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Using Computer Technology in Expressive Arts Therapy Practice: A Proposal for Increased Use

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Creativity software and the Internet can be valuable tools in the practice of expressive arts therapy (EAT). They offer novel options, stimulate fascination, and hold potential benefits for a wide variety of clients and the therapeutic relationship and process. A review of literature in related fields is presented to demonstrate the expected impact and utility of adding such media to the practice of EAT. The characteristics of these mediums resonate with the core values of EAT. Guidelines for use, limitations of current research, ethical considerations, and suggested future directions for research are discussed. Suggestions for creative activities and descriptions of specific software are provided.

KEYWORDS counseling, computer technology, expressive arts therapy, creative arts therapy, computer software, creativity software, creativity shareware, computer art programs, Internet sites, creativity

The practice of integrating the arts into personal and relational growth is ancient practice (Gladding, 2010). The modern practice of expressive arts therapy (EAT) incorporates different forms of creative expression, and these forms may be mixed simultaneously or sequenced separately. With the growth of technology and computer applications focused on creative expression, counselors now have digital tools to help clients in their self-expression and growth. Computer technology has become common for a great majority of Americans. Young children now grow up developing computer literacy

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at an early age. The U.S. Census Bureau (2009) reports that 68.7% of households in the United States have Internet use inside the home, and 76.7% have a member with access outside the home. Furthermore, based on the numbers provided by DeBell and Chapman's 2006 study "Computer and Internet use by Students in 2003" (as cited in Bureau of International Information Programs, U.S. Department of State, 2010, Figures 1 through 3), a mean of the averages of three data sets reveals that about 64% of children in nursery school and students in kindergarten through 12th grade were using computers at home and 83% were using computers at school.

PRACTICALITY AND BENEFITS OF COMPUTER TECHNOLOGY IN EXPRESSIVE ARTS THERAPY

Creativity software and Internet sites can be useful in EAT not only because they are easily accessible and user friendly, but also because they offer innumerable options and unique opportunities for creative expression. Their use can facilitate the therapeutic relationship and process for various client populations.

Accessibility

Counselors can easily incorporate creativity software and Internet site use into their repertoire. Most professionals have access to a computer for professional use. Counselors can opt to purchase affordable creativity software, such as shareware. Shareware is either free or offered as a trial before purchase and can be found at reasonably low prices (Aymard, 2002). Professional use of digital media requires time, physical space, and finances, but these factors must also be considered with traditional art mediums. The use of traditional EAT media often calls for continual replacement of materials, which can be costly.

Current Use

Many mental health professionals are making use of computer technology. Technology has begun to infuse the professional training of graduate-level phototherapists, and art therapists of all types are now able to use computers and digital editing programs in their practices (Wolf, 2007). Some computer programs used in therapeutic or educational settings with different age groups are listed and described in Table 1 to show possibilities available to clients to explore and create original work. Creativity software was reported to allow clients access to a similar level of creativity compared with traditional art (Thong, 2007), to offer creative possibilities previously unattainable

TABLE 1 Computer Programs for Therapeutic Use Previously Used in a Clinical or Educational Setting

Program/Software/Device	Type/Description	Suggested Use/Age Range
Adobe Photoshop	Professional graphic editing software	High school students and older (Thong, 2007); phototherapy context (Wolf, 2007)
Magic Mouse's Flying Colors	Allows creation of moving imagery and sound effects; multiple levels of tool difficulty (Thong, 2007)	All ages (Thong, 2007)
Haptek's People Putty	Program to create digital 3D characters with feelings and speech (Thong, 2007)	All ages (Thong, 2007)
Funny Face	Cartooning shareware (Aymard, 2002)	Preschool and latency-age children* (Aymard, 2002)
PowerPoint	Presentation program; allows animation and photo editing	Adolescents; especially for communication to family (Riviere, 2008)
MySpace, Facebook	Social networking Web sites; personalize profile pages	Adolescents; especially for processing thoughts and emotions (Riviere, 2008)
Zelda	Computer/Nintendo game	Play therapy context (Gardner, 1993; Robson, 2008)
LOGO	Programming language for creating graphics	Children ages 9 through 12 years old; especially to enhance therapeutic goals (Johnson, 1993)
Power Pad with Leo's 'Lectric Paintbrush	Computer pad and software for finger painting	Children ages 9 through 12 years old; especially to enhance therapeutic goals (Johnson, 1993)
Sims 2 (SimCity)	Allows creation of characters and their lives	Adolescents; ages 7 years and older (Skigen, 2008)
Electronic keyboard, songwriting software, or recording device	Allows songwriting and multitrack compositions; choices of instruments, music loops, and addition of lyrics	Children and adolescents (Roberts, 2006)

*Children with anxiety disorders, learning disabilities, attention-deficit disorder, oppositional defiant disorder, sexual abuse and adjustment disorders, or parental separation and divorce.

(Wolf, 2007), and to introduce new means of exploration (Weinberg, 1985). One use enabled the discovery of "expressive spontaneity" (McNiff, 2004, p. 241).

Technology as Motivation to Initiate and Engage in Treatment

Visual graphics, or other sensory stimulation based on computer technology, has the potential to motivate clients to attend and continue to stay in therapy (Canter, 1989; Johnson, 1993; Sisson, Mayfield, & Entz, 1985). Weinberg (1985) explained that the curiosity evoked by computer programs increased opportunities for communication, encouraged client use of psychosocial skills, and increased self-esteem and feelings of acceptance from others, all while challenging fears of rejection or loneliness.

Technology may be less intimidating than traditional modalities. EAT is a field that values both the process and the product of creative endeavors, with a focus on high sensitivity rather than expert skill (Atkins & Williams, 2007). Creativity software and Internet sites may buffer frustrations or fears in clients focusing solely on the creative end product without acknowledging the vital importance of the process. A program's ability to respond to a variety of input may increase the likelihood of client success.

Many years ago, Weinberg (1985) identified this potential benefit specifically for clients who were successful artists before an accident or disability-causing disease. The clients perceived their attempts to produce conventional art as unacceptable and far below their original artistic abilities. Nonetheless, their use of computer technology increased the likelihood of creative participation. Hartwich and Brandecker (1997) argued that it is less intimidating for clients with severe psychotic conditions to use the computer, rather than paper and brush, to express themselves. Thong (2007) described the same characteristic leading to success with clients who were more defensive about expressing themselves with traditional art.

Practical Qualities

The ability to easily save and present digital media makes computer technology a viable choice for EAT, especially for assessment and evaluation of therapeutic progress. Creative work can be easily viewed during any session and can provide a detailed and enjoyable recap and appraisal of progress (Canter, 1989; Hartwich & Brandecker, 1997). This can encourage discussion of change and development in the therapeutic process.

Technological applications require less physical space to store creative works. Some programs also have the ability to save a work in progress. This allows clients to return to earlier stages of creative works or to make changes to their work easily (McLeod, 1999). Computer art is quickly accessible and

can easily be copied and shared with others (McLeod, 1999; McNiff, 2004). Computer media can promote the use of—or be combined with—traditional modalities, such as music, movement, or ceremony and ritual, to further therapeutic growth.

Review of Benefits for Specific Populations

There are a number of populations that may benefit from use of computer technology in therapeutic and educational settings. One case study demonstrated that Nintendo/computer game use in psychotherapy helped a young child socialize, participate, and interact more in school; these behaviors were absent prior to the client's mastery of the games (Gardner, 1993). Sisson et al. (1985) conducted case studies investigating the impact of applying computer software to therapy with young students with emotional and behavioral disturbances and learning disabilities. Results included improved problem-solving skills, improved academic performance, increased social interaction, decreased anxiety and social fears, the exploration and release of emotions, reduced defensiveness during psychotherapy, enhanced self-esteem, improved relaxation and writing skills, and a new awareness for behavioral choices in relationships.

Similar results showing increased client self-esteem and confidence as a result of using computer software in therapeutic settings were documented in other studies (Canter, 1989; Riviere, 2008; Weinberg, 1985). Another study reported that creative writing software, with its immediate feedback, fulfilled the clients' needs, made learning tasks more manageable, and offered individual pacing (Hedley, 1985). The constructive expression of—or the increased ability to process—painful and intense emotions, improved social functioning, and experience of catharsis were documented as additional benefits for children and adolescent clients (Aymard, 2002; Canter, 1989; Johnson, 1987, 1993; Skigen, 2008; Weinberg, 1985).

Technology may be appropriate and especially useful when working with adolescents. Adolescents in therapy using Sims 2 software showed improvements in their social lives, academic performance, communication, and anxiety levels (Skigen, 2008). Additional outcomes include reduced anxiety and learned relaxation (Canter, 1989; Johnson, 1987). Riviere (2008) made a case that teens' challenges, such as self-awareness, cognitive growth, interpersonal connection and communication, regulation of emotions, and creation of meaning in life, could be appropriately managed or resolved with computer technology by providing space for both processing of emotions and feedback from others.

The needs of children and adolescents experiencing bereavement may also be met with the use of creativity software in therapy. In play therapy case studies by Robson (2008), using a computer/Nintendo game provided

the initial safety and distance necessary for later use of traditional play and art mediums, and thus therapeutic progress. Another case study showed that technology use reduced client distress and facilitated increased discussion of emotions in the grief process (Johnson, 1987). In a home-based music therapy program, computer-based songwriting was offered to clients as a medium to share their stories. One specific vignette demonstrated that it provided an outlet to express anger and stress, promoted coping responses, and served as a tool to communicate with guardians (Roberts, 2006). Thong (2007) documented this same benefit with computer technology in art therapy with children hospitalized or undergoing treatment due to physical ailments or surgery; children were able to comfortably share experiences and process feelings, even when unable to communicate verbally.

Creativity software has the ability to reach an even broader population base because it can be easily modified to accommodate clients' needs. The digital media activities used by art therapists can be adapted for various client populations and clinical settings (Wolf, 2007). For clients who have physical and mental handicaps, computer-based therapy can be more beneficial than traditional rehabilitative art therapy methods. Clients with limited fine motor control may benefit from technology use because computer use requires clients to make aesthetic choices without requiring specific manual skills (Weinberg, 1985).

Rehabilitative computer art therapy has the potential to meet therapeutic objectives for quadriplegic and stroke clients and survivors of brain injury because it helps clients cope with new limitations, value their remaining functions, and recognize and increase their strengths. It also offers a constructive expressive outlet for anger and frustration, the experience of independence and choice, and an opportunity for social interaction (Weinberg, 1985).

Individuals with acute and chronic schizophrenia and borderline personality disorder have experienced successes in therapy using computer programs. Significant client relief after exploration of a traumatic experience using a digital painting program was reported (Hartwich & Brandecker, 1997). In an art therapy context, relaxation benefits for several clients with schizophrenia, as well as an increase in expression and emotional stimulation, were demonstrated with creativity software use (Hartwich & Brandecker, 1997).

Therapeutic Relationship and Process Benefits

Using computer technology may offer benefits to the counselor, the therapeutic relationship, and the process itself. Art creation using computer technology may allow a counselor to glimpse into a person's mental and creative processing, meaning making, and emotional expression. Computer

technology use may promote counselor versatility and resourcefulness by allowing access to important information; it also promotes the development of trust and rapport, thus increasing the ability to reach all types of clients (Canter, 1989; Johnson, 1987; Thong, 2007).

Clients may develop a relationship with the computer and interact with it in different ways over time. The creative process reflects that relationship (Hartwich & Brandecker, 1997; McLeod, 1999). A client's use of creativity software or games offers valuable insight on how the client learns, solves problems, or faces challenges (Aymard, 2002; Gardner, 1993). In this sense, computer technology can provide crucial assessment information related to clients' progress.

Computer technology has the potential to enhance the therapeutic relationship by encouraging the development of trust and promoting interaction between the counselor and client (Johnson, 1987; Sisson et al., 1985; Thong, 2007). Clients may feel safer using creativity software. It may serve as "an effective introduction to communicating wishes, dreams, and fears for adolescents reluctant to draw" (McLeod, 1999, p. 202), or as a way to comfortably begin discussing personal issues in general (Canter, 1989). Computer technology can be especially effective in reducing resistance, facilitating the trust and safety for sharing traumatic experiences, and expressing anger, frustration, and aggression in socially appropriate ways (Aymard, 2002; Johnson, 1987; Sisson et al., 1985; Skigen, 2008).

PROMOTION OF EXPRESSIVE ARTS THERAPY TENETS

EAT involves integration of the arts and involves using different modalities together. It is important that counselors continuously reinforce clients' interest in creativity by not reducing creative work to one particular medium (McNiff, 2009). Computer technology allows access to both auditory media and a wide variety of visual media. The two mediums can be used simultaneously or in combination with traditional modalities of practice.

All EAT modalities offer the opportunity to express the self; this has inherent value in the practice and should not exclude computer media. Several of the studies described previously report client use of creativity software in therapy as a valuable tool to encourage and display self-expression. Computer art is "a medium for looking at new ways of perceiving self and exploring new and more adequate coping behaviors," and there is freedom in choices offered (Johnson, 1993, p. 367).

EAT also embraces exploration of new alternatives and an attitude of curiosity. Curiosity is vital to the role of "play" in EAT. The effectiveness of play in use of creativity software was demonstrated in the context of helping children in developing effective problem-solving skills (Sisson et al., 1985).

Children and adolescents were able to successfully try different behaviors to determine the impact of alternative strategies (Johnson, 1987; Skigen, 2008).

Empowerment through choice when using creativity software and the process of experimentation as an intervention were demonstrated in case studies (Thong, 2007). Riviere (2008) discussed technology as a tool for self-exploration and discovery for teens. With Internet-based Web profiles, adolescents gained insight by processing thoughts regarding self-image and experimenting with all different types of possible traits and characteristics that they may not have otherwise been able to explore comfortably in a face-to-face social environment (Riviere, 2008).

GUIDELINES FOR USING TECHNOLOGY

To create a sacred, safe space for the depth of EAT work, counselors must plan for the entire process of a session, one part of the process being actually creating art. From organization to choosing specific programs, there are many suggestions and guidelines for use of computer technology related to artistic creation in therapy.

For the ideal physical environment in therapy with children, Aymard (2002) suggests a laptop station placed along the side of the room with toys. Wolf (2007) provides a list of ideas for therapeutic exercises or creative digital projects. One example is the Self-Image Construct Assignment, described as using digital editing to put together a representation of the self.

As an approach to the life review process, Caldwell (2005) offers ways to use stories through video, slide shows, and Web sites. One example of a life review activity is the creation of a book, made through images using the computer, scanner, and color printer with other traditional forms of visual art. This process can be both collaborative, by involving family to contribute portions of the book, and encouraging, by reauthoring problem stories, all allowing discovery of alternative outcomes (Caldwell, 2005).

To determine the best overall programs, Aymard (2002) offers a series of questions and criteria but reminds counselors that it is creativity and the interaction that make the difference, not the computer program itself. Ultimately, counselors as artists are the ones responsible to take initiative to explore computers to advance counseling techniques (Canter, 1989). A variety of options and types of programs are listed in Table 2, though these should not limit further potentials for therapeutic use.

Although the creative process can be therapeutic in and of itself, EAT is not solely about creating art—it also involves expression, reflection, emotional processing, sacred space, and intention setting. Making therapy a safe holding space, providing appropriate software tools and exercises for creative expression, and individualizing the process are all crucial variables to the practice of EAT.

TABLE 2 Computer Programs Explored in a Nonclinical Context With Utility for Therapy

Program/Software*	Type/Description	Suggested Use/Limitations/Population
Smoothdraw	Drawing and painting freeware; variety of brush styles; retouch tools, layers, image adjustment, and effects; edit or collage images and text; canvas size choice	Limited for advanced or professional photo editors or graphics artists.
TuxPaint	Drawing and painting freeware; personalize settings (size, language, applications, simplification, saving, printing); sound and visual effects	Ages 3 years and older.
Ultimate Paint (Ed. 2.88)	Drawing and painting freeware; various sizes, shapes, and opaqueness of brushes; variety of applications/tools; retouch/manipulate digital images; multiple screens	Requires patience and time to understand; most appropriate for adolescents and older.
Paint.net	Drawing, painting, and digital image editing freeware; variety of applications; language options; history log; canvas size and effects choices	Easy layering is ideal for collages.
Project Dogwaffle	Painting and animation freeware; variety of tools and options, including textures and effects	Requires patience and time to understand; ideal for detailed work; allows layering for collage; most appropriate for adolescents and older.
Kids' Mask Factory	Software to create masks, which can be worn; choice of features or freehand draw; grayscale or color printing	Children and adults; limited options for more independent exploration/creation.
Photo to Cartoon	Converts photos into cartoons and drawings by aesthetic choices	No drawing is necessary (best for creative design); limited options.
FotoSketcher	Free tool to convert digital photographs into images that look sketched or drawn; user sets controls and style	Limited options for detailed or original work; practical for adding images to original work.
Keyboard Music 2.4	Music software with choice of instruments, sound effects, sheet music, scales, rhythms; option to record and loop music	Instrument sounds not realistic; easy exploration of music making and rhythm.
PianoFX Studio	Digital piano/keyboard program; melody samples and recording available; choice of sound effects, tempo, and drum machine	Easy to make simple rhythms; practical for intermodal work.

(*Continued*)

TABLE 2 (Continued)

Program/Software*	Type/Description	Suggested Use/Limitations/Population
DSW Piano	Freeware application to play the piano or other instruments with options to change pitches, record, and play back	Easy to learn and use.
HS Virtual Piano	Piano program with sound effects, music samples, instrument sounds	No recording option; allows user to play with "the band" or mix music.
D'Accord Drums Player	Virtual drum set with tutorial, sound options, and option to download drumbeats for the program to play visually; speed/slow tempo or mute sound	No personalized keyboard configuration for sounds; takes time and practice to learn; practical for improvisation, group, and intermodal work.
GoSing	Karaoke freeware	Requires user or therapist to learn the process to download songs.
Virtual Music	Program with four applications to create music (i.e., style, band, metronome, guitar); record music	Visual images of applications helpful; not for one-time use; requires time and practice to learn.
Photozig	Photo editing and album creation software with beginner to advanced levels; option of slide show with music, transitions, text; display album on Web site, e-mail, or save	Music and transition applications apply to entire show; limited options for individual slides; practical for novice users.
MAGIX Slideshow Maker	Photo slideshow freeware with clear instructions for various skill levels; choice of effects, styles, music, and end product (video, online album, upload to YouTube)	No individual photo editing; provides a relatively professional-looking product.
Gamemaker 7.0	Program to design computer games with tutorial and thorough instruction; personalize characters, backgrounds, sounds	Takes time to create a functioning game; not appropriate for one-time use or young children.
Scratch	Programming freeware for animation, interactive art, games with instruction guide; freehand paint or import images; sound options; share online	Programming is easy to learn; simple to elaborate design opportunities make it practical for one use or many; designed for older children but appropriate for older ages.
Homeboy	Text-to-speech application with limited animation and sound effects; one of four characters reads text and follows simple commands; two games available	Practical for storytelling; free for parents of special needs children; speech is slow and mechanical; appropriate for children.

*All programs downloaded for free at http://download.cnet.com

EVALUATION OF TECHNOLOGY USE IN COUNSELING SETTINGS

Limitations of Present Research

The limitations of the studies discussed are those inherent in qualitative or case study designs. They document changes subject to observer bias. The research can impact the client and the counselor in actual therapy, confounding and uncontrollable variables may be in effect, and measures may be subjective. Further investigations in this subject area call for quantitative, empirical designs to support and validate the use of computer technology in EAT practice. This is important in a research-directed agency and in the broader practice of psychotherapy, in which counselors are increasingly required to use evidence-based practice. It is essential that this type of research be done to further scientifically validate the significance of the practice.

Suggestions for Future Research

The majority of the studies on this topic are based on youth populations; future research should explore applications to a wider age range, various clinical populations, and different cultural variables. It is a counselor's ethical duty to "gain knowledge, personal awareness, sensitivity, and skills pertinent to working with a diverse client population" (American Counseling Association, 2005, p. 9). As with any intervention, the counselor should regularly assess the effects of using creativity software with clients, as well as the client's progress. Counselors must determine if the client is comfortable with the practice and ensure that they themselves have training in appropriate theory and ethical standards (Aymard, 2002).

Ethical Issues

There are several ethical issues that need to be addressed in applying computer technology to the practice of EAT. One ethical issue is the counselor's responsibility for a documented treatment plan for using creativity software or Internet in therapy. The therapeutic process needs to be assessed, and the effectiveness of interventions must be monitored. Counselors must be able to justify reasons for a specific modality's use and its use with other modalities. Whether using creativity software, the Internet, or expressive arts in general, it is the counselor's duty to inform clients of the nature of the therapeutic process and relationship. Clients should also be informed of both their own and their counselors' specific roles or responsibilities in this type of counseling (Ersever, 2010b).

Implications for Counselors and the EAT Field

Establishing technical competence is important for counselors. There is a need for counselors to be able to use available technology to help clients and to update knowledge as technology advances (Ersever, 2010a, 2010b). Counselors need to understand the impact of using creativity software and the Internet, especially with confidentiality and privacy issues involved in storing clients' creative work and sharing this information electronically. New ethical guidelines need to be developed and adopted by professional organizations to provide an appropriate framework for professionals (Ersever, 2010b).

There is a further need to establish appropriate education, training, and supervised experience in such a specialty area and to practice only within those boundaries of competence. Maintenance of counselor competence often requires continuing education, consultation, and staying abreast of recent developments in technology and counseling. It would be valuable for counselors to determine how to assess the effectiveness of computer technology use in the therapeutic process through ongoing research (Ersever, 2010a, 2010b).

Counselors can explore software as it is available or affordable and propose ideas to software developers or manufacturers to expand the use of technology in therapeutic settings. Finally, because counselor educators are responsible for ensuring students know their responsibilities as a student and future practicing counselor, this includes communicating the responsibilities of keeping current with professional literature, maintaining competence, and being willing to practice new procedures (American Counseling Association, 2005).

CONCLUSION

Technology is commonplace in Western society and provides counselors with a new set of clinical tools. Gardner (1993) stated, "With children, at least, one's clinical techniques tend to change as a function of the trends of the times, though one's goals remain the same" (p. 279). Perhaps this is how creativity software will be integrated as an EAT context, though therapists must actively encourage and incorporate it. The user-friendly traits, affordability, stimulating nature, and capacity to offer creative opportunities for clients are all practical reasons to do so.

There are plentiful options available with creativity software. Particular Internet sites offer benefits, especially for populations that require modifications. Computer technology can be used effectively in various therapeutic settings, requires little physical storage space, and offers simple saving and presentation options. Studies reveal a number of benefits from utilizing computer art programs in therapeutic settings. This practice can provide valuable

clinical and phenomenological information on clients and can facilitate the therapeutic relationship.

Using creativity software and the Internet as a medium in EAT meets the spirit and goals of the practice. Integration of the arts, especially in combining modalities, is possible and is often promoted in computer software. Creativity programs offer unique storytelling media and encourage experimentation and exploration of alternatives through choice and play. Suggestions for the therapeutic use of technology combined with EAT involve developing ideas for exercises and creative digital projects, encouraging clients to explore this medium, and identifying appropriate programs to use with different populations. It is crucial to match the creative programs and the process to the client's developmental level and needs.

Counselors can expand their competence by incorporating creativity software and the Internet as a medium in their practice and studies. Technology already provides venues in which people express themselves or engage in therapeutic activity—these being Internet sites, social profiles, and adventure or interactive games. Counselors should consider personal exploration of creativity software and Internet sites as well as the benefits of computer technology. In recognition of the spirit of EAT, practitioners can offer this medium to their clients to expand the opportunities of creative work.

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