuals who are considering a career change or thinking about entering or returning to higher education can use podcasted continuing education and extension courses to refine their interests and test their abilities (Farivar, 2007).

### **Geotagging: An Emerging Trend**

The process of adding positional information to digital content, or *geotagging*, is a rapidly growing trend in all types of social networking, blogging, webcasting, and wiki development, as well as in other applications (O’Daniel, 2008). In the same way that keyword tags identify a Web page or blog post to facilitate easy searching and categorizing, *geotags* consist of geographic information, such as latitude, longitude, or other position-related coordinates attached to digital content for the purpose of providing location information (Kyrnin, n.d.). For example, a person viewing a geotagged photograph online could plot its location on a map, or cross-reference the photo with additional data or notes about the location.

Many different image-based and video-based sites can attach a location stamp to an image or other type of post, and can display images with geotags on a map. Some services such as Geo Tag Generator, available at <http://www.geo-tag.de/generator/en.html>, will generate geotags for Web sites and other content. Several Global Positioning System (GPS) devices support geotagging of photos and video, as do many cameras, camcorders, and camera phones with built-in GPS. Location-aware browsers, which can determine where a desktop or laptop computer is located by calculating its distance from nearby networks, are another valuable geotagging tool. Loki (<http://www.loki.com/>) is an example of a location-aware browser plug-

in. As more location-aware applications are used, Web searching using geotags will be increasingly popular (“What is Geotagging?”).

### **Using Geotags**

Much of the interest related to geotagging has come from social networking communities interested in sharing location-related information with each other, and from commercial and retail enterprises interested in locating customers and pushing targeted marketing information to them (Evans, 2009). However, some human service agencies are exploring the potential of geotagging. For example, the Department of Housing and Urban Development plans to use geotags to improve transparency and accountability in service systems. Geotags will help HUD identify the locations of service facilities and affordable housing and determine the proximity of employers to services and housing. HUD geotags may also provide early warning of negative trends, such as foreclosure clusters or neighborhood decline (Sperling, 2009). Rehabilitation and rehabilitation-related professionals may similarly leverage geotagging to coordinate and correlate rehabilitation services with housing, transportation, education, employment, and other community services for a truly holistic consumer experience.

### **Summary**

Online technologies and other technological tools are ever-expanding parts of the rehabilitation professional’s work and personal world. Internet applications, social networking, weblogs, wikis, podcasts, and geotagging are but a few of the online communication and collaboration options available today. Ever more integrated tools for establishing and maintaining online presence will certainly develop in the future, as will rehabilitation counselor and consumer expectations for online medical, psychosocial, and vocational services.

To use applications such as social networking, weblogs, podcast, wikis, geotagging, and others successfully, individuals and organizations must devote time and resources to acquiring, learning, and managing the technologies. State-Federal VR agencies, community rehabilitation providers, and other rehabilitation professionals need to prioritize technological knowledge, skills, and abilities to meet the growing demands of a wired world. Low barriers to entry, such as technology-friendly policies and funding for online technology use and education, will encourage users to experiment with collaboration tools, and ease of use will encourage them to keep exploring new uses for those tools.

## Scenarios

We offer the following scenarios to assist the reader in visualizing how some of the technologies reviewed in the chapter could apply in rehabilitation service settings. The first scenario focuses on possible applications in rehabilitation administration and management from the viewpoint of a state-federal agency commissioner. The second scenario follows a rehabilitation counselor through a typical day at the office. The final scenario envisions useful applications in personal and professional development through the eyes of a consumer.

### The Commissioner

Ms. Elena Yin drives into the State Agency parking lot just as the NIH podcast on diabetes is ending on her MP3 player. She has arrived early this morning; it is going to be another busy day. Ms. Yin settles into her desk, and logs into her LinkedIn account. She has been networking with other state agency executives about the new Federal regulations on state budgets. Next, she visits the agency's Facebook page to review the latest video, "VR Services for People with Disabilities", posted by the media department last week. Ms. Yin is especially happy to see it has received more than 300 views since it launched.

At 10:00 AM, Ms. Yin's legislative liaison, Jim Barker, sends her the first of many near-real time Twitter updates from the floor of the state legislature, which is in session. Appropriation requests are going well, so Ms. Yin asks Public Relations to update the agency blog with the news. The blog has become a key communication tool inside and outside the agency, and it gives Ms. Yin's executive team the ability to provide and to receive up-to-the-minute public information. Next, Ms. Yin accesses the agency's State Resources Manual Wiki. The State Resources Committee started the wiki four months ago to build a new, counselor-driven compendium of service providers and programs across the state. The wiki now has 380 well-organized, easily editable resource entries. Having the committee work through the wiki has saved a significant amount of travel money and publication costs.

As her day winds down, Ms. Yin meets with Elva Villarreal, who oversees the agency's "GeoSafe" geotagging project. Through the project, field office managers will photograph and geotag every field office building in the agency. Then, the agency's IT team will add the data to the main Web site, as well as to the state's emergency management office database. Upon completion, the geotagging project will provide valuable location information for consumers seeking services and potentially life-saving information to emergency responders in the event of a crisis. As

she is leaving work in the evening, Ms. Yin receives a late update from Mr. Barker—the state budget has passed! She quickly tweets her LinkedIn colleagues to share the good news, puts her MP3 ear bud on, and starts her commute home.

### The Rehabilitation Counselor

Before heading off to work, Ramon Martinez likes to start his day with a quick visit to his Care2 counselors' community. His group has been involved in several interesting outreach efforts with the disability community, and Mr. Martinez has made some valuable professional contacts. In fact, two of the employers he met online have each hired one of his clients. He also checks his professional Facebook page, and adds a new consumer as a contact. Many of Mr. Martinez's consumers also have Facebook pages, and he uses the network to update them on job openings and training opportunities.

At 9:00 a.m., Mr. Martinez has an appointment with Sara Jackson. Ms. Jackson has been building a LinkedIn profile, and it is almost ready to launch. Together, counselor and consumer review the profile and make a few small changes to Sara's resume, so that it will be more visible on the site and more noticeable to potential employers. After lunch, Mr. Martinez updates the Field Office Blog with information about upcoming building maintenance and the "GeoSafe" photograph session scheduled for next week. He notices that his coworker Jan, who is on the State Resources Manual Wiki committee, has posted an update about a new service provider. Ramon enjoys using the blog, as do most of his coworkers. Since all employees in the field office can use the blog to post routine notifications, it has significantly reduced extraneous e-mails.

Ramon leaves the office mid-afternoon to visit several employers in the area. As part of each site visit, he photographs and geotags their locations to add to his Facebook page, just as he has done with major local service providers. Through his page, consumers can obtain an image of each site, read Mr. Martinez's related notes, and plot driving or public transportation directions on an interactive map. Between visits, he listens to the most recent podcast from the Job Placement class he is taking at State University to complete his state's CSPD requirements. Later tonight, he will download the latest chapters from the class wiki textbook.

### The Consumer

Sara Jackson leaves her VR counselor's office with a copy of her newly updated LinkedIn profile. She is going to share the changes with the members of her Tokoni disability support group, so they can improve their professional profiles as well. In addition to her Tokoni group, Sara also

participates in a Job Club Blog. All of the members have agreed to geoblog their informational interviews, and Sara has a few new photographs and comments she needs to post. She also plans to link the Job Club Blog to her counselor's Facebook pages, which also contains geotagged information about local employers.

This evening, Sara will watch three 20-minute podcasts from her "Introduction to Design" course at State University before logging into the class wiki to work on her midterm design project. The project is going very well, and she has finished uploading all of the graphics she was responsible for completing. Before the end of the day, Sara will also view two YouTube videos recommended by her Job Club friends. The first, "How to Become an Architect," is an overview of an architecture program at Out of State University. The second video, "Becoming an Artist," was created by a local watercolor and portrait professional. Art and architecture are her two primary areas of interest, so these videos will help Sara prepare for the informational interviews she has scheduled next week. Sara has also just learned about a live U Stream Internet broadcast channel, "Maria's Room," on which young woman who has the same disability as her own is life casting about her experiences. Hmm... Sara will look into it tomorrow...

## Self Study Questions

1. The education model in which education was viewed as a commodity and a teacher presented the material in linear steps aimed at the average student is disappearing due to
  - a) Development of new and interactive technology
  - b) Availability and accessibility of information
  - c) Changing demographics of learners
  - d) Younger generations' comfort level with technology
  - e) All of the above
2. Cloud Computing is
  - a) Thinking outside the box to develop new distance education tools.
  - b) The idea that users can search information, store information, and keep most of computing resources on the Internet rather than on personal computers.
  - c) Faster throughput of more data.
  - d) Hypothetical scenarios that demonstrate computing concepts.
  - e) None of the above.
3. On the Internet, social networking refers to
  - a) The use of a variety of Web sites designed to facilitate online activities such as chatting, texting, video and file sharing, and participation among individuals and community groups.
  - b) The list of contacts in an e-mail program.
  - c) Separate computers within a home or office that are linked.
  - d) A and C
  - e) None of the above.
4. A Creative Commons license is
  - a) A copyright issued through a company based in Boston.
  - b) A way to use copyrighted photographs for free by crediting the license holder.
  - c) A way to expand an individual's or organization's presence on the Web by allowing other sites to use their photographs.
  - d) Both A and B.
  - e) Both B and C.

5. *Twitter*

- a) Is a real-time short messaging service.
- b) Combines aspects of blogging and social networking.
- c) Allows users to send announcements and information to all of their followers.
- d) Only A and C.
- e) All of the above.

6. *Wiki* comes from a Hawaiian word meaning

- a) Collaboration
- b) Together
- c) Quick
- d) Many
- e) Computer

## 7. A VR agency might use a wiki to

- a) Publish a collaborative human resources manual.
- b) Archive minutes and agendas.
- c) Store and share information on vendors.
- d) Plan and manage projects and events.
- e) Exchange information with partners in different locations.
- f) All of the above.

8. A *podcast* is

- a) a series of digital media files, such as audio or video embeddable or linkable through any computer or device able to receive media files, including cell phones, personal data assistants, social networking sites, blogs, and wikis.
- b) the term for the method used to deliver the content as well as the term for the content.
- c) downloaded to a podcatcher.
- d) available at no cost in most cases.
- e) All of the above.

## 9. TF Individuals who are considering a career change or thinking about entering or returning to higher education can use podcasted continuing education and extension courses to refine their interests and test their abilities.

## 10. TF Research suggests social networking sites are useful in mental health counseling with adolescents.

## Chapter Three: Successful eLearning and eLearners

Based on the information and scenarios shared in the previous chapters, it is evident that technology can not only assist but enhance the rehabilitation process through education and training, resources, and information sharing. However, if VR agencies are to reap the benefits of these technologies, it is important to understand the characteristics, competencies, and attributes needed to be successful eLearners.

### *Readiness for eLearning*

Perhaps the most significant characteristic that impacts learning in an online environment is attitude. Successful users of online education have an engaged attitude toward learning and demonstrate a commitment to their studies. Online learners of today and tomorrow are likely to be younger, technologically savvy (Dabbagh, 2007), and search for programs that offer flexibility and quality (Nash, 2004). Dabbagh (2007) has suggested that online learners must have good social learning skills for collaboration, the ability to discuss and debate, and good listening skills. Effective online learning requires exploratory and dialogical instruction. These learning environments engage learners in “collaboration, communication, social interaction, reflection, evaluation and self-directed learning” (Dabbagh, 2007, p 11). Clearly, successful online learners are engaged, technologically capable and able to fully participate in the dynamics of eLearning environments.

Several authors have described successful as well as unsuccessful learners in the electronic milieu. They describe features of online education as allowing sufficient anonymity that permits students to demonstrate characteristics of a “worker,” “lurker” or “shirker” (Vonderwell & Zaheriah, 2005). Workers are those who are actively engaged and willingly

participate, seeking the best of themselves and the course. Lurkers are those online students who regularly attend course sessions and often complete the course but fail to be actively engaged. Shirkers are those participants who fail to be fully present in the course and do as little as possible. Clearly, learners who are “workers” are much more likely to be successful in the eLearning environment because they are actively engaged and consider the online environment worthwhile.

#### **Students should have realistic expectations of distance education.**

Realistic expectations and planning are key factors influencing an online student's success. Often students mistakenly believe that Internet-based learning will be convenient, intuitive, and easy. It is reasonable to expect that the amount of study time for any online course would be 1.5 times the study time for a similar on-campus course. Typically, a student can expect to devote more time to reading and taking notes on assignments than might be expected for an on-campus course. The online student is expected to be more independent in mastering the reading material (Olympic College, 2003). Internet surveys are available to help the student determine if online learning is an appropriate option (WorldWideLearning, 2008; eLearners.com, 2008; University of Florida, 2008).

#### **Online learning often requires additional discipline and dedication.**

Online learning requires the same academic skills as any college course, but it also requires greater competence in the use of the computer and Internet. Basic skills for online students include competence in word processing, creating PowerPoint presentations, file management, uploading and downloading files, installing software, managing attachments to e-mail, and Internet search skills (WorldWideLearn, 2008). Deficiencies in basic computer skills can impact the student's ability to complete online course requirements and assignments and create frustration for the student and the instructor. Online instructors will work with students to resolve computer system problems; however, the student also needs to develop local resources, family members and friends, to provide assistance in handling technical computer system issues. Successful online students usually develop a strategy to deal with computer system difficulties and have the patience and tolerance to work through common computer failures (Payne, 2005; Olympic, 2003).

Training directors will need to ensure that VR personnel and online students who use adaptive access technology, such as screen readers and voice input, have adequate computer competency skills. These special computer software competencies cannot wait until classes begin. Pre-course conversations with online instructors can help to determine the

computer and Internet skills that will be required in the program. VR personnel and students with disabilities are strongly encouraged to contact the disability services office on campus and be prepared to self-advocate for accommodations in the event they become necessary. One suggestion from successful online students is to schedule and plan to complete assignments early, anticipating computer, software, or Internet difficulties, which allows extra time to handle any technical difficulties that may occur (Payne, 2005).

The nature of online learning places more emphasis on reading and writing skills (Desoto, 2004; Olympic, 2008). Although some online courses use audio and video connections, Internet classrooms and chat rooms, a substantial portion of coursework involves reading and writing skills. Students with known or suspected weakness in writing are advised to address those concerns before enrolling in an online class (Illinois Online Network, 2007).

Those who advise college students stress the need for goal-setting, self-discipline, and time management (Walla Walla Community College, 2008; Cuesta College, 2008). This applies to all college students but seems even more critical for online students (Olympic, 2008). Commitment and dedication to coursework are judged to be more critical to success for online learning. The hours spent in an on-campus classroom keep the student oriented and connected to the course assignments and objectives. For online learning, the commitment to finding the time necessary to succeed in the course is more a personal responsibility.

This assessment of personal dedication to the academic goal, whether a specific course or degree, is important in light of on-going demands for work and family (Payne, 2005). Support from family can help reduce the difficulty in handling conflicts and the occasional urgency of course assignments. It is usually necessary to obtain a commitment from family members (spouse and children) to honor the individual's need for uninterrupted and dedicated study time to meet the demands of online courses (Payne, 2005). Successful online students typically have a strategy for dealing with adversity and the often-urgent demands of online courses (Payne, 2005). The student can expect to receive support from the online instructor, but just as important is the support from the other students in the program, received through the formation of study groups and other collaborations. Although some students contribute a great deal to these study sessions and others contribute less, everyone benefits from sharing ideas and providing support to the overall group (Mesa State College, 2008). It is also important to recognize the potential difficulties one may encounter in online learning and begin to advocate early for needed accommodations (work responsibilities, family matters, course materials in alternate formats, etc).

### **ELearning requires the development and use of critical thinking skills.**

ELearning programs need to develop learning environments that foster critical thinking skills. Critical thinking skills are inherent in the ability to make meaningful use of electronic information.

Halpern (1997) described critical thinking as:

“the use of those cognitive skills or strategies that increase the probability of a desired outcome. It is used to describe thinking that is purposeful, reasoned, and goal directed. The ability to make sound decisions is often considered the hallmark of critical thinking” (p. 4).

Critical thinking is reflective and reasonable thinking focused on deciding what to believe or do. Critical thinking is the mind having a dialogue with itself, answering its own questions. Terms used interchangeably in relation to critical thinking include practical reasoning, reflective thought, higher-order thinking, dialectical thinking, divergent thinking, and creative thinking. Rehabilitation educators, training directors, and VR personnel should teach people how to think, not what to think. Critical thinking is the ability to see that problems have multiple solutions, that there are alternatives to making decisions by tradition or impulse. It is the ability to be reflective of actions in everyday life and careful examination of our thinking and the thinking of others.

Critical thinking skills are a component of a larger set of generic skills, which have in recent years gained prominence in discussion of graduate attributes and important outcomes of education. “Critical thinking skills” describes the process of identifying issues and assumptions in an argument, recognizing important relationships and drawing conclusions based on the available information and data (for example, Kaasboll, 1998). Based on feedback and advice from employers (for example, Guthrie, 1994) and from considerations of the needs of the lifelong learner (for example, Candy, 1994), the need for critical thinking skills as an outcome of formal education has emerged as an important issue for institutions of higher education. More recently, the growing use of technology for information storage has renewed interest in this notion and has expanded the set of skills in ways that reflect the importance of accessing and using electronic information (for example, Bruce, 1998). Critical thinking skills are inherent in the ability to make meaningful use of electronic information.

District administrators and VR personnel may want to consider some critical thinking teaching strategies that will help counselors develop these necessary skills. Descriptions of these teaching strategies can be found in the appendices.

### **Student motivation should include a “consumer-orientation” towards education.**

The application of critical thinking for all factors related to the online learning experience should include an assessment of learning outcomes and a “consumer orientation” in which the person takes full responsibility for meeting the requirements for the online course or program. ELearning programs expect learners to navigate the coursework independently. Therefore, it is important that students develop knowledge of education policies and procedures, which are usually provided on college or university Web sites. Knowledge of these policies and procedures will enable students to anticipate demands and allow the student to be proactive rather than reactive. Graduate education has the expectation that students are proactive and independent learners, self-motivated to succeed and do not need prompting by faculty or program directors to complete assignments.

### **Students should have a basic understanding of Web site credibility.**

The 26th IRI (2000) describes in some detail the increasingly important role that information, communication and computer technologies will play in the delivery of VR services. In a study of Internet applications and beliefs of state agency personnel, Patterson (2002) found there was agreement that Internet facilitated work with the VR consumers, enhanced informed choice and could be used while meeting with the consumer. As the use of the Internet and Web-based resources become increasingly critical to VR practice, education and training related to the benefits and the risks of using Web-based resources should be provided. Learning how to access Web-based information and resources is not sufficient. VR counselors and consumers must develop the knowledge and skills to manage these resources, and to assess the quality of the information and the credibility of its source.

One indication of the credibility of a Web site is the Web site address (URL). A system of URL-naming conventions, including three-digit extensions, can provide a clue as to the type of organization sponsoring the Web site:

- .com - - - commercial (private)
- .edu - - - educational (colleges and universities)
- .org - - - organization (non-profit)
- .mil - - - military (armed service-related)
- .net - - - network provider (Internet service provider)
- .gov - - - government (state or federal)

Those Web sites sponsored by educational institutions or government agencies may be perceived to be more reputable or have greater credibility than those sponsored by other types of organizations.

Another approach for assessing Web site credibility was developed at the University of Louisville (2003). It identifies five critical Web site evaluation factors along with questions whose answers will provide some insight into the credibility of the Web site:

**1. Accuracy. Here are some practical questions you can use to assess accuracy:**

- Is the information free of grammatical, spelling, and other typographical errors?
- Is it clear who has the ultimate responsibility for the accuracy of the content of the material?
- Are the sources for any factual information clearly listed so they can be verified in another source?

**2. Authority**

- What is the nature and purpose of the page?
- Is it clear who is sponsoring the page?
- Is there a link to a page describing the purpose of the sponsoring organization?
- Is there a way of verifying the legitimacy of the page's sponsor? That is, is there a phone number or postal address to contact for more information? An e-mail address is not enough.
- Is it clear who wrote the material and are the author's qualifications for writing on this topic clearly stated?

**3. Objectivity**

- Is the information provided as a public service?
- What biases might the author(s) have?
- Is the information free of advertising?
- If there is any advertising on the page, is it clearly differentiated from the informational content?

**4. Currency**

- Are there dates on the page to indicate when the page was written, first placed on the Web, and last revised?
- Are there any other indications that the material is kept current?
- If material is presented in graphs and/or charts, is it clearly stated when the data was gathered?

- If the information is published in different editions, is it clearly labeled what edition the page is from?

**5. Coverage**

- Is there an indication that the page has been completed and is not still under construction?
- If there is a print equivalent to the Web page, is there a clear indication of whether the entire work is available on the Web or only parts of it?
- If the material is from a work which is out of copyright (as is often the case with a dictionary or thesaurus) has there been an effort to update the material to make it more current?

***E*Learning competencies necessary during the rehabilitation process**

Terms used to describe eLearning include “media rich content,” “interactive,” “humanizing,” “synchronous,” “asynchronous,” “engaging,” “responsive,” “gaming,” “synergistic,” and “collaborative.” The use of the Internet and technology to deliver information, education and training is no longer labeled “experimental.”

As with other fields, technology has tremendous potential application within the provision of vocational rehabilitation (VR) services to consumers. To stay on the cutting edge in rehabilitation services leading to employment of people with disabilities, it is imperative that agencies take full advantage of emerging technologies. If consumers are going to be prepared with state-of-the-art skills in the use of technology when they enter employment, agencies need to begin using available and appropriate technologies throughout the rehabilitation process. This will help consumers develop the true proficiency they need to be competitive in the workplace. Gaining competitive technological skills, particularly when adding the need to learn how to use adaptive technology, takes time and practice. Using technologies throughout the rehabilitation process exposes consumers to these technologies and gives counselors the opportunity to assess their proficiency in a real world environment.

State vocational rehabilitation agency Web sites provide information about each agency's mission, eligibility requirements and services. These Web sites have become an important outreach tool as people increasingly use the Internet to find information when they or a loved one experiences disability. Referrals and applicants are commonly encouraged to visit these Web sites to gain an understanding of what the agency has to offer people

with disabilities and are gaining use as a part of the basic orientation of new referrals and applicants to the vocational rehabilitation process.

Web sites provide valuable and timely information about vocational rehabilitation to many audiences, from businesses seeking qualified applicants to state legislators making funding decisions to family members and individuals with disabilities themselves. Web sites are cost-effective, easily updated and accessible from everywhere.

The use of technology has become such a significant part of vocational rehabilitation counseling that the 2009 draft revisions of the Commission on Rehabilitation Counselor Certification's (CRCC) "Code of Professional Ethics for Rehabilitation Counselors" contains an entire section on "Technology and Distance Counseling." (See [http://www.crc certification.com/filebin/pdf/CRCC\\_DraftRevised\\_COE\\_2.doc](http://www.crc certification.com/filebin/pdf/CRCC_DraftRevised_COE_2.doc))

To successfully use emerging technologies as a tool in the vocational rehabilitation process, VR counselors need to assess that the consumer is functionally and linguistically capable of using the application and that the technology is appropriate for the needs of the participant. For the VR consumer to access and effectively participate in any eLearning environment, it is imperative that the VR counselor have a sound foundation in the use of these tools. The Association for Counselor Education and Supervision (ACES) Technology Interest Group Network developed 12 standards for counselor technical competencies. The ACES 12 recommended guidelines are presented in the table below:

Competency	
1.	Be able to use productivity software to develop Web pages, group presentations, letters, and reports.
2.	Be able to use such audiovisual equipment as video recorders, audio recorders, projection equipment, video conferencing equipment, and playback units.
3.	Be able to use computerized statistical packages.
4.	Be able to use computerized testing, diagnostic, and career decision-making programs with clients.
5.	Be able to use e-mail.
6.	Be able to help clients search for various types of counseling-related information via the Internet, including information about careers, employment opportunities, educational & training opportunities, financial assistance/scholarships, treatment procedures, and social and personal information.
7.	Be able to subscribe, participate in, and sign off counseling related list serves.
8.	Be able to access and use counseling related CD-ROM data bases.
9.	Be knowledgeable of the legal and ethical codes which relate to counseling services via the Internet.
10.	Be knowledgeable of the strengths and weaknesses of counseling services provided via the Internet.
11.	Be able to use the Internet for finding and using continuing education opportunities in counseling.
12.	Be able to evaluate the quality of Internet information.

Rehabilitation counseling education program directors and rehabilitation agency training officers must include counselor technology competencies as an important part of the graduate curriculum and the professional development plans of employees in the public program. Competent counseling personnel will be able to perform the comprehensive assessment necessary to facilitate access to and use of technology and

online educational opportunities.

The vocational rehabilitation process includes a comprehensive assessment of the consumer to determine eligibility for services and for IPE development. Among the standard areas assessed are medical/disability history, educational and vocational history, family and support systems, etc. In today's electronic world, a consumer's IT literacy must be included in the comprehensive assessment. The results of the IT literacy assessment can provide valuable information regarding the nature and scope of services that may be needed to successfully implement the IPE and achieve the vocational goal. An IT literacy assessment for consumers should contain at a minimum:

1. Experience and familiarity with computer use
2. Skills in using standard software applications such as Microsoft Office
3. Internet usage
4. E-mail usage

The identification of deficits in fundamental IT knowledge and skills will provide important information needed to develop a plan that addresses consumer training needs and the provision of any assistive technology.

A survey of vocational rehabilitation counselors performed in 2006 by Noll, Owens, Smith and Schwanke indicates that VR counselors are not confident in their ability to identify a consumer's need for assistive technology. Consequently, the benefits of implementation of assistive technology for consumers are severely limited (p. 413). If VR counselors are technologically competent themselves and have performed an IT assessment of their consumers, the need for assistive technology should be identified and the appropriate AT and training provided to consumers.

Whether it is traditional learning or eLearning, students, staff, and consumers need to possess certain characteristics, competencies, and attributes to be successful. The rehabilitation education and vocational rehabilitation process must then provide appropriate supports for each group to gain access to the necessary programs. To better provide these supports, the following chapter will discuss the components needed to design successful eLearning programs.

## Self-Study Questions

1. Successful eLearners are
  - a) Engaged
  - b) Technologically capable
  - c) Self-disciplined
  - d) Critical thinkers
  - e) All of the above
2. T or F: It is reasonable to expect that the amount of study time for any online course would be 1.5 times the study time for a similar on-campus course.
3. T or F: Students who use adaptive technology, such as screen readers, can wait until classes begin to become proficient in the use of the technology.
4. T or F: Students can depend solely on the online course instructor for assistance with computer system problems.
5. T or F: One indication of a Web site's credibility is the Web site's URL.
6. T or F: In order for consumers to be prepared with state-of-the-art skills in the use of technology when they enter employment, VR agencies need to begin using available and appropriate technologies throughout the rehabilitation process.
7. T or F: The use of technology has become such a significant part of vocational rehabilitation counseling that the 2009 draft revisions of the Commission on Rehabilitation Counselor Certification's (CRCC) "Code of Professional Ethics for Rehabilitation Counselors" contains an entire section on "Technology and Distance Counseling."
8. An IT literacy assessment for consumers should include
  - a) Skills in using standard software applications
  - b) E-mail usage
  - c) Computer programming
  - d) Knowledge of ASCII
  - e) A and B

## Chapter Four: Designing Successful eLearning Programs

### *Introduction*

In-service training managers are faced with growing responsibilities, an increased demand for training, and restricted budgets. “Distance education can offer several advantages for pre-service, continuing, and in-service education, to include a learner-focused rather than instructor-focused format, flexibility regarding the time and place of study, and access to useful resources” (28th IRI, 2002, p 75).

In this chapter we will:

- Recognize the advantages of eLearning for in-service training programs.
- Discuss the importance of flexibility in organizational cultures introducing eLearning.
- Identify benefits in designing trainings for the broadest range of users, with additional consideration to accessibility and generational differences.
- Illustrate an in-service Web-based training model built on a shoestring.

Well-trained state agency human resources professionals have an understanding of the advantages of eLearning and their application to the organization in the areas of recruitment, personnel development, staff retention and---most importantly---improved outcomes.

Additional advantages of distance education detailed in the 28th IRI (2002) are the immediate application of learning to work, expanded learning opportunities used as a recruitment tool, expanded internship opportunities through partnerships with universities, and the ability

to promote leadership and staff development opportunities through mentoring. Many state agencies have already begun to reap the cost-saving benefits from various eLearning technologies. Although some technologies may require an initial investment of agency funds or personnel with expertise to design and build a product unique to the agency's needs, the return on investment is quickly realized.

Personnel's ability to become successful learners depends on a flexible organizational culture that includes organizational support, availability and access to technology, and an understanding of each person's ability and readiness to embrace this technology. Agencies must be willing to address these factors through the creation of and access to accessible eLearning that meets objectives derived from comprehensive needs assessments.

### ***The Use of eLearning in In-service Training***

When designing an in-service training program, focus must be placed on the organizational goals of the agency and the needs of the employees. How does an agency insure that well-trained competent personnel are available to provide consumer services? As stated in the 28th IRI (2002), learning is lifelong. Learning begins with general education and career orientation received through degree education, often called pre-service education. But this is only part of the picture. After a person is hired, a strong VR in-service training program is crucial. In-service training programs are used to provide personnel with a solid foundation for success from the minute the employee walks in the door. In-service training programs also provide personnel with information on current state and national laws, as well as agency policies and procedures that govern VR services; keep personnel abreast of the latest medical information concerning medical aspects of disabling conditions that can affect the ability to work; teach skills that assist in placing consumers in employment; assist personnel in learning the skills to work as a team to provide services to consumers; and build a strong network of future leaders.

In these most trying, economically challenging times, it is crucial to find ways to maximize training dollars while upholding quality training standards. VR personnel must hit the road running and be available to provide services in a timely manner. The traditional method of face-to-face training that requires personnel to be in the classroom is no longer the training method of choice. It requires personnel to be away from their primary goal of providing consumer services, and incurs travel costs which in the past have consumed a significant portion of in-service training grant dollars. Training departments must now focus on exploring ways to train personnel that will minimize travel cost and time away from the local

office. eLearning methods have emerged as a viable option to providing in-service training.

### **eLearning technologies**

Commonly used technologies include recorded material created for distribution (DVDs, etc), online training--both synchronous and asynchronous (via agency intranet or learning management software), webinars, social networking, discussion boards, teleconferencing, and video conferencing. Each has inherent advantages and disadvantages that must be considered when determining the appropriate application for each training need.

Here are some questions to consider: How much time will be required to convey the training material? Is the material for specific skill development or professional growth? Would visual aides assist in the learning process? Does the training necessitate time for questions and/or discussion? Would discussion between participants enhance the learning process? Is there a need to provide continuing education credit? Asking these questions allows for increased understanding of the learners' needs and appropriate methods to build the required content. For instance, asynchronous learning or a video on demand format available to personnel via agency intranet may be the best fit for policy updates or periodic messages from department heads. Video conferencing or synchronous learning may work best for training sessions requiring an instructor and immediate interaction between participants. Discussion boards can be a useful technology to share information about successful practices and emerging trends. This is why it is critical to involve agency personnel with expertise in learning styles and content management as well as technological skill. Universal design and accessibility for these technologies are discussed elsewhere in this document.

### ***The Challenge of Creating a Web-Based In-Service Training***

In an attempt to do more for less, many agencies are developing their own eLearning, mainly through Web-based training. Responsibility for the success of these programs falls on professionals who may not be trained in eLearning design or Web-based technology. For those not trained in eLearning, adapting training for online learners can be daunting.

There are many considerations in creating eLearning. Whether the training is created in-house or contracted out, understanding the basics of Web design will be beneficial in guiding your decisions. This section will

provide an overview of the basics of Web design with an emphasis on the importance of the following:

- Defining training objectives
- Understanding the audience
- Defining roles and responsibilities of an eLearning team
- Building around the core principle of accessibility and adult learning

We will conclude with excerpts from a Web-based eLearning model that incorporates these concepts and was built on a shoestring budget.

### Defining Training Objectives

The first step in developing eLearning is to identify the learning objectives of the training. The learning objectives will drive the structure and development of the course. Determining the objective requires critical thought. Let's assume an administrator approaches you and states "We need training in better paperwork management." How do you know where to begin? We begin by **defining the real issue**. In this example, through research, you discover that new counselors are experiencing difficulty with caseload management. Let's further assume that it has been determined that Web-based eLearning is the best method to address this issue. We have identified the need to educate new counselors in caseload management practices. The next step is to define the learning objective. In this case the **learning objective for training** is "present techniques for new counselors that will increase efficiency in caseload management." Note that this objective is clearly defined (using active verbs) and measurable. Once you have determined your objective, you can begin to **design a course** to achieve these goals. Below is a table demonstrating how learning objectives and course design interact. Notice that the courses are developed so that achievement of the objectives can be assessed at the end of the course.

Example 1	Example2	Example 3
<b>Goal: Reduce billing errors</b>	<b>Goal: Follow Ethics guidelines</b>	<b>Goal: Decrease "closed unsuccessful" rate</b>
<b>Objective: Implement proper accounting techniques</b>	<b>Objective: Apply ethics guidelines</b>	<b>Objective: Demonstrate use of Motivational Interviewing skills in VR process</b>
<i>Curriculum</i> – identify current billing problems. Develop content that addresses these areas.	<i>Curriculum</i> – Demonstrate how rules and regulations are applied in the work setting.	<i>Curriculum</i> – Introduction to Motivational Interviewing skills and their application to the VR process.
<i>Exercises</i> – create exercises to increase competence in billing through practice.	<i>Exercises</i> – Include scenarios which incorporate agency rules and increase participants' critical thinking skills.	<i>Video</i> – Video to demonstrate skills used with client.
<i>Quizzes</i> – test progress and provide immediate feedback	<i>Links</i> – active and updated links to agency information	<i>Role playing</i> – teams developed for teleconference
<i>Vignettes</i> – Examples of professionals struggling with complex billing issues. Follow the vignette to resolution.	<i>Final Assessment</i> – to test level of understanding and ability to apply knowledge. Feedback will be provided. A score of 80% will be needed to pass.	<i>Case Studies</i> – To enhance specific skills
<i>Final Assessment</i> – test level of understanding. Scores will be measured against pre-course assessment.		<i>Quizzes</i> - test progress and provide immediate feedback to participants
<i>Evaluation</i> – six months after course completion, reduction of billing errors will be evaluated.		<i>Final Assessment</i> – demonstration of skills in VR process. Additional assessment to evaluate applied learning will be given in six months.

### Evaluation

Evaluation processes should be considered during the planning and implementation phases. Evaluative measures allow an agency to document a return on investment and content effectiveness while maintaining process improvement efforts. The 28th IRI (2002) contains reference material on benchmarking and types of evaluation.

## Who is Your Intended Audience?

### Considerations for Designing Distance Learning Options for the 4 Generations

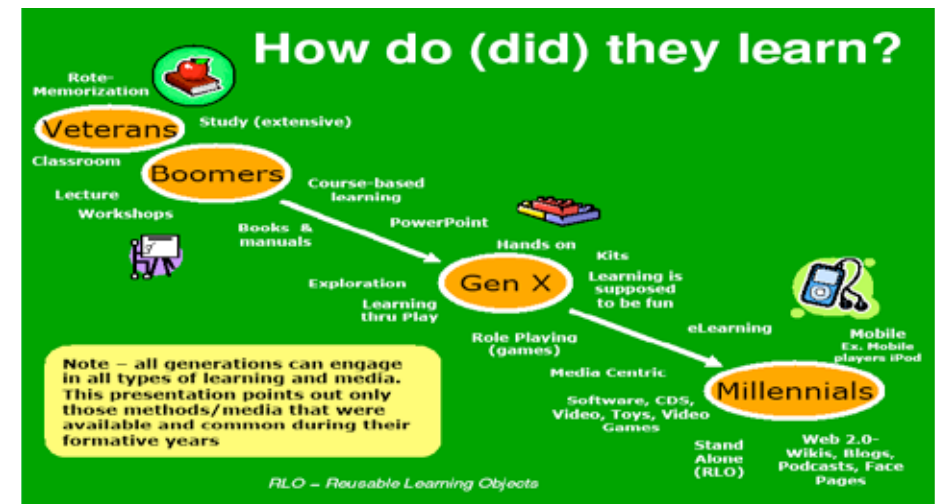
When designing an in-service training program, one must take into account the employee's needs not only in terms of skills to be taught, but the best method in which to provide the training. A well designed training program is crucial. The learner must see value in the training. The training must meet the immediate need of the learner and it must be delivered in a way that is user friendly and efficient.

According to Zemke, Raines, & Filipczak, (2000), today's workplace is made up of four distinct generations. Each generation has a unique perspective on the world of work and preferences for acquiring, digesting, organizing, and distilling information and skills. Understanding these generational differences is critical to trainers who try to impart the values, philosophy, knowledge and skills that are vital to a smooth running business. The four generations have been named in numerous ways, depending on the author. For the purpose of this publication, the following description from Zemke, Raines, & Filipczak, (2000) is used:

- Veterans (1922-1943) Those born prior to WWII and those whose earliest memories and influences are associated with the world-engulfing event.
- Baby Boomers (1943-1960) Those born during or after WWII and raised in the era of extreme optimism, opportunity, and progress.
- Generation Xers (1960-1980) Those born after the baby boom and who came of age deep in the shadow of the Boomers and the aftermath of the Vietnam war.
- Generation Nexters (1980-2000) Those born of the Baby Boomers and early Xers and into our current high-tech, neo-optimistic time. (Nexters are also often referred to as Millennials or Generation Y.)

In addition, Natilie, Laderas Kilkeny, (August, 2006) created the slide below that gives a snapshot of the learning needs and preferences of the four generations. The slide was created to show the spectrum of learning methods and media of the four generations in the workplace and "to emphasize the importance of making all of these media available to students when appropriate to the task or content being taught."

Each of these groups of employees has a unique history of experiences that influence the way they learn. The following tips from Zemke, Raines



and Filipczak (2000) are included and summarized to assist in planning training for Boomers, Xers and Nexters. It is important to note that these are generalizations and may not apply to all persons within a generation. It is also important to note that authors vary in the delineation of the dates of each generation.

- Boomers prefer an interactive and non-authoritarian learning environment. They respond well to the traditional classroom and like to network and work on teams. They respond well to trainers who treat them as equals and are motivated to learn if they see an on-the-job benefit. Interactive training activities are effective and skill practice is crucial. They generally like for material to be organized in an easily accessible format.
- Xers prefer a learning environment that is more self-directed. They are less enthused with the traditional classroom style of learning and prefer a less formal training environment. Xers may prefer videos, CDs, electronic learning opportunities. They are highly motivated and want to have fun while learning or working. They like to learn by doing and want to be involved in learning experiences.
- Nexters combine traits from the Veterans, Boomers and Xers. They have a positive can-do attitude and like the concept of teamwork and the use of technology. They prefer training materials that are lively and entertaining. They are described as resilient and optimistic about the future. Nexters are technologically savvy but have a need for supervision and structure. Trainers have to earn their respect through their knowledge of the subject matter.

To summarize, a well planned staff development program must meet the needs of all employees. eLearning methods can be used to train employees of all ages. The key is to be aware of the learning styles of each generation and offer various methods, often the use of a blended learning approach to maximize the learning experience. According to Deal (2007), “Everyone wants to learn - more than just about anything else.” Take into account the background, strengths and weaknesses of each generation and be sure to address the developmental skills needed in order to be successful in participating in any type of face to face or distance education program.

Additional key points to consider when assessing your audience:

- **Identify the target audience.** Generational and cultural considerations, learning styles, expectations and abilities will guide course development.
- **Know the education level of the learner.** Material must be designed to challenge but not overwhelm the learner.
- **Identify the learners’ experience with the subject matter.** The material may enhance knowledge of the learner, or may present new information or skills. The content and organization of the material presented should reflect the learners’ experience with the subject.
- **Recognize learners’ expectations.** Develop training in a format that meets the expectations of the learner to increase usability and success.
- **Determine when the course will be taken.** The learner may prefer to take the class during work hours or during off-time.
- **Understand your audience’s experience with Web-based training.** Don’t assume everyone is skilled in or excited about eLearning. Understanding potential barriers to eLearning will assist you in design and support decisions.
- **Identify the software and hardware used by your audience.** Knowing what technology your audience will access for the course is essential. Old computers or software, limited access to a computer, slow connections, and complicated firewalls can cause significant problems for learners and designers.

### ***Identify the Team and Resources***

Whether your agency is interested in developing its own eLearning or considering hiring a consultant, it is useful to understand the expertise needed to develop Web-based training. The development team typically

includes a curriculum developer, instructional designer and technical expert.

Curriculum Developer- Also known as the content expert, the curriculum developer gathers and/or generates the educational content to be used in the course.

- Defines course objectives
- Determines best content to meet objectives
- Writes content
- Works with eLearning team to formulate assessment

Instructional Designer- Designs the course and manages the project. The instructional designer sees the “whole picture” and designs the Web-based training to best meet course objectives.

- Understands accessibility and universal design
- Utilizes adult learning theory
- Adapts curriculum for eLearning
- Organizes content
- Determines the look and functionality of the course
- Identifies the target audience to best match material to learning strategies
- Has basic knowledge of Web-based training design rules
- Identifies how to best assess learning through activities, quizzes, etc.

Technical expert- Develops and manages the technology and training platform.

- Implements accessibility and universal design
- Responsible for coding and formatting in the chosen platform
- Develops assessment tools
- Provides learner technical support

While three distinct skill sets have been identified, there is often cross-over of roles while developing eLearning. On rare occasions, all three roles are accomplished by one person.

### ***Blending Adult Learning with Universal Design***

Universal Design means assuring the presentation of content is flexible enough to accommodate the needs of the broadest range of users possible. The eLearning design process should include the concept of design for accessibility for all users from the very beginning of the project.

Unfortunately, training is often initially designed without accessibility in mind, with accessibility tacked on almost as an afterthought. Key accessibility concepts should be woven directly into the eLearning design. The goal is to provide easy navigation, maximize flexibility, and relay information in a variety of formats that enhance learning. Accessibility and adult learning are broad topics that cannot be covered in depth in just a few short paragraphs. As an introduction to the concepts, listed below are a few examples of how design and accessibility are blended.

**Color and text choices for Web-based eLearning.** Color should be soothing with high contrast. High contrast colors benefit people with low vision while minimizing eye strain for all readers.

**Asynchronous or “just in time” training.** Asynchronous training allows learners to approach training at a time which is most convenient for them. It also allows learners to revisit material. This benefits learners who are easily distracted, who need extra time to absorb information, who have a disability that makes it difficult to attend regular class times, and other learners who prefer to access training on their own schedule.

**Synchronous or “real time” training.** Synchronous training appeals to learners who benefit from “real time” interaction. Those who benefit from increased interaction, or prefer to have structured course time may favor synchronous delivery.

**Apply content that appeals to adult learning styles.** Define clear training objectives at the beginning of the course and create exercises that apply what is learned during the training. Organize material in a way that builds upon the learners experiences. Use material that motivates the adult learner and, whenever possible, encourage learning communities (Knowles, 1998).

**Organizing content.** Reading page after page of material on the Internet appeals to very few and can inhibit the learning of many. For this reason there are a few key elements in content design to consider:

- Chunking – Cutting text into readable chunks. Minimize words or concepts that are not needed.
- Organize material in logical progression. You may have several key points to convey to achieve your objective. A logical progression makes the content easier to navigate and understand for all learners.
- Use “markers” to represent subject change. A marker may be a graphic with an alt tag, a color change or a bold statement such as “Next we will explore....” Markers assist the learner in navigation and can clarify instruction.

This is meant as a brief introduction to the concepts of accessible

The image displays two screenshots of an eLearning course titled "Caseload Management for V.R. Professionals" from TACE Region 5 at Southern Illinois University - Carbondale. The screenshots illustrate various accessibility and design features:

- High contrast colors:** A callout box points to the header area.
- Content is well organized:** A callout box points to the navigation menu on the left.
- Easy to Navigate:** A callout box points to the "Case vs. Caseload" section.
- User Tips:** A callout box points to the "Tips for Taking This Class" section.
- Well defined objectives:** A callout box points to the "Course Objectives" section.
- What You Will Receive:** A callout box points to the "What You Will Receive" section.
- Who are We?:** A callout box points to the "Who are We?" section.
- Chapters well defined:** A callout box points to the "Time Management: Are you on top of your caseload, or is it on top of you?" section.
- Quizzes and exercises included throughout the site:** A callout box points to the "Quiz" section.
- Expandable, captioned, scripted video that requires no special bandwidth:** A callout box points to a video player titled "Buried Alive".
- Developed for a variety of learning styles:** A callout box points to the "What is Time-Management? (and yes, you can have it)" section.
- Content broken up into manageable chunks for easier screen reading:** A callout box points to the "The 80:20 rule states that typically 80% of unfocused effort toward a goal generates 20% of results..." section.

The course content includes sections such as "Case vs. Caseload", "Time Management", "Assessing Your Habits", "Assessing Your Energy", "Procrastination", "Prioritizing Tasks", "Additional Tips", "Documentation", "Conclusion", "Quiz", "Contact", and "References".

design. For more complete information on accessible Web site design visit W3W – Web Accessibility Initiative. <http://www.w3.org/WAI/intro/accessibility.php>

### ***Example of Design on a Shoestring***

Here are screen shots from an actual Web-based training. This course was designed for VR professionals who deal with Caseload Management. It was developed by two people on a very small budget. The course is asynchronous and incorporates the concepts mentioned above. Some of these concepts are highlighted below.

#### **Current Trends**

In preparation for this paper, information was gathered via e-mail correspondence from human resources and training coordinators in vocational rehabilitation agencies nationwide. The goal was to assess the current use of and trends toward eLearning technologies, the methods used to deliver this training, best practices being developed, and whether state agencies have found this to be a cost-effective measure to deliver in-service training. The hope is, through sharing information, to assist agencies in implementing practices and growing in the area of eLearning.

From the information received, it is apparent that a majority of agencies who responded are making progress towards placing content into online learning formats. This progress varies greatly from agency to agency. eLearning is primarily being used to deliver policies and procedures, disability specific training, CSPD coursework, and on-boarding of new employees. The preferred method of delivery for soft skill trainings and leadership development is still face-to-face. eLearning methods being used most often include teleconferences, webinars, videoconferencing, and instruction distributed on DVD via learning management systems or agency intranet. Agencies report technology challenges in terms of agency firewalls and from the perspective of the learner. It was a general consensus that there is a cost savings of travel expenses and time although no formal studies were noted. To summarize, many agencies are looking at eLearning as a viable option for the delivery of selected trainings. There is a learning curve for trainers as well as employees, and the support of each agency's information technology department is paramount to the success of this process.

## **Self-Study Questions**

1. T or F: VR personnel's ability to become successful learners depends on a flexible organizational culture that includes organizational support, availability and access to technology, and an understanding of each person's ability and readiness to embrace this technology.
2. Questions to consider when designing eLearning courses include
  - a) Is the material for skill development or personal growth?
  - b) Would discussion between participants enhance the learning?
  - c) How much time will be required to convey the material?
  - d) Will the eLearning course interfere with lunch or other breaks?
  - e) A, B and C
3. The first step in developing eLearning is
  - a) To buy a computer.
  - b) To find an instructor who can use the technology.
  - c) To identify the learning objectives of the training.
  - d) To ensure that enough people sign up for the class.
  - e) To purchase the needed software.
4. T or F: In general, Baby Boomers prefer an authoritarian learning environment.
5. T or F: In general, Xers like to learn by doing.
6. T or F: In general, Nexters are technologically savvy but have a need for supervision and structure.

## **Chapter Five: eLearning Applications for VR Services**

### ***Technology and the Counseling Relationship***

In a survey of 529 Certified Rehabilitation Counselors (Barros-Bailey et al, 2008) comments about the integration of technology into the rehabilitation process were mixed. Some respondents felt that the introduction of technology into the counseling relationship would be detrimental, that it might dehumanize the client–counselor relationship. Others believed that technological advances would positively impact their work in the areas of assistive and rehabilitation technology. The challenge for rehabilitation professionals will be to integrate the technology into the VR process without causing a negative impact on the delivery of rehabilitation services, or the counseling relationship. It may be possible for VR counselors to use these tools to help establish rapport with VR consumers, and actually enhance their counseling relationships. Using these tools together to identify and access Internet resources that are relevant and valuable to the consumer's attainment of their rehabilitation goals, the VR counselor and consumer can build a strong working alliance that could have a positive impact on their relationship. This working alliance can begin at the initial interview as part of the consumer's orientation to the mission and goals of the VR agency. Sligar and Zeng (2008) report that all state VR agencies and the District of Columbia have working Web sites. They examined all 80 VR agency homepages and concluded that VR agency Web sites in general have a high rate of compliance with Web accessibility guidelines. Counselor and consumer can sit down together in the counselor's office to review the VR agency Web site and discuss the VR process and the expectations and responsibilities of the VR consumer. This approach may not be appropriate for all new VR consumers; but for many, it would reinforce the important role that technology will play in the

VR process and set the stage for the integration of the technology as part of the working alliance between the VR counselor and VR consumer.

### ***Vocational counseling and planning***

One of the more dramatic areas to be affected by advances in computer and communication technology is the provision of counseling services. eLearning technology has changed the way we manage information as well as communicate with all stakeholders in the rehabilitation process. The traditional, face-to-face meeting is evolving to include counseling techniques which use telephones, e-mail, text-messaging, social networking, and Internet-based video chat. The use of this technology can be cost-effective, efficient, user-friendly, and advantageous for consumers; however, there are some potential challenges and ethical concerns. This section outlines how eLearning technology can be integrated with existing counseling services, when distance counseling (also known as cybercounseling) is advantageous for agencies and consumers, and suggested guidelines for appropriate and ethical use.

New cell phone technology and Internet services allow VRCs unprecedented opportunities to communicate with consumers in synchronous formats. Use of distance communication technology can be of benefit for consumers with transportation issues, when consumers live far from office locations (e.g. rural areas) and for brief updates.

Telephone communication, long used for scheduling meetings, taking intake information, and for basic communication with consumers is rapid, easy, and cost-effective. With cellular telephones (cell phones) and voicemail, consumers become more readily accessible to counselors and other stakeholders. In addition, consumers are empowered to access their own information and network with family and friends. For consumers with unreliable phone service and limited means to purchase their own plans, pre-paid cell phones can be issued by counselors. Counselors can use cell phones to maintain contact with consumers even when the counselor is away from the office. For example, time sensitive communication can be dealt with quickly and efficiently during break times of mandatory staff training, or when counselors may work at several different locations. Text messaging is a form of synchronous communication when counselors and consumers use cell phones and wireless devices to communicate quick questions and updates.

When Internet access is available, real-time text (built in to many Web browsers) can be used for consumers to contact and converse with counselors. Video chat (such as Skype) is a developing technology with exciting potential for use with counseling. Real-time video images of

each user stream with high quality sound chat. Unlike text messaging or text chat, counselors have access to visual clues in the counseling process. Some programs allow for multi-user contact. For example, a virtual meeting between a counselor, a consumer, and a job developer could take place even if all three were in different locations. Use of a webcam and software such as Skype for counseling can also provide access for individuals using sign language, in addition to use of the traditional TDD and relay services.

Asynchronous communication between a counselor and consumer may involve the use of e-mail, text messaging, and training videos. E-mail has the advantage that it creates written documentation which can be added to case files. E-mail can be especially beneficial in communicating with individuals who are blind or deaf or hard of hearing.

*Most counseling functions that can be performed face to face can be provided at a distance. Obviously, counseling at a distance is a slightly different experience than a face-to-face encounter, but research and experience have proven both to be effective (Cook and Doyle (2002), McKenna & Bargh (2000) and Liebert, et al. (2006), Haberstroh, et al. (2008)). Please note that most of these studies reported on information collected with consumers who used print or voice-based online counseling. While very little research is available regarding two-way video counseling, it is expected that face-to-face online counseling using desktop video will positively impact one of the criticisms of online and phone-based counseling: the lack of quality development of a Therapeutic Alliance between the consumer and their counselor.*

Any distance technology cannot communicate all information compared to a face-to-face meeting. Real-time video chat may come closest since it includes visual information. It is important to be mindful that not all consumers will have equal access to technology, especially due to the cost of computer equipment and high speed Internet access. Not all consumers will be comfortable using all kinds of distance technology, and many may not have the training to use it effectively. Also, technology can fail so back up plans for communication are very important.

Most important, however, is the ethical concern for confidentiality. During a phone conversation with a consumer, a counselor cannot know who else may be listening on the consumer's end of the phone. Cell phone conversations are not secure, and can be intercepted by third parties. E-mail, text messaging, and chat are not entirely secure methods of communication. It is important that consumers are aware of these limitations.

*Most professional counseling organizations are so concerned about the proliferation of distance counseling services that they have written guiding principles for practice or have incorporated specific guidelines into their code of ethics. These organizations include the American Distance Counseling Association, American Psychological Association, American Counseling Association, and the Commission on Rehabilitation Counselor Certification. The American Distance Counseling Association provides Web site links to recommended Web sites for listings of e-Therapy resources at <http://www.adca-online.org/links.htm>. The following guidelines may help in using eLearning technology with counseling:*

1. Counseling is the goal, technology is the tool. Keep in mind that use of technology is only appropriate and necessary when it improves a counselor's ability to provide services to consumers.
2. Be flexible. Technology sometimes fails, consumers have varying comfort and knowledge levels, access to technology may be limited. A technology solution which works for one consumer will not work for every consumer.
3. Be a role model. More and more employers today are requiring knowledge of the Internet, e-mail, and distance communication. Use of this technology during the counseling process helps consumers build knowledge and confidence.
4. Maintain confidentiality. Communication through eLearning technology creates opportunities for third parties to access information. Be aware of the potential and make sure consumers are informed of limitations.
5. Embrace future technology. New technological solutions will continue to present opportunities.

### ***Vocational Assessment, Counseling and Placement***

Garner and Szirony (2005) identified a number of online resources that can be used by counselors and consumers to evaluate the consumer's vocational assets and interests. Many of these instruments are free. These authors also described numerous issues related to the quality of Internet based assessment resources. Among the broad sample of assessment resources are the following.

#### **Vocational Interest**

The Career Key (Jones, 2004) provides a self-evaluation of skills, abilities, values, interests, and personality using Holland's R-I-A-S-E-C Interest Codes in about 10 minutes. This instrument also identifies potential jobs

and provides quality information about them.

The Career Focus (Gonyea, 2000) measures 18 occupational fields in about 30 minutes. While developed from a different knowledge base than the Career Key, this tool provides quick insight into a consumer's vocational interests.

#### **Personality Assessment**

The Keirsey Temperament Sorter II (Keirsey, 2004), based on the Myers-Briggs Type Inventory, develops four character types (Temperaments) with 16 sub-types.

#### **Aptitude and Achievement**

The Typing Master Online Test provides a one-, two- and three-minute test with variable text choices. The test results in an automatic word-per-minute calculation and other keyboarding skills information.

The Online Reading Assessment has a word identification section where words are pronounced by the program and the consumer identifies the word from a list. A second section uses more traditional word definition matching to content format to determine reading and vocabulary achievement.

#### **Intelligence Testing**

Garner and Szirony (2005) caution about using online intelligence testing because consumers are typically anxious about IQ testing, especially group testing.

The Classical Intelligence Test-Revised is a multiple-choice group test of 65 questions that takes 45-60 minutes to complete. Concepts assessed are logical reasoning, analogies, math skills, and general knowledge.

The examples of online assessment instruments provided in this review suggest that sufficient resources are available to provide counselors in any setting with options in addition to the traditional method of sending the consumer to a potentially distant vocational assessment program. This is especially true for counselors working in rural areas where limited resources and travel time limit initial vocational screening of a new consumer's skills and abilities. The review above highlights free online instruments. There are similar instruments, often more sophisticated and complex, available online for a fee that VRCs can utilize if they choose.

Please note that counselor training programs, especially those that provide their degree program online, are adapting their instructional strategies to maximize their students' learning for using online assessment resources. Thus, many newly trained counselors have the skills and

background to seek out and utilize the growing body of online assessment instruments.

In addition to online assessment instruments, there is growing availability of online vocational counseling information. The US Government is a big part of this growing resource.

According to the O\*NET's Web site, "The O\*NET is the nation's primary source of occupational information." The Occupational Network Service (O\*NET) is an Internet-based database that is intended to replace the Dictionary of Occupational Titles (DOT). The O\*NET database contains approximately 812 occupations. These occupations are classified by an eight-digit code that is the same as the Standard Occupational Classification code (U. S. Department of Labor Employment and Training Administration, 2004). The O\*NET version revised in 2006 provides a vocational information database that has many uses, such as career counseling, job placement, and transferable skills analysis (Field & Field 2004). The Crosswalk Search feature allows an individual to enter an occupation code or job title from the Classification of Instructional Programs (CIP), Registered Apprenticeship Partners Information Data System (RAPIDS), Standard Occupational Classification (SOC), Military Occupational Classification (MOC) or Dictionary of Occupational Titles and find matching O\*NET-SOC occupations. The O\*NET database is being updated on a regularly scheduled basis (see <http://www.onetcenter.org/dataPublication.html>). These updates occur as a result of the Data Collection Program currently underway. Updated data for the ninth subset of occupations was included with the 13.0 release. A tenth subset of occupations was added as part of the 14.0 database release in June 2009.

#### **O\*NET: <http://online.onetcenter.org/>**

The O\*NET database has more recently added the O\*NET Career Exploration Tools (O\*NET, n.d.), which include a number of free or low cost assessment instruments. The *Interest Profiler* comes in both downloadable paper & downloadable computerized formats. The free downloadable software can be self-administered and self-interpreted. It utilizes Holland's R-I-A-S-E-C Interest Structure.

The *Work Importance Locator* is in downloadable paper format and its software equivalent, the *Work Importance Profiler*, is downloadable free. The Work Locator & Profiler both measure six types of work values: Achievement, Independence, Recognition, Relationships, Support, and Working Conditions. The Work Locator & Profiler matches work values to the characteristics of the occupations. The free downloadable software can be self-administered and self-interpreted.

The *Ability Profiler* includes free downloadable paper assessment

instruments supplemented by low-cost apparatuses for dexterity testing. The *Work Ability Profiler* measures nine job-relevant abilities: Verbal Ability, Arithmetic Reasoning, Computation, Spatial Ability, Form Perception, Clerical Perception, Motor Coordination, Finger Dexterity, and Manual Dexterity. The Work Ability Profiler is based on many of the General Aptitude Test Battery (GATB) concepts. It is administered by personnel in individual or group settings. There is free downloadable software for computerized scoring. The results can be linked to occupations in the O\*NET.

The O\*NET is a work in progress. The potential for growth and further development of the assessment components of the O\*NET could have significant impact on private, for-pay assessment sites as well as agency counselors.

#### **OSCAR**

The Occupational and Skill Computer-Assisted Researcher, otherwise known as OSCAR the Owl, is an O\*NET Pilot Project available in Arkansas, Louisiana, & Texas that is sponsored by the states' Employment Security Departments (Occupational and Skill Computer-Assisted Researcher, n.d.). Although intended for the states in this specific market, it can be accessed from other areas by entering a local market ZIP Code. OSCAR is O\*NET and Holland code based. It is designed to be utilized directly by consumers for career exploration and assessment of interests and work importance. It allows the client to explore the world of work and potential careers based on a number of factors, including assessed skill levels, work experience, hobbies and other avocational interests.

#### **Other Resources**

Most state rehabilitation agencies now have an agency sponsored commercially available case management system. In many states this system includes a vocational assessment, transferable skills and labor market data section. Most have direct access to the O\*NET. Thus the typical rehabilitation counselor has all the tools necessary to perform customer vocational assessments, counseling, planning and placement at their finger tips. Many have laptop computers with programs providing this kind of support material. Some already know how to perform these services and are providing these services. Others need professional training and supervisory support to begin providing these valuable services. With the expanded availability and use of online resources, dramatic improvements in consumer vocational services should be an expectation for all stakeholders providing and receiving rehabilitation services.

## **Cautions**

As noted in other sections of this report, utilizing online rehabilitation resources for client service purposes requires a special vigilance for ethical and practical difficulties that may present opportunities for problems and poor practice. As with online counseling services, the counseling professional organizations have included in their Code of Ethics guidelines to help all professionals minimize the negative impact of using invalid and unreliable assessment instruments. These guidelines apply to online assessment as well as more traditional paper and pencil versions. Of special concern for online assessment instruments beyond validity and reliability is confidentiality of results and quality utilization of assessment information in vocational planning and placement. An additional caution regarding the availability of online instruments, especially free ones, is the possibility that an instrument available today may not be accessible the next time a counselor or consumer wishes to use it. Then a new search for a satisfactory tool must begin.

## **Job Readiness and Placement**

eLearning technology is a powerful new tool for job development and placement services, both by enhancing counselor abilities and by training consumers to become more experienced technology users. Technology can be incorporated in some of the following areas:

1. Internet resources for resume and cover letter writing
2. Internet resources for job accommodations (e.g. JAN (<http://www.jan.wvu.edu/>), Abledata (<http://www.abledata.com/>), Disabilityinfo.gov)
3. Internet resources for occupational information (e.g. O\*NET)
4. Internet-based job banks
  - a) Monster.com
  - b) Careerbuilder.com
  - c) Hotjobs.com
  - d) Craigslist.com
  - e) Simplyhired.com
5. Online applications
6. Teleworking as a reasonable accommodation
7. Social Networking as a form of job clubs
8. Consumer Training, agency resource materials
9. Use of Twitter for quick updates

## **Job clubs**

Job clubs can be provided for individuals in rural areas and those with transportation barriers using desk-top to desk-top video conferencing. This allows the counselors and peers to provide support to job seekers who might otherwise be isolated and unable to participate.

## **Mentoring**

Individuals who are newly disabled, youth with disabilities, or those experiencing adjustment issues can benefit from mentoring from other people with disabilities who have successfully completed their vocational rehabilitation program and are successfully employed via e-mail, use of social networks or desk-top to desk-top video conferencing.

## **On the Job support and follow up**

Distance communication techniques can be used with employer's information technology personnel who are experiencing challenges supporting disabled employees.

## **Post employment services**

Due to the constantly changing nature of technology in the workplace, individuals with disabilities who are successfully employed may periodically experience the need for further training on their assistive technology throughout their employment. Vocational rehabilitation agencies need to plan for this need within their system in order to assist individuals with disabilities in maintaining and advancing in employment.

## **Summary**

By incorporating technology into the rehabilitation, VR personnel can model skills and abilities that consumers will need in the Information Age marketplace. eLearning technology can also enhance the consumer's experience of the VR process, facilitating communication with VR counselors, providing access to online training and assessment, making available online job banks and listing, and providing tools for networking and support.

## Self-Study Questions

1. While research has shown that distance counseling is effective, there are some ethical and practical concerns about providing counseling, including
  - a) Needing a backup plan if the technology fails
  - b) Developing a quality Therapeutic Relationship
  - c) Consumer access to technology
  - d) Confidentiality
  - e) All of the above
2. Cautions regarding the use of online assessment tools include
  - a) Confidentiality
  - b) Validity
  - c) Consistent availability
  - d) All of the above
3. Counseling is the goal; technology is the \_\_\_\_\_.
  - a) Key
  - b) Process
  - c) Tool
  - d) Outcome
  - e) None of the above
4. T or F: Internet resources can assist consumers with job readiness and placement.
5. T or F: A technology solution which works for one consumer will work for every consumer.

## Chapter Six: eLearning and Graduate Rehabilitation Education

The definition of a “qualified rehabilitation professional” has changed due to a federal mandate; therefore, counselors are entering, attending, and graduating from distance master’s degree programs. Due to the number of these counselors/graduate students, combined with millions of dollars of federal funds expended, an examination of these distance programs is warranted. Ten years ago, Smart (1999a, b) wrote of the issues confronting the implementation of distance education in various academic disciplines of the university. Upon explanation and consideration of these various issues, Smart concluded that the both the discipline and practice of rehabilitation counseling is uniquely suited for distance learning:

*Regardless of the model, the technology, or subject matter, university distance education presents many issues. Issues such as academic credibility, accreditation policies, expanding numbers of applicants, availability and quality of faculty advising and mentoring, and the provision of clinical supervision for internships and practica impact most distance programs (Bates, 1997; Commission on Higher Education, 1997; Commonwealth of Learning, 1997; Daniel, 1997; Davis & Yazak, 1995; Dunning, Van Kelkerix, & Zaborowski, 1993; Hodgson, 1987; Moore & Kearsley, 1996). Rehabilitation distance programs deal with these issues and, furthermore, are required to focus on additional aspects, such as developing a working partnership with Rehabilitation Services Administration (RSA), the agency that provides the funds for many rehabilitation distance programs; responding to changing federal legislation that mandates the definition of a “qualified rehabilitation professional,” and forging a working relationship with Technical*

*Assistance and Continuing Education (TACE) programs, federally funded programs that provide training and support to employees of the state/federal vocational rehabilitation system (Bitter, Gregg, & Jackson, 1994; Burgstahler, 1995; Eldredge, Gerard, & Smart, 1994; Gilbride, Breithaupt, & Hoehle, 1996; McFarlane, Harrison, Sava, Bussell, & Turner, 1994; McLaren, 1995; McNamara, Nemeck, & Farkas, 1995.)*

Rehabilitation counseling, both as an academic discipline and a field of professional practice, has been affected by the great demographic shifts of the last 25 years, juxtaposed with the knowledge explosion. Scholars seeking to understand the general direction of university education and demographers who identify widespread trends conclude that more and more students (in all disciplines) are combining study with their employment and that the number of years of an individual's work life is growing. In all areas of American life, educational standards and professional practice guidelines are rising. Additionally, one of the most respected authorities in distance education (Daniel, 1997) stated that universities will enter into collaborative agreements with other universities, corporations, and government agencies, concluding:

*Public funds will constitute a decreasing proportion of financial support for higher education. Direct grants to institutions are likely to be replaced by mechanisms that channel support through individual students. Governments will, however, continue to develop explicit procedures to ensure accountability and quality assurance in universities. (Daniel, 1997, p. 103)*

The combination of these general demographic trends and the movement toward government-funded tuition support are found in the state/federal vocational rehabilitation service system. The federal legislation and regulations guiding RSA have clearly mandated higher standards of professional preparation for counselors and higher quality outcomes for consumers of the state/federal vocational rehabilitation service agency. In a movement in RSA without precedent, large numbers of employed rehabilitation counselors are enrolled in and graduating from university master's programs. Furthermore, as Daniels predicted, RSA allocates the majority of grant funds (typically 75%) to student support, rather than to the university. The Council of State Administrators of Vocational Rehabilitation (CSAVR) also provides direct support to these students (who are their employees) by allowing released time for attendance and class preparation, and often pay part of the tuition. Thus, in the academic discipline of rehabilitation, the locus of financial support has shifted from

the university to the student (and, indirectly, the state/federal vocational rehabilitation service agency.)

### **Rehabilitation Counseling is Uniquely Suited to Distance Education**

Distance programs in rehabilitation counseling are not required to deal with the state-by-state requirements, as other academic disciplines must. Most professions mandate a state licensure or certification (Saunders, et al., 2009). Tarvydas, Leahy, & Zanskas (2009) refer to state regulations as a "a diversity of standards across regulatory jurisdictions" (p. 91) In contrast, the state/federal vocational rehabilitation service agency is a national program with national standards of practice and a national certification process, the Certified Rehabilitation Counselor (CRC.) Of course, not all students in rehabilitation counseling distance programs are employed in the state/federal system. A few students work (or plan to work) in other agencies and, accordingly, they pay their own tuition. Nonetheless, it is safe to state the majority of students (even those not in so-called "cohort" programs) are state agency counselors.

Most rehabilitation distance education programs teach students who work in rehabilitation on a day-to-day basis, providing services to people with disabilities. Such post-professional education is very common in distance learning. Providing education to students who will immediately implement the knowledge and skills learned in the classroom is often referred to as a "real world application," or "action learning." Networked learning also relates to the concept of communities of practice. One scholar has adopted the term, "community-embedded learning (CEL)" (Kazmer, 2007) to describe learning that takes place within a local context, in particular in work and knowledge communities" (p. 311). Frequently in rehabilitation distance classrooms and almost always in distance practica and internship supervision, students and faculty work together in a shared forum to ask questions and develop solutions to problems encountered at work. Essentially, communities of practice, real world applications, and post-professional experience are more easily developed and more frequently encountered in distance classrooms than they are in on-campus classrooms (Guldberg & Pilkington, 2006). In many scholarly works on distance education, these concepts are often found in medical or public health curricula (Kolb, 1984; Stanton & Grant, 1999; Umble, Cervero, & Yang, 2000) and it is not difficult to see how these concepts translate well to the practice of rehabilitation. Kolb (1984) summarized the "natural" relationship between distance education and the practice of medicine:

*Problem-based learning has been used most heavily in the medical areas and has been incorporated with eLearning technologies with the*

*advent of telemedicine and other integrations of learning technology into medical curricula. In many ways, eLearning was a natural setting for all of the reality-based learning techniques because eLearning allows the student to be embedded in a 'real' setting while engaged in active and interactive learning.*

In “embedded learning,” “community-based learning,” and “action learning,” state/federal rehabilitation counselors are employed in the field in which they are seeking a graduate degree. Thus, there is an interrelationship between knowledge and skills learned and daily, professional life.

### ***Comparing Distance with On-Campus Education***

New technology is one of the few constants of education (Nickerson & Zodiates, 1988; O’Neil & Perez, 2003). Without doubt, technology has changed the way in which information is recorded, stored, disseminated, and taught. It is rare to encounter any type of university course that does not utilize some type of technology. Technology is, therefore, used as a support in conventional, on-campus education. Providing syllabi and readings, streaming videos, and guiding students to portals or Web sites that will enable them to access relevant databases and resources are common examples of technological support. Other types of technological support include chat rooms, professor feedback and e-mail communication with the professor (and other students). Most professors and students would conclude that these technological supports to on-campus courses have not only modified their education, but have actually improved and increased learning. Many would also state that it has made education, both teaching and learning, more enjoyable.

Rather than a simple dichotomy of on-campus education or distance education, much of university education can be viewed as a continuum with on-campus on one end of the continuum and distance education on the other end. More coursework is becoming “blended education,” a combination of both distance and on-campus delivery, mediated by technological support. Some courses and programs are close to the end of the continuum defined as “distance,” other courses and programs are closer to the “on-campus” end, and still others are in the middle of the continuum, delivering the course half on-campus and the other half off-campus. These “blended courses” might require some on-campus coursework (often termed “residential” coursework) in order to orient students to the program and build relationships among students and professors.

Ironically, in the beginning, distance programs supported by electronic

technology, were often viewed as a threat to on-campus, traditional education. However, a **reverse trend** has evolved. Distance education methods and technology have modified and improved on-campus, traditional education. Thus, the “threat” of distance education has evolved into a beneficial asset. Very few professors would wish to return to teaching without technology. On the other hand, no one advocates for the abolition of on-campus education. Each type of education has its purpose. In past centuries, in Europe, children and teenagers attended residential schools since these boarding schools were the only educational option. These students attended classes, studied, and lived on campus. Viewed from another perspective, these residential schools were a type of “distance” education because the students did not live at home. The provision of community schools, which allowed children to live at home with their families, was considered to be progress. Perhaps, in the same way, distance programs which allow students to remain in their communities (rather than travel to university campuses) can be viewed as progress. Certainly academic programs which are not available at every university, such as rehabilitation counseling, lend themselves well to distance education.

Technology has not isolated individuals from each other or from the wider world. Rather, technology has opened the world to those who have access. For example, while the “gate counts” of most academic libraries (the number of people who actually enter) have decreased substantially, the use of libraries has increased exponentially. Fewer and fewer people “go” to the library, while at the same time, more people “use” the library. Almost all library resources (except for “special collections” of physical objects) are available to anyone anywhere, through electronic technology. Currently, most public, state-supported universities offer access to any student or faculty at another public institution of higher education, including medical and law libraries. For disciplines which are derived from more than one academic/professional model, such as rehabilitation counseling, the use of medical and law libraries (in addition to other academic libraries) expands and improves the education provided.

Distance education is simply a part of a greater movement in which there is more information for greater numbers of people. In a very broad and general sense, the greater the number of individuals with higher education, the more robust the national economy becomes. In a more narrow sense considering only rehabilitation, as the number of qualified rehabilitation professional increases, a higher quality of life, employment, and citizenship for Americans with disabilities will result.

RSA has funded distance education programs since 1994, allowing them to mature, expand, and improve. There are several different models of these programs and the outcomes have been very successful. The

objective and quantifiable measures of numbers of graduates who meet the CSPD standards and who pass the national certifying examination, the CRC, are high. Additionally, these two measures of success are external and independent measures because university programs do not make these types of assessments. It is the state agencies that determine CSPD standards, and it is the Commission on Rehabilitation Counselor Certification (CRCC) which administers the CRC examination.

Rehabilitation distance education has many advantages over traditional, on-campus, face-to-face rehabilitation master's education. For example, distance education can adapt more quickly and responsively to legislative and political changes than on-campus programs typically can. In educational jargon, this capability to respond quickly is termed "just-in-time training." In addition, distance programs usually can deal better with expanding numbers of students than on-campus programs. Central administration at universities are typically more flexible in responding to funding guidelines of federal agencies, such as RSA, in distance programs than they tend to be with on-campus programs. As mentioned, the focus of funding in RSA training grants has shifted from the university to the student and the state/federal agency. While this revised funding shift is viewed as positive by educators, university administrations are understandably disappointed to lose the federal funding once allocated to their institutions.

Distance education, especially rehabilitation distance education funded by RSA, has proven itself. Educationally and technically, there appears to be no limit to what is possible. Without question, access to degree-granting programs has increased, which in addition to benefiting the students, improves the university by providing a richer, more diverse, better qualified student body. Ten years ago, Smart (1999b) asserted that rather than viewing distance education as a poor substitute for "real" education (on-campus, face-to-face), distance education may be superior to on-campus education.

### ***Quality-Assurance in Distance Education***

Rehabilitation counseling distance programs have been scrutinized, evaluated, and held to high standards. While distance rehabilitation education has changed the ideas of who should receive a master's degree and the way in which students should be provided with graduate education, distance education has not diminished the quality of a master's degree in rehabilitation counseling. One of the original (and unfounded) criticisms of distance education in general was that distance education would result in the "dumbing down" of education and the proliferation of

"digital degree mills." (Johansson & Hansson, 2005, p. 309). It is difficult to determine the reasoning behind such criticisms simply because most distance education is delivered by accredited programs in public, not-for-profit universities. Perhaps the general perception of distance education is derived from non-accredited, private for profit colleges and universities that operate with little oversight or regulation. Nonetheless, rehabilitation distance education has never been associated with private, proprietary colleges.

Another possible reason for the misconception that distance education (in any discipline) is not equivalent in quality to on-campus education may be due to some of the extravagant claims for technology-assisted education made forty years ago. Such ideas that computers would completely eliminate the use of books or other paper-based materials or the idea that distance learners would be isolated, lonely and disconnected from the "real" world have proven false. The assumption that "in the beginning, the motor car had to be only as good as the horse," or, in this case, "in the beginning, distance education had to be only as good as on-campus education" may have **reduced** the vision of the quality and possibilities of distance education (Smart, 1999b).

One valid criticism of distance education, including distance education in rehabilitation counseling, is the lack of research investigating the ways in which technologies can be used to support education. The little research completed on distance education in general, and on rehabilitation distance education in particular, has been anecdotal and case-based. These findings cannot be generalized nor can they be scalable or compared to other studies; they are simply interesting, but not very useful. It is not too early in the development of distance education to expect meta-analyses or some other type of synthesis of results in order to draw out key findings and then to translate these findings into practical guidelines in order to improve programs. In addition, an analysis of the policy decisions for funding would certainly help to improve the quality of the education provided and, perhaps, increase the numbers of students and graduates. Thus, research on distance education could focus on three broad areas: 1) organizational factors, such as the relationship between funding agencies and universities; 2) pedagogical factors, such as comparisons of blended on-campus programs and programs which are solely distance; and 3) technical factors, such as clinical and tele-supervision.

### ***Facilitating CSPD through eLearning***

Succession planning and hiring of state agencies have been impacted by many forces, including retirements, geographic location of personnel,

availability of jobs, and increased educational standards. The outcome has resulted in varied hiring patterns. Most state agencies would ideally seek to hire trained and well-qualified personnel as positions become available. The reality is a variety of persons are hired ranging from the ideally qualified to the best available. As a result, some agency personnel require long-term training through universities/colleges to attain the necessary graduate degree or coursework to meet CSPD standards.

There are thousands of educational institutions throughout the United States offering many regional college or university opportunities for agency clientele. However, there are less than 100 graduate rehabilitation counseling programs (RCP) nationwide. This issue restricts the access that state agency personnel has to meet the demands for qualified rehabilitation counselors.

When state agency training directors identify personnel in need of a graduate education to meet CSPD standards, there are several options available to do so. The first option is a local college/university graduate rehabilitation counseling program. The second option is a blended RCP that includes face-to-face coursework with online coursework allowing for greater flexibility on the part of the learner to attend. A third option is another form of blended RCP that uses both synchronous (time-dependent) and asynchronous (not time-dependent) online coursework. The fourth option is a fully asynchronous online program that allows the greatest extent of flexibility.

Each option has advantages and disadvantages. An advantage of a program may be that it meets learner preferences. A disadvantage may be that it offers less flexibility. Face-to-face courses may fit the specific learning style of the participant, referred to as a traditional program. While a face-to-face format may be most appealing to learners it can present significant challenges as well. Learners may not have ready access to a face-to-face, on-campus program and travel to and from the site pose problems. Casework demands, traffic congestion, weather and family care present specific issues such as constraints on learner time, dangers in commute and emotional demands that are difficult to deal with and adequately resolve.

Blended programs reduce the number of constraints upon learner time but introduce technological issues into the equation. These issues may range from simple, as in dial-up technology, to sophisticated, as in poly-com systems that utilize Internet bandwidth for multiple sites. The type of system used by a program may allow the learner to be completely independent from other learners, or it may require that the learner travel to a remote site to participate in the academic program. Generally, dial-up, DSL, satellite and cable allow learners to be more independent. Interactive

closed circuit television and Poly-com systems require that learners travel to one of several common sites at prescribed times to participate in the program, thereby limiting the independence of the learner.

Fully online, asynchronous graduate programs may use more sophisticated forms of technology, and that may require training and/or technical support for users, both faculty and students. Many learners will need to train on the various technologies in preparation for use. Additionally, learners will need to be knowledgeable of support systems as well as technical support for the systems being used.

The blended options require that learners participate at specific times and days for selected courses, thereby limiting the level of flexibility. Most distance education options are online blended with both synchronous and asynchronous formats. The most flexible option is the fully asynchronous version, and the program offerings are limited to a few universities. State agency training directors and personnel should review the available program formats and determine, based on agency needs, the most appropriate format for the staff member, weighing the advantages and disadvantages.

Asynchronous formats or those with more asynchronous course offerings can facilitate participation for those persons who are at greater distances from more traditionally formatted programs. Most RCPs require at least one course or orientation on campus, and that impacts the cost of the program to the participant. The RCP format and course offerings generally enable participants to move through a program in two to three years. The rate of progress can also be impacted by the number of credits in a given program; however, most programs are completed within three years and many within two years.

### **Support from Agency and Supervisor**

Training directors will need to understand the priorities of agency administrators and communicate those to staff members that pursue a graduate degree in response to the agency CSPD demands. This information also needs to be communicated to the staff member's immediate supervisor. Agency support for the CSPD program and the concomitant demands on staff need to be articulated by the top administrators of the agency and be communicated to all levels of the organization. The discussion should consider the form of agency support regarding the work hours in which the employee can engage in learning activities. Also, the level of support the employee should expect with homework, written assignments, supervision for experiential courses, i.e. practicum, internship, etc. All expectations should be discussed in advance and as early as possible so that confusion is eliminated.

### **Expectations of University Program and Faculty**

Agency personnel will need to clearly understand the expectations of the university, graduate school, and program faculty to appreciate the level of demands that will occur as VR personnel progress through the online program. Common expectations include writing skills and knowledge and use of APA writing manual and the skills to communicate clearly and thoroughly. Further, graduate schools or colleges will monitor student progress but graduate students need to advocate for themselves and maintain a specified GPA. Graduate rehabilitation counseling programs and faculty will expect students to be motivated, engaged and dedicated to the program. Faculty will expect a professional level of participation that demonstrates respect for the course, assignments and faculty. Likewise, they expect students to have the skills necessary, particularly writing skills, to communicate clearly and concisely and to complete assignments on time. All parties will expect students to use the appropriate technologies, such as computers and software, to participate in coursework and complete assignments. These are fundamental skills that should be mastered before application to a graduate program. Fortunately, most applicants to graduate rehabilitation counseling programs possess the basic skills and knowledge required for entry into a graduate program.

### **Individual Adaptability**

At some point in the discussion the issue of adaptability to various demands should be covered. Many demands will apply pressure during participation in a graduate program. Agency employees will need to fulfill various roles as a student, agency employee and family member, spouse, sibling, parent etc. Each of these roles carries with it practical and emotional dimensions that need to be understood and eventually prioritized.

Regardless of priority, the employee/student will need to persevere during these times of “role pressure” with recognition of working towards the ultimate goal. Training directors may need to provide various supports as employees/students experience these pressures. Release time to meet assignment deadlines may be needed or emotional supports might be required to aid the employee/student during difficult times.

An engaged learner is more likely to be successful than the learner that feels forced to participate. State agency training directors will need to discuss “attitudes and commitment” with personnel as they begin the CSPD journey in a graduate program. Attitude and motivation go hand in hand to enable the staff member to persevere through the university application process for admission and eventual enrollment in the graduate rehabilitation counseling program. Fortunately, the majority of students in graduate rehabilitation counseling programs have the dedication and

commitment necessary to succeed in online programs.

## ***The Clinical Experience in Distance Education***

### ***RCE Programs***

The clinical experience is a critically important component of the Rehabilitation Counselor Education (RCE) program. The practicum and internship experiences provide RCE students the opportunity to apply the knowledge and skills learned in the classroom, and to practice these skills under the supervision, and with the support of program faculty and an on-site supervisor. In a recent special issue of *Rehabilitation Education*, Tschopp and Chronister (2008) discuss the Council on Rehabilitation Education (CORE) standards for the RCE clinical experience. These standards prescribe the total number of hours required, the type and amount of client contact and supervision, evaluation requirements, and nature and scope of instructional activities and responsibilities that must be included in the practicum/internship experience. These standards apply to both traditional on-campus programs as well as online programs.

### **Practicum/internship Site Development for VR Counselors (CSPD)**

Vocational rehabilitation counselors employed by public VR agencies are required to meet the qualified rehabilitation professional academic standards mandated by the Comprehensive System for Personnel Development (CSPD) provision of the Rehabilitation Act. For many VR counselors, in order to meet this academic standard, they must enroll in a Rehabilitation Counselor Education (RCE) graduate program. Regardless of their experience and competencies in their work, they must complete all the requirements of the RCE program including the clinical component comprised of the 100 hour practicum and 600 hour internship. In most cases, VR counselors incorporate the clinical experience into their current job with the VR agency.

The development of the practicum/internship site for the VR counselor enrolled in an online RCE program presents some significant advantages as well as some unique challenges. RCE students who are VR counselors employed by a public VR agency have an ideal placement for their clinical experience. The convenience and efficacy of incorporating the clinical experience into their current role is a great benefit for the student, the RCE program personnel and the VR agency. There are, however, several issues that may present unique challenges for clinical site development planning process.

### **VR Counselor Role v. VR Counselor Intern Role**

The first issue relates to the goals and objectives of the dual roles that the VR counselor assumes when enrolled in the RCE clinical experience. The goals and objectives of the role of VR counselor and the goals and objectives of the clinical practicum/internship, while not in direct conflict with one another, do have a different focus and may have somewhat different priorities. The focus of the clinical experience is learning. Its purpose is the *acquisition and practice* of the skills and competencies of effective rehabilitation counseling. The focus of the role of the VR counselor is service delivery. The purpose of the VR counselor role is to facilitate the VR consumer's progress through the rehabilitation process, and the attainment of successful employment outcomes.

In the traditional RCE practicum/internship experiences, the student intern has a small caseload and can focus their attention on learning and skill development. The on-site supervisor can also focus on providing direction, feedback and evaluation in support of attaining the professional competencies prescribed by the CORE standards and set forth in the practicum/internship plan. The RCE student intern employed as a VR counselor is usually responsible for working with their full caseload, with specific productivity and service delivery goals and objectives. The VR counselor enrolled in an RCE program is responsible and accountable to perform the full array of duties and responsibilities, and to meet productivity standards established by their agency or local office management. The demands and priorities of the job, the caseload and the local VR office may take precedence over the learning priorities of the RCE program and clinical experience. It is important for these issues to be discussed and addressed as part of the planning process to minimize any difficulties that may arise from these differing perspectives and priorities.

### **VR Casework Supervisor as RCE Clinical Internship Supervisor**

Another challenge related to incorporating the clinical experience into the VR counselor job relates to supervision. CORE standards require regularly scheduled supervision which include both individual and group supervision, student performance assessment, observation and evaluation, collaboration with RCE program faculty supervisor, etc. by a qualified on-site supervisor. The student's assigned VR casework supervisor may not have the interest, time, accessibility, or the skill set to take on the added duties and responsibilities of the on-site clinical supervisor for the practicum or internship experience. In these cases, the VR counselor/student may be required to identify another qualified rehabilitation professional who would take on this role as on-site supervisor. Whether the on-site supervisor is the regular casework supervisor or an alternate

person who assumes this role, it is imperative to have clear expectations and responsibilities regarding the nature and scope of the on-site RCE clinical supervision by all parties involved. These issues are relevant regardless of the RCE program format, in-person or online. However, there are some unique issues that have direct relevance to the clinical experience in an online RCE program.

### **Unique Online RCE Practicum/Internship Issues**

The initial development of the practicum/internship sites present several unique challenges for an online RCE program. Traditionally, in an on-campus RCE program, the clinical coordinator attempts to develop practicum and internship sites that meet the professional interests and needs of each student. They often have the opportunity to visit the site, meet and speak with program personnel, including the prospective on-site supervisor, and provide an orientation to the CORE standards for the clinical component of the RCE program, and any unique needs or issues related to specific students. RCE program directors, clinical coordinators and faculty members often have extensive knowledge and experience working with rehabilitation VR agencies in their local area. They may be quite familiar with local VR offices in the cities and towns near the campus where on-campus program students typically do their practicum and internship placements. They may also be quite familiar with the unique resource and service issues that impact the delivery of services to individuals with disabilities in the communities they serve. They may have established practicum and internship sites that have been developed over many years and that have a track record for being effective and valued practicum/internship sites. These "familiarity" factors certainly can and do facilitate the placement of students in practicum and internship sites that optimize the professional growth and development of RCE graduate students.

Practicum/internship site development in an online RCE program, with VR counselor/students employed by VR agencies across the United States, would not have the same foundation of established sites and relationships as the on-campus program. In spite of the standardized role of the public VR counselor and the VR service delivery system, the VR counselors who reside in diverse geographical locations throughout the nation may have varied work experiences, resources, community services systems, and varied work environments, client populations, etc. For example, a VR counselor employed by the VR agency in Oklahoma may have a caseload of Native American consumers. Their experiences would be quite different from a VR counselor in Boston, Massachusetts, specializing in VR consumers with psychiatric disabilities. As such, the practicum/internship

experiences must be customized to meet the demands and unique issues of that environment and consumer population. The development of a meaningful practicum/internship experience that meets the CORE standards requires a collaborative effort of all parties. This is particularly true in an online RCE program in which the clinical coordinator and the faculty internship supervisor would not be familiar with the consumer demographics, local service delivery and community resources issues. This has important implications for the role of the VR counselor/student, the on-site supervisor and other local VR personnel who may play some role in the student's clinical experience. They must take a more active role and responsibility in orienting and educating the faculty supervisor and other RCE personnel as to the unique aspects and issues of the local VR service delivery system.

**CORE Section D.1.1 states:**

*If practicum experiences are provided off-campus, there will be direct and periodic communication throughout the semester between the site supervisor and the faculty (e.g., site visits, conference calls, videoconferencing, electronic communication).*

The need to provide direct and periodic communication throughout the semester between the on-site supervisor and the faculty supervisor creates additional challenges for an online program. In-person site visits which take place in a traditional on-campus program are not feasible in an online program. *Virtual site visits* can be a very effective alternative to meet this standard. Depending on the availability of technological resources, these virtual visits could be conducted via videoconferencing or teleconferencing. They generally include the student, on-site supervisors and faculty supervisor. Other forms of electronic communication, including e-mail, chat, discussion board, and telephone communication can also support the ongoing communication among faculty and on-site supervisors. It is critical that there are clear expectations and responsibilities among the students, faculty and on-site supervisors for using these technologies. It is also imperative that technological resources and support are available and accessible to all parties, including the training to effectively use these technologies. These issues should be addressed as part of the practicum/internship site development process.

**Clinical Supervision in an online RCE program**

The role that the RCE faculty supervisor plays in ongoing direct clinical supervision of the student will be determined by the qualifications and credentials of the on-site supervisor, and other factors that would be

outlined in the mutually developed practicum/internship agreement. When the on-site supervisor is not a certified rehabilitation counselor (CRC), the RCE faculty supervisor (who must be a CRC) must take a primary supervisory role in the individual and/or group supervision of the student.

**Section D.1.5 and D.3.1 provides specific guidance in this area:**

*When using distance education modalities, practicum (internship) supervision may be provided using a variety of methods such as video conferencing, teleconferencing, real time video contact, or others as appropriate.*

Clinical supervision of RCE practicum and internship students requires ongoing feedback and evaluation of their work with VR clients. In an online RCE program, real time observation and feedback of counseling sessions on the part of the on-site supervisor and/or the faculty supervisor may be difficult from a logistical and technological perspective. The use of audio or videotapes, self report, and reflective journaling may be more commonly used in online programs, particularly in those that use primarily or totally asynchronous formats. Videotaping of counseling sessions can be done and posted on the RCE program Web site for supervisors to access and provide feedback, or recorded on tape or disk and sent to supervisors for observation and feedback. The time delay between the taping and the supervisory observation and feedback to the student should be minimized as much as possible to maximize its relevance and value to the student. Specific standards for these time frames should be established and agreed upon by all parties. Immediacy of feedback during weekly individual supervision by the on-site or faculty supervisor is also important. In many RCE programs, real-time audio or video conferencing is available and can be supplemented with telephone communication, chat, e-mail and discussion board features of the instructional software programs.

Clinical supervision via e-mail communication has been found to be effective with master's level rehabilitation counseling practicum students. Stebnicki and Glover (2001) found that students benefited in the following ways: (a) increased self support due to their access to supervisors, (b) more relaxed and informal communications with supervisors, (c) increased comfort in disclosing personal feelings and experiences of the practicum experience itself, and (d) more commitment to processing and clarifying thoughts between the supervisees and the supervisors.

In a related study, Garf and Stebnicki (2002) suggest that e-mail supervision can be an effective component of the RCE clinical experience. They summarize their findings in the following paragraph:

*It is therefore our belief that E-mail supervision can serve to enhance counselor training and should be used not only as a way to gather further data regarding counselor growth and development but seriously considered as a matter of course. E-mails can serve as developmental records for students and can provide written references to supervisee and supervisor that may be referenced in order to assist with training and education. While it is probably too soon to suggest that E-mail supervision can replace face-to-face supervision entirely (because of the loss of visual cues such as facial expression and body language and the loss of audio cues such as tone of voice), with the addition of video monitoring equipment, quality distance supervision is well within reach.*

The development and implementation of an effective practicum/internship for the RCE student doing clinical experience as part of their current VR counselor job requires extensive planning and collaboration on the part of all parties involved. This collaboration starts with the support of the VR agency administration and includes the local VR office management, as well as the RCE program director, clinical coordinator and faculty. In recent years, there has been an increased emphasis and priority, especially for RCE programs who receive RSA training grant awards, for the establishment of partnerships between the RCE program and the VR agency. These partnerships reflect the mutual benefit of both organizations working together to meet the CSPD academic standard and the demand for qualified rehabilitation professionals.

#### **Suggested Guidelines for Developing a Rehabilitation Counseling Education Practicum/Internship Plan in a Public VR Agency**

1. The requirements and expectations related to the practicum/internship component of the RCE program should be discussed with the VR counselor/student prior to enrollment in the RCE program.
2. The VR training director/coordinator should be consulted regarding the VR Counselor/student enrollment in the RCE program, including the practicum/internship requirements, and the CORE standards.
3. The practicum/internship plan should be a collaborative effort among the student, VR personnel and the RCE program representative, and clearly define the expectations and responsibilities of all parties, and the CORE standards that must be met.
4. There should be a formal signed practicum/internship agreement in place detailing expectations and responsibilities of all parties.
5. Initiate the practicum/internship site development plan early, at least 1 semester prior to start of the practicum/internship to ensure that the placement is set prior to the start of the semester.

## **Self-Study Questions**

1. T or F: One of the reasons that the field of Vocational Rehabilitation counseling is well-suited to eLearning is that it is a national program with national standards.
2. T or F: At universities, more coursework is becoming “blended education,” a combination of both distance and on-campus delivery, mediated by technological support.
3. T or F: Distance education has diminished the quality of a master’s degree in rehabilitation counseling.
4. T or F: To maximize the success of eLearning programs that help VR personnel meet the CSPD demands, the agency should clearly define and communicate the kind of support they will provide, including work hours that can be used for learning activities and supervision for practicum and internships.
5. T or F: Clinical supervision of rehabilitation counseling practicum and internship students cannot be done using distance technology.

## **Chapter Seven: Implications and Policy Recommendations**

As you have read in this publication, the eLearning (electronic learning) age offers a vast array of opportunities to vocational rehabilitation agencies. This IRI began with the goal of exploring and identifying ways of using technology to provide training to staff in the most cost effective and efficient way. The IRI also challenged vocational rehabilitation agencies to explore and embrace technologies that will improve direct services to consumers. To accomplish these goals, it is imperative that agencies have a strong understanding of emerging technologies, their possible use for pre-service and in-service training, and how consumers can benefit from their use. For this to happen, it is imperative that agencies have a working knowledge of the technologies and put policies and procedures in place that will support and at the same time ensure the proper use of these technologies.

The preceding document has many implications and policy recommendations for the public VR program and its consumers. The following are offered for consideration by VR administrators, counselors, consumers and their community partners as we all seek to utilize technology and eLearning to create a responsive, flexible and innovative service delivery system.

### ***Implications and Policy Recommendations for the Public VR Program***

#### ***The Agency***

- It is imperative that Administrators be introduced to emerging technologies and how these technologies can be used to improve awareness of the program, provide training for staff and consumers, as well as facilitate services to consumers.

- Administrators must create a vision for the agency and develop policies to facilitate the use of technology in order to ensure that staff and consumers have the technological skills to compete in today's job market.
- Administrators and trainers in the public VR program should utilize distance education technology for education and training of staff.
- HRD staff should be trained in the design of eLearning training modules and appropriate use of existing and emerging technologies.
- Administrators in the public VR program should partner with universities to develop state of the art distance education programs that increase the pool of qualified diverse staff for service in the public program.
- The public VR program should utilize Web sites and social networks to market services to consumers and share information with the general public about the role and mission of VR. Limited resources, including minimal dollars for marketing, make utilization of electronic communication an inexpensive way to spread the word about the public program.
- Public VR program administrators and staff must understand how essential the need is for consumers to have computers and broadband access so that consumers can avail themselves of the most modern modes of communication, access distance education, and increase their independence. When appropriate, the public program must make the acquisition of computers and broadband access a priority for consumers, especially those in training.
- Administrators need to ensure that agencies have adequate resources to provide state of the art technology services to consumer and staff.
- The public program should seek out and develop partnerships with industry and other public and non-profit agencies to help offset the cost of hardware, software and Internet access for consumers of the public VR program.
- Administrators and supervisors in the public VR program should include an assessment of all staff's Information Technology (IT) literacy as part of the individual development process. Training programs should be implemented to ensure that all staff of the public program can adequately function in our electronic age.
- Administrators and trainers in the public VR program must be sure that all distance education programs are accessible to all staff.

- Administrators, supervisors and counselors need to understand the learning styles of various generations of staff and consumers and tailor training and services to meet the diverse learning styles.
- The public program should embrace e-counseling and the process of making the rehabilitation forms and process available online whenever possible.

### **Staff**

- Counselors in the public program must be aware of the assistive technology needs of their consumers and ensure that consumers have appropriate accessibility. In addition, counselors need to be aware of the system capacity required to run software programs that increase access in order to prevent frustrating incompatibility problems.
- Counselors in the public program need to ensure that consumers receive adequate training and have access to technology needed to develop competitive skills in the use of technology that the job market demands.
- Counselors in the public VR program must embrace distance education as a viable form of training to help consumers achieve the vocational goals identified in the IPE and equip consumers to access such education.
- Counselors in the public VR program must be familiar with the different forms of electronic communication and social networking that younger consumers of the VR program have grown up using and embrace those modes of communication as acceptable alternatives to traditional face-to-face interview, phone, or letter.
- Counselors in the public VR program should utilize the vast information resources available in our electronic age to assist in every phase of the rehabilitation process. Consumer empowerment and informed choice is enforced and maximized in this process.
- Counselors in the public VR program must include an assessment of a consumer's IT literacy an essential part of the comprehensive assessment.
- All staff in the public VR program should commit to lifelong learning and continuous personal and professional development through eLearning.

## Consumers

- Consumers of the public VR program need to utilize available technology to participate in training programs and to function as independently as possible.
- Consumers of the public VR program need to utilize available technology to communicate regularly with their counselors and keep them abreast of needs and progress.
- Consumers of the public VR program need to utilize available technology to be an active partner in the rehabilitation process and to investigate and acquire information to aid in the plan development and training process.
- Consumers of the public VR program should utilize available technology to perform a comprehensive job search, post resumes, and investigate job leads.
- Consumers of the public VR program should exercise self-direction and self-advocacy in the pursuit and completion of distance education courses and training. They should demonstrate commitment to achieving their goals and utilize technology to obtain assistance in pursuit of those goals.

As stated previously, these implications and recommendations are offered for consideration in implementing eLearning technology into VR agencies nationwide. The electronic environment is ever-changing, and organizations must adapt and embrace those changes in order to thrive in the future. The public vocational rehabilitation program is no exception to this rule, and the authors are hopeful that this document will aid in the development of a responsive, flexible and efficient service delivery system that improves staff development and meets consumer needs.

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## Appendix A

### Glossary

#### Geotagging

Geotagging is the process of adding positional information to digital content. *Geotags* consist of geographic information, such as latitude, longitude, or other position-related coordinates attached to digital content for the purpose of provide location information.

#### Hardware

Hardware refers to the physical and mechanical components that make up a computer system, including equipment such as the monitor, keyboard, printers, speaker, mouse, and a central processing unit.

#### Hyperlink

A hyperlink is a connection linking one web page to another online location. A hyperlink can connect many different types of digital objects, such as Web pages, images or videos, or e-mails.

#### Instant Messaging (IM)

A form of text communication occurring in real time. To *IM* someone is to send them an instant messaging. *IM-ing* is the act of participating in an instant messaging conversation. Individuals many send instant messages through computers or wireless devices, such as a cell phone.

#### Internet

The Internet is a local-to-global system of interconnected private, public, academic, business, and government computer networks linked by a variety of wired, cable, wireless, and other connection technologies that transmits data using a standard protocol format.

#### Podcast

A podcast is a series of digital media files, usually audio or video embeddable or linkable through any computer or device able to receive media files, including cell phones, personal data assistants, social networking sites, blogs, and wikis. The content creator/developer is a *podcaster*. Podcasts are available for download through a *podcatcher*, an application that automatically downloads podcasts when Web sites post them.

### Social Networking

A social network is group of people who are interpersonally connected to one another through associations or affiliations such friendship, interests, or beliefs. *Social networking* uses Web sites to facilitate online interactive activities such as chatting, texting, and video and file sharing.

### Software

Software refers to a variety of programs run on a computer, such as operating systems, word processors, video games, Web site programs, and computer files, to name a few. The term is sometimes used more broadly to describe anything that is not hardware.

### Web log

A Web log, or more simply a *blog*, is an asynchronous online micro-published Web sites or personal knowledge publishing Web sites. The person who authors a blog or comments on a blog is a *blogger*. *Bloggng* is the act of authoring or commenting to a blog, and the context or “world” of blogging is the *blogosphere*. *Microblogging* combines the format of blogging with the immediacy of instant messaging and allows short message posts, usually of 140 characters or less.

### World Wide Web (WWW)

The World Wide Web, also simply called the Web is a system of Internet servers that supports documents formatted in Hypertext Markup Language, or HTML and supports links to other documents, graphics, audio, and video files. The Web allows a user to interact with the Internet through icons and hypertext links.

### Wiki

A wiki is a collection of interlinked Web pages and documents using server software to allow users to create, share, and edit content in a collaborative workgroup format. Wikis function as information databases, where users can work collaboratively, author new content, edit content through a Web browser, and link to internal and external resources and data, while tracking changes.

## Appendix B.

### *Commission on Rehabilitation Counselor Certification Code of Professional Ethics for Rehabilitation Counselors*

#### SECTION J: TECHNOLOGY AND DISTANCE COUNSELING

##### J.1. BEHAVIOR AND IDENTIFICATION

- a) APPLICATION AND COMPETENCE. Rehabilitation counselors are held to the same level of expected behavior and competence as defined by the Code regardless of the technology used (e.g., cellular phones, e-mail, facsimile, video, audio, audio-visual) or its application (e.g., assessment, research, data storage).
- b) PROBLEMATIC USE OF THE INTERNET. Rehabilitation counselors are aware of behavioral differences with the use of the Internet, and/or methods of electronic communication, and how these may impact the counseling process.
- c) POTENTIAL MISUNDERSTANDINGS. Rehabilitation counselors educate clients on how to prevent and address potential misunderstandings arising from the lack of visual cues and voice intonations when communicating electronically.

##### J.2. ACCESSIBILITY

- a) DETERMINING CLIENT CAPABILITIES. When providing technology-assisted services, rehabilitation counselors determine that clients are functionally and linguistically capable of using the application and that the technology is appropriate for the needs of clients. Rehabilitation counselors verify that clients understand the purpose and operation of technology applications and follow-up with clients to correct possible misconceptions, discover appropriate use, and assess subsequent steps.
- b) ACCESSING TECHNOLOGY. Based on functional, linguistic, or cultural needs of clients, rehabilitation counselors guide clients in obtaining reasonable access to pertinent applications when providing technology-assisted services.

**J.3. CONFIDENTIALITY, INFORMED CONSENT, AND SECURITY**

- a) **CONFIDENTIALITY AND INFORMED CONSENT.** Rehabilitation counselors ensure that clients are provided sufficient information to adequately address and explain the limits of: (1) technology used in the counseling process in general; (2) ensuring and maintaining complete confidentiality of client information transmitted through electronic means; (3) a colleague, supervisor, and an employee, such as an Information Technology (IT) administrator or paraprofessional staff, who might have authorized or unauthorized access to electronic transmissions; (4) an authorized or unauthorized user including a family member and fellow employee who has access to any technology the client may use in the counseling process; (5) pertinent legal rights and limitations governing the practice of a profession over jurisdictional boundaries; (6) record maintenance and retention policies; (7) technology failure, unavailability, or crisis contact procedures; and, (8) protecting client information during the counseling process and at the termination of services.
- b) **TRANSMITTING CONFIDENTIAL INFORMATION.** Rehabilitation counselors take precautions to ensure the confidentiality of information transmitted through the use of computers, email, facsimile machines, telephones, voicemail, answering machines, and other technology.
- c) **SECURITY.** Rehabilitation counselors: (1) use encrypted and/or password-protected Internet sites and/or email communications to help ensure confidentiality when possible and take other reasonable precautions to ensure the confidentiality of information transmitted through the use of computers, email, facsimiles, telephones, voicemail, answering machines, or other technology; (2) notify clients of the inability to use encryption or password protection, the hazards of not using these security measures; and, (3) limit transmissions to general communications that are not specific to clients, and/or use non-descript identifiers.
- d) **IMPOSTERS.** In situations where it is difficult to verify the identity of rehabilitation counselors, clients, their guardians, and/or team members, rehabilitation counselors: (1) address imposter concerns, such as using code words, numbers, graphics, or other non-descript identifiers; and (2) establish methods for verifying identities.

**J.4. TECHNOLOGY-ASSISTED ASSESSMENT**

Rehabilitation counselors using technology-assisted test interpretations abide by the ethical standards for the use of such assessments regardless of administration, scoring, interpretation, or reporting method and ensure that persons under their supervision are aware of these standards.

**J.5. CONSULTATION GROUPS**

When participating in electronic professional consultation or consultation groups (e.g., social networks, listservs, blogs, online courses, supervision, interdisciplinary teams), rehabilitation counselors: (1) establish and/or adhere to the group's norms promoting behavior that is consistent with ethical standards, and (2) limit disclosure of confidential information.

**J.6. RECORDS, DATA STORAGE, AND DISPOSAL**

- a) **RECORDS MANAGEMENT.** Rehabilitation counselors are aware that electronic messages are considered to be part of the records of clients. Since electronic records are preserved, rehabilitation counselors inform clients of the retention method and period, of who has access to the records, and how the records are destroyed.
- b) **PERMISSION TO RECORD.** Rehabilitation counselors obtain permission from clients prior to recording sessions through electronic or other means.
- c) **PERMISSION TO OBSERVE.** Rehabilitation counselors obtain permission from clients prior to observing counseling sessions, reviewing session transcripts, and/or listening to or viewing recordings of sessions with supervisors, faculty, peers, or others within the training environment.

**J.7. LEGAL**

- a) **ETHICAL/LEGAL REVIEW.** Rehabilitation counselors review pertinent legal and ethical codes for possible violations emanating from the practice of distance counseling and/or supervision.
- b) **LAWS AND STATUTES.** Rehabilitation counselors ensure that the use of technology does not violate the laws of any local, regional, national, or international entity, observe all relevant statutes, and seek business, legal, and technical assistance when using technology in such a manner.

**J.8. ADVERTISING**

- a) **ONLINE PRESENCE.** Rehabilitation counselors maintaining sites on the Internet do so based on the advertising, accessibility, and cultural provisions of the Code. The Internet site is regularly maintained and includes avenues for communication with rehabilitation counselors.
- b) **VERACITY OF ELECTRONIC INFORMATION.** Rehabilitation counselors assist clients in determining the validity and reliability of information found on the Internet and/or other technology applications.

**J.9. RESEARCH AND PUBLICATION**

- a) **INFORMED CONSENT.** Rehabilitation counselors are aware of the limits of technology-based research with regards to privacy, confidentiality, participant identities, venues used, accuracy, and/or dissemination. They inform participants of those limitations whenever possible, and make provisions to safeguard the collection, dissemination, and storage of data collected.
- b) **INTELLECTUAL PROPERTY.** When rehabilitation counselors possess intellectual property of people or entities (e.g., audio, visual, or written historical or electronic media), they take reasonable precautions to protect the technological dissemination of that information through disclosure, informed consent, password protection, encryption, copyright, or other security/intellectual property protection means.

**J.10. REHABILITATION COUNSELOR UNAVAILABILITY**

- a) **TECHNOLOGICAL FAILURE.** Rehabilitation counselors explain to clients the possibility of technology failure and provide an alternative means of communication.
- b) **UNAVAILABILITY.** Rehabilitation counselors provide clients with instructions for contacting them when they are unavailable through technological means.
- c) **CRISIS CONTACT.** Rehabilitation counselors provide referral information for at least one agency or rehabilitation counselor-on-call for purposes of crisis intervention for clients within their geographical region.

**J.11. DISTANCE COUNSELING CREDENTIAL DISCLOSURE**

Rehabilitation counselors practicing through Internet sites provide information to clients regarding applicable certification boards and/or

licensure bodies to facilitate client rights and protection and to address ethical concerns.

**J.12. DISTANCE COUNSELING RELATIONSHIPS**

- a) **BENEFITS AND LIMITATIONS.** Rehabilitation counselors inform clients of the benefits and limitations of using technology applications in the counseling process and in business procedures. Such technologies include, but are not limited to, computer hardware and/or software, telephones, the Internet and other audio and/or video communication, assessment, research, or data storage devices or media.
- b) **INAPPROPRIATE APPLICATIONS.** When technology-assisted distance counseling services are deemed inappropriate by rehabilitation counselors or clients, rehabilitation counselors pursue services face-to-face or by other means.
- c) **BOUNDARIES.** Rehabilitation counselors discuss and establish boundaries with clients, family members, service providers, and/or team members regarding the appropriate use and/or application of technology and the limits of its use within the counseling relationship.

**J.13. DISTANCE COUNSELING SECURITY AND BUSINESS PRACTICES**

- a) **SELF-DESCRIPTION.** Rehabilitation counselors practicing through Internet sites provide information about themselves (e.g., ethnicity, gender) as would be available if the counseling were to take place face-to-face.
- b) **INTERNET SITES.** Rehabilitation counselors practicing through Internet sites: (1) obtain the written consent of legal guardians or other authorized legal representatives prior to rendering services in the event clients are minor children, adults who are legally incompetent, or adults incapable of giving informed consent; and (2) strive to provide translation and interpretation capabilities for clients who have a different primary language while also addressing the imperfect nature of such translations or interpretations.
- c) **BUSINESS PRACTICES.** As part of the process of establishing informed consent, rehabilitation counselors: (1) discuss time zone differences, local customs, and cultural or language differences that might impact service delivery; and (2) educate clients when technology-assisted distance counseling services are not covered by insurance.

#### J.14. DISTANCE GROUP COUNSELING

When participating in distance group counseling, rehabilitation counselors: (1) establish and/or adhere to the group's norms promoting behavior that is consistent with ethical standards; and (2) limit disclosure of confidential information.

#### J.15. TEACHING, SUPERVISION, AND TRAINING AT A DISTANCE

Rehabilitation counselors, educators, supervisors, or trainers working with trainees or supervisees at a distance, disclose to trainees or supervisees the limits of technology in conducting distance teaching, supervision, and training.

## Appendix C

### Critical Thinking Teaching Strategies in Distance Learning

District administrators and rehabilitation counselor educators who want to develop online training may want to consider some of the following strategies that will help counselors develop critical thinking skills. There are numerous instructional strategies that will foster critical thinking skills in rehabilitation counselors. Following are descriptions of selected strategies that are especially applicable to distance learning: (Jones, 1994)

#### *Critical Analysis*

Critical analysis involves an individual learner (or small groups of learners) in critiquing material (for example, items from the popular press) related to a specific topic or issue. For example, when investigating possible issues facing rehabilitation counseling, students are asked to read and critique articles from current newspapers and news magazines regarding current societal events and issues. Questions such as the following might be considered: "What are the most pressing needs in your caseload?" "Which of these are important to immediate caseload management?" "Which of these needs and issues are currently being addressed? By whom?" "How can the counselors in this office help address these organizational needs?"

#### *Dramatization*

Another type or strategy, dramatization, relies upon dialogue and action to assist rehabilitation counselors and students in interpreting and analyzing situations. It differs from role-playing in requiring a longer period of time and a holistic, well-developed plot. The facilitator may show a portion of a video, television show, or movie that deals with the topic being addressed. After viewing enough of the segment to develop a basic understanding of the situation, small groups of counselors write the remainder of the script and then act out the alternative ending.

#### *Action Maze*

An action maze provides an excellent instructional format for fostering decision-making skills in individuals. Students or counselors are divided into groups consisting of two or three members. Each group is given a specific situation (or determines its own situation) as part of a larger issue to be explored. Each group member develops at least two responses to the situation and must identify the consequences of each alternative.

#### *Critical Incident*

The critical incident instructional strategy involves presenting the

most dramatic or important part of a critical situation or issue to a group of counselors or students during a distance learning session and having them resolve the situation or issue. The local site facilitator has complete information about the situation, but shares it only in response to direct questions from the learners. After participants share their solutions, the facilitator points out pertinent points that the counselors or students may have overlooked. The critical strategy emphasizes the importance of gathering complete information before making decisions.

### ***Critical Visualization***

Using this strategy, counselors or students are asked to think ahead to a situation in which they might find themselves. With learners' eyes closed and bodies relaxed, the facilitator helps create a mental image of the situation, setting the stage by asking questions that create a visual picture of the situation and the accompanying emotions. Critical visualization may be employed by asking participants to imagine themselves as the administrator of a rehabilitation organization, agency, or program. Participants are asked to visualize the answer to questions such as: "Who influences the decisions you make?" "How do you better motivate colleagues in your office?" "Are you a leader, administrator, or manager?" "How do you help individuals resolve conflicts among themselves?"

### ***Journal Writing***

In this strategy, counselors or students are asked to keep a journal or diary between distance learning sessions to encourage them to reflect on personal actions and behaviors that relate to the program topic. For example, as part of teaching interpersonal skills, a facilitator could ask participants to keep a journal in which they record conflict they have observed or experienced, how the conflict was addressed, and their personal feelings regarding the outcome.

### **Critical Thinking and Ethics**

One important area where critical thinking will influence a counselor's decisions and actions is the importance of understanding the ethics of the rehabilitation counseling profession and the manner in which the counselor makes just decisions based on these ethics. Critical thinking is a complex endeavor when it comes to making decisions about ethical dilemmas. It requires a flexible thinking style, a careful analysis, creativity, practical thinking skills, and the ability to acquire new information and integrate it with previously learned concepts. (Fisher, 2007)

### **Summary**

Critical thinking skills are important to the practicing rehabilitation counselor as they evaluate clients, manage caseloads, and make ethical decisions with clients about job placement resulting in successful closures. Critical thinking skills maybe developed through distance learning in higher education and agency training. Rehabilitation counselor educators and rehabilitation administrators should incorporate training opportunities for the acquisition of critical thinking skills in their objectives and curriculum.

