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Technological Innovations for the Human Service Profession

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Abstract

Many professions are incorporating innovative and affordable technologies such as smart phones, wireless Internet, gaming systems in which the only controller is the human body, and countless software programs and applications to improve efficiency, increase access, and promote themselves. The human service profession is also making strides to utilize new and existing technological mediums in original and creative ways. The article presents ideas for the use of innovative technological approaches in the training of human services students, the dissemination of services to consumers, supervision of human service students and professions, and the everyday operations of human service agencies. The limitations of using technological mediums will also be discussed.

Technological Innovations for the Human Service Profession

In the United States, roughly 80% of households have at least one Internet user who accesses the web either at home or elsewhere, and about 68% of households have Internet access (U.S. Department of Commerce, 2010). Technology permeates nearly every part of our lives, both personal and professional, to the point that Screen Free initiatives have been started to encourage families to have a day without the use of computers, TVs, phones, digital e-readers, gaming consoles, handheld games, digital music devices, among others. For some people, this may seem like a day without coffee or food. The use of technology in the human service profession has been gaining momentum from use of computers and simulations in education and training, to applications at the agency level, for interventions with clients, and in supervision of professionals. Agencies believe that innovative uses of new technologies can have an impact on their clients, operations, and how they are perceived by the community (Jaskyte, 2012). Human service professionals use technology for administration such as scheduling appointments, creating promotional and

educational materials, communicating information through social networking, maintaining client records, and also clinically, to provide supportive and therapeutic services for the underserved and sometimes isolated members of our communities. Additionally, human service professionals in the field have many opportunities to be creative with available inexpensive devices and applications to facilitate their therapeutic interactions with clients. The focus of this article is to inform readers of additional ways that human service professionals can implement and infuse technology through techniques and practices beginning with education, work with consumers, and a more broad use of technology on an agency-wide level.

With the plethora of new and affordable electronic devices, it is important to consider the culture of the human service profession as a whole and its willingness to accept all of the technological developments and advancements. Caution should be to fully examine not only the rate at which human service professionals adopt technological advances but to also critically evaluate the personnel and economic resources available for implementation, and the effect these innovations can have on the individuals served.

Technology Considerations for Human Service Education

Many practical and innovative technologies have been developed over the course of time, moving continuing education from the campus classroom to the home. In the mid nineteenth century, through the postal services, correspondence courses were conducted to teach shorthand techniques to secretaries (Casey, 2008). In the 1920's, the first radio broadcast of educational content was conducted, which expanded to television in 1934 (Casey, 2008). Then, in 1926, the first accreditation body was established to initiate standards for distance education (Distance Education and Training Council, 2012).

According to a report by the US Department of Education (2010), for every three public school students there was one instructional computer with Internet access, and 100% of public schools had one or more instructional computers with Internet access. In this technology driven society, it is safe to assume that college and graduate students and

professionals today expect advanced forms of technology to be a part of their education and foresee the use of technology in their careers. For current students in all higher education programs, excluding correspondence courses delivered through the postal service, 20% of all undergraduates and 22% of graduate students took at least one distance learning courses using Internet assisted technologies in the 2007-2008 academic year, and these numbers have increased from previous years (US Department of Education, 2011).

Today, human services courses are offered through broadcasting, the Internet, video conferencing, as well as other digital and virtual classroom experiences within traditional classroom formats. It is not unusual that technological innovations evolved prior to policy and laws being established. It was not until 2011 that the Council on Standards in Human Services Education (CSHSE), an accreditation body for human service education programs, established policies regarding the accreditation of fully online human service programs (CSHSE, 2011). Online and distance learning human services programs are held to the same standards as traditional face to face programs, and the new policies are only in regards to the logistics of the accreditation process for online programs (i.e. including experts in online or distance education accreditation teams).

Beyond the use of technology for distance education, the pedagogical expansion of innovative technologies is assisting students in developing basic helping and attending skills. This significant contribution to the education of human service students is a project called Computer Agents Teaching Helping Interactions Effectively (CATHIE). CATHIE is a computer simulation program designed to assist distance learning students refine basic skills (Adcock, Duggan & Belfore, 2006). This interactive learning module affords students an opportunity to respond to an avatar's nonverbal facial expressions and verbal prompts by allowing them to choose from an array of possible reply scripts. The students view CATHIE, the avatar, as if the student is video conferencing with a consumer. CATHIE will make comments and demonstrate facial expressions to which the student will respond by choosing from a list of possible helping replies. The choices in helping responses may include an

empathetic response, feeling reflection, or a question. The program then generates feedback about the choices which aids in the students development of basic attending skills and empathy. The outcomes from the CATHIE project have been positive. Over the course of one study with CATHIE, 80 student participants showed improvement in their ability to respond empathetically and reported that this learning method was effective (Adcock et al., 2006). Ninety student participants in another study (Belfore, Adcock & Duggan, 2006) and 130 student participants in a third (Adcock et al., 2006) showed consistent improvement in communication and helping skills All three studies assisted the CATHIE creators in modifying and enhancing the simulation and identifying areas for continued improvement such as further exploration into response option discrimination (Adcock et al., 2006; Adcock, Duggan, Nelson, & Nickels, 2007; Belfore et al. 2007; Duggan & Adcock, 2007). Currently, these innovators are extending the use of CATHIE by observing participants' gaze through eye movement monitoring as a further demonstration of attending skills (personal communication, Adcock, 2012).

While technology increased access for students who may have not been able to attend human service programs in the past and assisted students in developing basic attending skills and empathy the use of technology in for educating human service professionals does have its drawbacks. The top of the list of the limitations is the lack of face-to-face contact with instructors.

Adding computers to the methods of providing distance education allowed for the continuous exchange of information, through email and bulletin board messages, between instructors and students, which enhanced the interpersonal communication (Casey, 2008). However, using distance technology such as video conferencing, virtual classrooms, chat, satellite, broadcasting, and other Internet based formats for educating human service professionals has its limitations. Researchers have reported that the interpersonal dynamics are different between instructors and students in distance education courses as opposed to traditional face-to-face courses because of the impersonal nature of computer communication, decreased typing speed, awareness of being recorded,

fewer chances to ask questions and technological delays making the flow of communication artificial (Wilczinski & Coomey, 2006). These reports may be evidenced in the findings that dropout rates are higher for fully online courses (i.e. content is delivered through only written communication; asynchronous) than courses with some real time communication (i.e. live chats with simultaneous conversation with the instructor, phone or video conferencing; synchronous) courses; students seem to favor synchronous over asynchronous courses, and traditional classroom courses have higher retention rates (Johnson, 2008).

An additional limitation includes technological failures and glitches such as audio and video quality, not the least of which involves bandwidth issues (Jerry & Collins, 2005). Depending on the bandwidth of the system that the student outside of the institution is using, the system may slow down triggering digital freezing or students being knocked off completely. These technological failures and glitches provoke questions of educational quality and integrity.

Although, technology is utilized in varying degrees, in today's world, we have become so accustomed to using technology that our daily personal and professional lives require it. Advances in technology have benefited the field of human service education and as discussed there are also limitations. However, as technology continues to develop, the HMP's practice and work with clients will expand as well.

Technology Considerations for Interacting with Human Services Consumers

As these advances in technology have permeated the human service field, new interventions and platforms for consumer interaction have arisen. Human service professionals could benefit from taking advantage of such technological advances. The use of video chat, videogames, podcasts, and blogs in the human services profession is discussed in the following sessions.

Video chat can be used as a primary method of providing supportive sessions to clients at a distance with email exchanges and phone calls dispersed for additional contact and monitoring. Video chat programs, such as Skype® (Szczepanik & Friis, 2003), Oovoo® (Oovoo

LLC, 2007), and Adobe Connect® (Adobe Systems, 2006) are efficient ways to deliver support services to consumers who are at a distance or in circumstances that limit their ability to attend office visits. When working with individuals, the use of available, ethical, and appropriate technology may be key in providing effective assistance and support. Additionally, viewing these technologies as a single entity of component parts that work in synergy may help practitioners maintain perspective on the individual's needs. After the needs are identified, the human service professionals should use her or his discretion and clinical judgment to assess the most appropriate technology (or non-technological strategy) to satisfy those needs, as opposed to simply using the technology that is available without regard to the consumers' level of technological adoption, comfort, skills, and abilities (Rogers, 2003). For example, one particularly isolated group is sexual preference minority youth and young adults who are suicidal. Silenzio (2009) suggested that using social networking sites may be a way to initiate suicide prevention with this population. Human service professionals could extend this prevention effort by initiating relationships through the social networking site then implementing video chat as a further step in the intervention.

If technical problems prevent one or both parties from effectively using the medium, phone or text can be used. Additionally, if the individual is having a crisis when video conferencing is not an option, the phone becomes necessary for de-escalation, suicide prevention, and crisis intervention. However, in a report on educational efforts to train helpers in providing asynchronous counseling services, Murphy, MacFadden, and Mitchell (2008) recommend against providing services to individuals with severe mental health issues, suicidality, distortions of reality, and crises management. Further, they recommend specific training on the unique contributions video conferencing can add to the interaction between providers and the people they serve.

Though the authors suggest video chat as the preferred, primary method of distance interaction, should face-to-face communication be impossible, the use of other technologies is useful and sometimes necessary. In addition to using email for appointment confirmations, it can be used to send helpful resources for between-visit work or additional

information. Email becomes efficiently implemented as the individual can send informational updates and agendas before the visit for the practitioner's review. In addition, between session work such as journals and task lists sent by email could act as an effective supplement for those who are primarily helped in-person as well. For example, parents can be encouraged to keep a log of specific behaviors that they want to encourage or extinguish as an assignment from a parenting class. This log can be emailed to the instructor and reviewed prior to the class in an effort to personalize the intervention or monitor progress.

Human service professionals may also consider online text chat as another method of delivering services. Finn and Hughes (2008) found an 80% satisfaction rate when using online chat for a rape crisis hotline. Considering the seriousness of rape and sexual assault, this high satisfaction rate is encouraging, even when social desirability is taken into account. Additionally, the anonymity offered through text chatting in online support groups can be seen as a benefit for this special group. Many people may not seek support services in the community for their illnesses because of the negative stigma associated with them and some appreciate the benefits of virtual communities. One group receiving the benefits of online support groups are those living with HIV/AIDS (Mo & Coulson, 2008, 2012).

It should be noted that while this is a helpful way to document communication for the individual's progress files, reasonably applied protective safeguard measures for all forms of electronic communication with clients should be enacted to comply with ethical and legal guidelines to avoid violation of the consumer's confidentiality and privacy.

In addition to technology supported communication, three other innovative applications of technology are available for human service professionals. A discussion of possible uses for videogames, podcasts, and blogs in the human services follows.

One area of technology that is being integrated into assisting individuals in a novel way is the use of videogames (Freddolino & Blaschke, 2008). Numerous videogames have been released recently that consumers may find helpful by providing a calming or meaningful experience. Flower® (Chen & Clark, 2009) is a videogame for the

PlayStation 3® (Sony Computer Entertainment, 2006) that was developed with relaxation in mind. The focus begins on a single flower petal floating through the air. As the petal lands on other flowers, more petals begin to trail the initial one, and eventually, the player directs the wind to leisurely control the trajectory of a long stream of beautiful flower petals of various colors. Whereas some games encourage the player to execute complex button sequences, in Flower® the player uses motion controls to direct the blowing wind. As opposed to games that are heavily competitive and encourage the elimination of other players in a heart-racing struggle for survival, Flower® encourages exploration in quiet solitude without a possibility of failure. The experience of playing Flower® has parallels, in some ways, with the Indian tradition of creating a mandala, which is sometimes used in psychotherapy to foster insight and to treat anxiety. Other games continue to be released representing a new, arguably helpful genre of gaming, which include Journey® (Thatgamecompany, 2012), and Endless Oceans ® (Arika, 2007), both delivering a similarly calming experience. For the human service professional who is working with a welfare-to-work single parent, these games could be helpful in teaching the parent relaxation visualization for stressful situations that may be encountered on the job or during the transition.

Video and computer games, such as Heavy Rain® (Quantic Dream, 2010) stay true to the principle of de-emphasizing complex button execution but are entirely focused on decisions that drive the story. Heavy Rain®, which has inspired an argument that videogames can be considered art (Watt, 2010), challenges the player to make difficult decisions about the main character's fate. While Heavy Rain® may not be applicable for individuals looking to reduce anxiety, human service professionals may find that it has value for those in fostering insight about their lives and inspiring existential discussion and the development of problem solving and decision making skills. For example, a mentor working with an adolescent may want to help him or her decide to stay in school. Using a computer game like Heavy Rain® may assist the adolescent in making better choices.

Other games have been specifically designed as tools for helpers, as opposed to incidentally containing therapeutic properties. Matthews and

Coyle (2010) discuss a game called Personal Investigator® (McDarby, 2003), which is designed to help the practitioner facilitate Solution Focused Therapy. In Personal Investigator®, the player meets a number of characters who each use a different Solution Focused strategy to help the player think about her or his problem differently. For example, at one point, the player will meet an artist character who helps him or her visualize an ideal life situation. This scenario is an extension of the miracle question.

Gaming can be applied as a possible intervention for individuals in three ways. The human service professional could be present and facilitate the experience, similar to talking someone through a problem. The second possibility is that the individual could play the game on her or his own and discuss it with the human service professional at the next visit. Perhaps an even more practical application may be that the human service professional could encourage appropriate gaming at a moderate frequency as homework for individuals in need of additional coping strategies. Finally, human service professionals may consider playing videogames along with the individual as a way to build the relationship and foster teachable moments. For example, some human service professionals, such as community nurses work with migrant farming families assessing the health needs and inoculation statuses. Usually the members of these families are English language learners and not native English speakers. This can be a barrier in working effectively and building trust with them. Engaging the children and adolescents in playing computer games with them may be a way to connect interpersonally when language is a barrier.

Human service professionals may also include podcasts as possible resources for working with individuals. Podcast directories contain many free podcasts that can be used as valuable resources promoting wellness. Some podcasts facilitate guided relaxation, advice on parenting, financial advice, and suggestions on spirituality and meditation. Individuals can access these wellness-focused podcasts for free and on their own which may foster autonomy and empowerment. Podcasts, such as The Moth® (Allison, 2009), This American Life® (Glass, 2006) among others, feature unique storytelling that may resonate with consumers. Human service professionals may consider suggesting particular episodes that apply to the

consumer's situation, which may foster universality and insight. For these types of podcasts, practitioners may encourage the individual to listen to the selection, reflect on it and then discuss it at the next visit. Using podcasts may be useful for human service professionals who work with geriatric consumers because listening to a podcast may be less strenuous on the senses than reading a book or article.

Finally, a more indirect intervention that human service professionals may find practical is the use of blogging. Human service professionals may consider writing a blog related to their practice which can provide links to resources, additional helpful information and activities for personal insight. Blogs can be maintained and expanded so that human service professionals can have a centralized location for her or his resources that have been personalized to be relevant to a specific clientele. All of the human service professional's clients could have access to these suggestions and resources. Individual interaction time, in this case, could be used more efficiently.

There are several limitations to using technology to interaction with human service clients despite the many innovative, exciting, and practical applications. One major limitation and drawback includes lack of access which is and has been an issue for the lower socioeconomic members society for many years. While it is true that most libraries and other community centers have computers and many local businesses provide free Wi-Fi, those two benefits do not help the individuals served by human service professionals that are housebound such as geriatric people, those with other disabilities preventing them from leaving their homes (Kincaid, 2004). Electronic communication through text, such as email or blogs are limited by the ability of the readers. However, in almost every computer operating system accessibility programs are pre-installed such as a *screen reader* that will narrate what is written on the screen. The screen reader is useful for visually impaired individuals. Additional training or assistance may be required to assist the individual in learning how to use these programs. Finally, video and computer gaming while an innovative and unique approach to working with individuals may appeal to a specific type of client and more research is needed to validate the effect of gaming as a valid intervention.

In addition to the rapid advancement of technology and its application to the education and training of human service professionals and their work with individuals technology is also being used innovatively as a mode of supervision delivery. The next section will discuss the application of technology to human service professional supervision.

Technology Considerations and Human Services Supervision

Technological innovations have permeated the realm of supervision within the human services field. According to Bernard and Goodyear (2009), technology is typically used to deliver samples of the intern's and/ or professional's work to a supervisor, allow for supervision across distance, and/or enhance the overall process of supervision. For supervisors of human service professionals or students, these mediums are readily accessible as society embraces technology as a way to facilitate communication.

There are several easily accessible technological mediums that can be used to facilitate the supervision of human service professionals or students. These include review of video recordings (Jerry & Collins, 2005); review of text exchanges (Cardenas, Serrano, Flores, & De la Rosa, 2008); and web conferencing, text chat, and video chat (Quinn & Phillips, 2010). Additionally, the use of Third Space (Shibusawa, VanEsselstyn, & Oppenheim, 2006), real-time supervision (Cardenas et al., 2008), and wikis (Fitch, 2007; Rockinson-Szapkiw & Silvey, 2010) are emerging as new ways to conduct and enhance supervision.

Overall, supervision can be facilitated by technology if the circumstances warrant it and appropriate conditions allow for it. Forms of video chat are emerging as acceptable mediums by which to conduct supervision. The use of video conferencing software, available online for free, can allow for supervision across distance given that the users have Internet access, webcams, microphones, and a secure location (Quinn & Phillips, 2010). Finally, with Internet supported video conferencing; real-time supervision would allow a supervisor off site to observe an human service student or professional providing services and give feedback in real time (Cardenas et al., 2008).

Review of exchanges between the consumer and student or professional in text form has traditionally allowed for the review of skills and interventions by both the supervisor and supervisee and has been shown to be particularly helpful for novice students and/or professionals (Bernard & Goodyear, 2009). The use of text chat (i.e. Google Chat®, Yahoo Messenger®, Facebook®, Windows Live Messenger®, and phone text) is a way in which human service students or professionals could communicate with consumers (Quinn & Phillips, 2010). Supervisors can then access the text from these exchanges and provide direct feedback (Cardenas et al., 2008). Additionally, text chat can also be used to facilitate communication between supervisors and supervisees (Quinn & Phillips, 2010).

Reviewing recordings is another supervision intervention used to facilitate the delivery of feedback about both verbal and nonverbal interventions (Bernard & Goodyear, 2009). Deviating slightly from the traditionally accepted form of video review where supervisors watch a recording of the supervisee and then provide feedback; new technology allows supervisees the opportunity to review a recording of another human service provider providing services to a consumer and provide a critique of the skills and interventions observed using Third Space (Jerry & Collins, 2005). Third Space is a progressive approach allowing supervisees and supervisors to review various recordings of role-plays and provide feedback via bulletin board posts (Shibusawa et al., 2006). Shibusawa et al. (2006) found that students using Third Space perceived their assessment, general interviewing, and specific interviewing skills as improving. Additionally, the students felt that Third Space facilitated communication with peers, video review, and the posting and reviewing of others' posts. With the advent of smart phones and computer tablets many applications can assist supervisors when reviewing recordings of sessions or live supervision sessions. Using Sound Note® (Estes, 2010) supervisors can add text notes to audio recordings, tagging the segment of the audio recording at the place where the note is being made.

The use of wikis is another way to facilitate communication of specific content between supervisors and supervisees. Wikis, or “what I know is...,” provide a way for multiple users to add, edit, and remove

content (Fitch, 2007). Practically, supervisors could use a central location for the storage of policies and procedures, lessons learned on the job, notes for the future, and community resources available to consumers (Fitch, 2007). Changes to content could then easily be made by any user with access to the information (Fitch, 2007). In a mixed methodology study of 22 graduate students enrolled in a hybrid course, the students felt that wiki was useful for collaboration, contributed to their learning, and deepened their experience and knowledge of web-based technology (Rockinson-Szapkiw & Silvey, 2010).

While there are many possible gains for using technology in the supervision of human service professionals and students, there are also limitations. First, there is a risk that consumer confidentiality and privacy could be compromised if the technological mediums are used in an unethical manner. Therefore, it is important for supervisors to have candid conversations with supervisees about the appropriate and ethically and legally sound ways in which to use technology to transmit sensitive information. Second, there is a risk of miscommunication when using technology that does not require face-to-face interactions. Supervision can be an anxiety provoking experience for many supervisees, therefore, it is imperative that supervisors be aware of the ways in which messages could be received and interpreted. Finally, when using any technology, there is a risk that technological failure and glitches can damage the supervision process and supervisory relationship. It is recommended that supervisors have additional back-up plans if technological problems arise.

Technology and Human Services Agencies

Human service professionals can work in non-profit agencies, correctional facilities, educational systems, health care facilities, and rehabilitation settings providing mental health, substance abuse, and prevention services (National Organization for Human Services, 2012; Neukrug, 2013). The definition of social interaction between human service professionals and consumers includes, "...accepting the premise that social presence is embodied but not contained by physicality. It is an appreciation that in all its forms, social presence is the carrier of relationships" (LaMendola, 2010, p. 117). Technology is permeating a

variety of aspects for these agencies and the relationships with the individuals and communities served. Several technological innovations need to be considered in regards to the functions of the agencies and their relationships with the services provided to consumers.

An example of human service agencies using technology for client support and communication is the development of a promotional website. From a website, an agency can communicate their mission, vision, services provided, and contact information. Websites can also host educational materials and resources for clients. Additionally, links to other agencies, governmental and community services, blogs (e.g. Twitter®), and social networking sites (e.g. Facebook®) may be included in a human service agency's website.

Within the structure of a human service agency, technology can be used as an administrative, communication, and networking tool (Kincaid, 2004). Employee related tasks such as recruitment of new workers, continued training, on-going staff meetings and supervision can occur with the help of technology. For example, job advertisement information can be hosted on the agency's website or on human service job-placement websites. Continuing education and trainings can occur online via teleconferencing and webinars. These webinars can be completed either with a human service educator physically stationed in an agency from a distance. Attendants can actively interact with the speaker through their computer camera and microphones. These webinars can be recorded and saved privately in an employee accessed site for future reference or be posted publically on YouTube® (Hurley, Chen, & Karim, 2005) for instance, as deemed appropriate by the agency.

Cloud computing is an innovative process mostly utilized in the business field for virtual storage and database management. In recent years, it has been integrated into many agencies. Microsoft Dynamics CRM® (Microsoft, 2004) and Sales Force® (Salesforce, 2012) are examples of customer relationship management (CRM) systems that can serve as a hub for consumer data between different systems and assist human service professionals with tracking data during service delivery while in the field. It also offers marketing tools to target different human service populations and the follow through of the mailing distribution and

response tracking from an agency. Program management within CRM offers streamline capabilities for different agency procedures and guidelines. For example, a summary of the weekly services provided within an agency can be reported and these results can aid with funding and evaluation of programs. For gathering client information and record keeping, an agency can integrate within their system software for electronic intake forms, treatment planning, and progress notes. For example, TherapyNotes™ (Pliner & Pliner, 2010) offers e-forms for human service related agencies.

Conclusion

Technology allows new possibilities that can be advantageous for human service educators, students, professionals, supervisors, and agencies. As illustrated above, the presence of technology has many implications for the human service field. Specifically, innovative technological mediums can assist human service educators with providing quality educational experiences to students from a distance, human service professionals with providing therapeutically beneficial services to consumers, human service supervisors with providing supervision to supervisees who are working in the field and human service agencies in communicating with employees and the community at large.

While the potential benefits of using technology have been discussed, there are limitations that should be considered by those in the human services field. These limitations include ethical and legal considerations, technological failures and glitches, and access to and competency using technological mediums. It is recommended that human services educators, professionals, and agencies consider the benefits and limitations of technology in their work before implementation.

Additionally, the rapid progression of technology ensures that these implications will quickly evolve, which may change the efficacy of strategies, interventions, and theoretical frameworks over time. Human service professionals are encouraged to remain aware of the perpetual progression of technology so that its implications can be monitored and re-evaluated to ensure quality of care for individuals.

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