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HOW TO PRODUCE E-CONTENT FOR E-MENTAL HEALTH SOLUTIONS. BASIC GUIDELINES

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ABSTRACT

The present paper aims to identify several critical guidelines to be considered when creating e-contents for e-mental health solutions. These guidelines should satisfy the mutual constraints imposed by users, relationships, content and format, and digital environment. We claim that a conceptual and methodological transfer from e-learning and traditional psychotherapy research constitutes a solid background for the guidelines we have outlined.

KEYWORDS: *e-mental health, e-psychotherapy, computer-mediated psychotherapy, e-learning.*

1. INTRODUCTION

The revolution of information and communication technologies (ICT) has already changed many of our work practices and daily routines. Entire areas of activity, from commerce and banking, to architecture or learning have been deeply penetrated by ICT and forced to change their faces. Moreover, the ubiquitous interaction with the digital world is beginning to change many attitudes and habits of the people. Mental health cannot escape these changes which represent a rather big opportunity than a threat.

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Recent surveys show that 91% of the respondents had used the internet as their first choice when searching for information and help for their health problems (Risk & Petersen, 2002; Bessell, Anandarajan, & Umar, 2003) and the figures are even higher when talking about mental health problems, still associated with a substantial stigma in social mentality. Note also that the upcoming generation of digital natives (i.e., people who grew up interacting daily with digital technologies) is just reaching the age of maturity, meaning that the use of ICT for solving mental health problems will increase exponentially in the foreseen future.

In this context, the task to produce adequate e-contents for psychotherapeutic and counseling purposes has become very pressing for professional psychologists. The time is ripe for their therapeutic skills and knowledge to be transferred and embedded in mental health soft-wares and e-contents, with maximum benefits for their patients. The traditional "talkative" psychotherapy – verbal intercourse in weekly face-to-face therapeutic sessions – should make more room for computer-assisted psychotherapy, with non-traditional patients (Goss & Anthony, 2003). The logic is simple: if the demand for mental health services is placed rather on the net, our offer of services should also be placed there, and the delivery processes should also take place in that medium.

2. THE CHALLENGE

Although we already have several clinical guidelines on how to use e-mental health solutions (NICE, 2006; ACA, 1999), there is no reference in the literature on how to produce adequate e-contents for those solutions. Most of the existent products on the market are mere digital projections of the classical self-help books, using a similar writing style. We claim that the digital medium and hypertexts are far different than the linear written text: they offer different opportunities, require new writing skills and afford different behaviors from both the producer and the receiver, thus a set of guidelines on e-content creation for e-mental health solutions is critically needed.

In our opinion, the guidelines for writing useful e-contents in psychotherapy or counseling are strongly determined by our answers to four types of questions:

(1) The user
   a. What kind of users do you expect for your e-health solution? What characteristics and goals do they have?
   b. What is their expected online behavior?

(2) The relationship
   a. What kind of relationships should you develop with your users?
   b. How do you build these relationships?

c. What is your role as a psychotherapist and e-content producer at the same time?

(3) The content and format

a. What content is the most effective?
b. What is the most adequate format to communicate the content?

(4) The environment

a. How to create the optimum digital environment in order to support user's goals?

Briefly put, the biggest challenge of the e-content writer for e-mental health solution is the following: *What kind of content, in what format and what environment are needed in order to provide the optimal support for the goals of the user?* This conundrum must be addressed beginning with the design phase. However, this should be the reference framework also during implementation, formative evaluation and testing of any e-mental health solution.

Unfortunately, the research on e-mental health solutions is yet in its infancy and unable to provide a sound answer for the stated problem. The guidelines already elaborated are rather general, addressing ethical or clinical standards, with no reference to the design of e-content.

In this context, we claim that a better starting point in answering the questions mentioned above is to capitalize on the know-how already accumulated in e-learning (Miclea, Ciuca, & Miclea, 2008). Our knowledge on e-learning is far more advanced than about e-mental health solutions, due to an earlier start of ICT use in education, especially as a critical tool for the development of distance learning (Mayer & Moreno, 2003; Clark & Mayer, 2003, Kozma, 2001). It is not the first time when progress in a specific area of psychology is promoted by methodological and conceptual transfer from other disciplines. Cognitive psychology, for example, has substantially capitalized on the "computer metaphor" and evolutionary psychology is heavily relying on a range of theoretical and methodological transfers from evolutionary biology. Therefore, we assume that putting together our knowledge about the traditional process of psychotherapy on the one hand, and about e-learning solutions on the other, we may have better chances to generate meaningful guidelines for writing adequate e-contents for e-mental health solutions. The outcome of our efforts to synthesize e-learning with classical psychotherapy is expressed in the guidelines presented bellow.

3. THE GUIDELINES

3.1. Enhance scanning

The users of e-contents are much more active than traditional readers. Recent data emphasize that 79% of them rather scan the page than read it word by word (Campbell, 2004). We also know that reading from the computer screen is

35% slower than from paper and that the screen resolution is usually only 10-20% of a printed paper resolution (McMullin, Varnhagen, Pheng Heng, & Apedoe, 2002). Moreover, screens constantly refresh, causing eyestrains for e-readers who use to take frequent brakes and are constantly looking for clues about where most important ideas are located and how are they related to each other.

Thus, to enhance scanning and to facilitate user's detection of the structure and importance of information when writing e-texts, we need:

(1) to use short phrases, with simple sentence structure, organized in short paragraphs;
(2) to use short, informative headings, with names that conceptually relate to the relevant information;
(3) to use a variety of forms and levels of headings (font size, position, style, etc.) as a mean to emphasize information hierarchy (Kilian, 2001);
(4) to increase the font size and to use familiar fonts, usually *sans serifs* (Korolenko, 1997). The fonts should also be used consistently to convey the same function in various contexts; the typically recommended font size is 12 points (Tullis, Boynton, & Hersh, 1995);
(5) to use bright colors to attract the eyes.

3.2. Organize the information and knowledge in learning objects

In order to be learning-effective, information must be organized. In traditional texts, these organizers are lessons, chapters or paragraphs in a book. In a digital world, e-texts require another type of organization, called *learning object*. A learning object is a chunk of information which is confined to a single learning objective, allows specific assessment, its content is organized to match the specified objective, it is non-sequential (i.e., makes no reference to prior or future learning objects) and adaptable to fit a variety of learning situations and types of users. A relaxation technique that must be learned by a patient, for example, could be constructed as a learning object. It has a title, an expected result (i.e., learning goal) and several categories of information subordinated to the learning goal: scientific background, description, troubleshooting, assessment and homework. It is modular or non-sequential, because it can be learned directly, without other prerequisites. A well designed learning object also has the advantage to be re-usable; it can be combined with other learning objects to create a learning environment or it can be adaptable to a broad cross-section of users. A specific relaxation technique, for example, can be combined with progressive desensitization, to create a therapeutic environment or it should be adjustable for the patients' comorbidities. It can also be used by the patient, to reduce his/her anxiety, as well as in a training course aiming to develop the know-how of the psychotherapists.

The learning object is the main organizer which guides the production and the use of e-contents. However, from a broader perspective, the learning object is

just a particular case of chunking the information to make learning more effective and efficient. Several additional recommendations for effective chunking should be considered when elaborating e-text:

(1) Reduce text to a maximum 50% of the wording used for printed version.
(2) Archive long, academic-like documents in "Resources" or "Portfolios", but offer some hints or summaries about them in the main text.
(3) Avoid excessive details.
(4) Replace complex sentences with shorter sentences, using a simple structure. Try to use sentences no longer than 20 words, and paragraphs no longer than five sentences (Campbell, 2004).
(5) Use graphical signs to underline chunking. A vertical white space, for example, let the reader breathe, whereas horizontal white spaces provide a feeling of relief, by reducing text density. Thus, the vertical and horizontal white spaces increase readability of an e-text.

3.3. Enhance relationship

In traditional face-to-face psychotherapy, therapeutic relationship accounts for 30-45% of the effect size (Richardson & Richard, 2006), much more than the impact of a specific technique, which varies between 10-15% of the effect size (Bohart, 2000). The e-mental health solutions provide a therapist-patient relationship mediated by the computer, either by e-mail, messenger or video chat. Of course, none of these exclude the possibility of face-to-face (traditional) psychotherapy, but this is rather the exception, not the rule.

The role of the psychotherapist in e-psychotherapy is different than his role in traditional psychotherapy: one is rather a *facilitator* than a provider of psychotherapy. The therapeutic process is taking place inside the mind of the patient and the therapist's role is rather to facilitate this process by offering adequate resources and assistance during the process. It is patient's self-healing capacities which make therapy work (Bohart, 2000). The psychotherapist is a designer, one who diagnoses the problem, creates adequate resources and offers assistance for patient. The patient is the healing agent: he/she actively uses the resources and guidance provided by the psychotherapist via e-technologies to alleviate the symptoms and to promote personal development. Therefore, the e-psychotherapy should improve the patient's control over the psychotherapeutic resources and their use. It can be done by considering the following guidelines:

(1) *Use three layers of information*. The research conducted in e-learning show that the essential information should be contained in maximum three screens (Horton, 2000; Clark, 2001). First click must provide the framework and the essential information; the second click makes extensive information available, gives access to various tools and exercises, and

more sophisticated information; the third click offers an extension to further details. If the patient's needs are not satisfied by the information offered after these three clicks, he/she will, very likely, quit. Inside one screen, the reader uses preeminently the information located in top-central position. Usually, the reader looks first at top-center, than left and right, and then scrolls down, a behavior called in e-learning "the inverted pyramid reading style" (Kilian, 2001). Layered information increases the reader's control. It is his/her decision when and for what topics extensive information is useful and is worth to be accessed. The patients are actively involved and responsible for the construction of their mental representations about a given topic whereas the guidance offered by the psychotherapist is inherent in the design of layered information.

(2) *Use side heads, sidebars and keywords* in the margin, to provide hints and context. The "hit and run" behavior of the e-readers will take benefits from any clue.

(3) *The interfaces must enable users' interaction*. The design of the interfaces is relying on a prior identification of the users' goals; therefore, a well designed interface provides the means to achieve them. For example, in any kind of psychotherapy, the patient has several specific goals: a) to receive an accurate diagnosis; b) to have an explanatory model about the experienced symptomatology, the meaning and functions of experienced symptoms; c) to have a prognosis about the evolution of symptomatology and the effectiveness of treatments; d) to be informed about various treatment choices in order to have an informed decision; e) to follow an effective treatment program; f) to have periodical feedbacks about the efficacy and effectiveness of the selected treatment; g) to have assistance and support from psychotherapist during the psychotherapeutic process; h) to communicate with people experiencing similar symptoms. Consequently, as a user-centered design, any e-psychotherapy solution must address all these goals and provide a friendly and transparent interface, able to satisfy them. Patient's goals also became the reference framework for the evaluation of the design solution.

(4) *The interactions with multimedia content (audio, video, animation) must be designed for the user's control*. The user, not the designer, is to decide whether to start, stop, replay, use or re-use multimedia materials.

3.4. Use multi-media formats efficiently

The information and communication technologies offer the possibility of an extensive use of multimedia content for e-mental health solutions. One may offer an animation about the neuropsychological process underlying a specific symptomatology, a video case presentation or a therapeutic technique, difficult or impossible to conceive without digital technologies. However, any images, audio,

animation or video comes with significant overhead for the user: installing plug-ins, enduring delays, downloading files, etc. An efficient use of multimedia should consider the following guidelines, supported by the recent research in e-learning (Mayer & Moreno, 2003; Kozma, 2001):

(1) Break complex video/animation into smaller units (chunking).
(2) Provide a balance between verbal and visual elements.
(3) Present an image, video, animation or graphs in close proximity to related text.
(4) Audio should support other texts.
(5) Redundancy is critical. The visual media should not present a different concept than the adjacent text (Hannafin & Hooper, 1989).
(6) Provide information about the media in use (e.g., previews, descriptions, summaries, thumbnails) so that each user can take informed decisions.

3.5. Create a psychotherapeutic environment

The idea of psychotherapeutic environment is similar to what is called in socio-constructivist theory of learning – learning environment. A psychotherapeutic environment refers to a deliberate digital arrangement of e-contents, formats, users (with their goals), and relationships among them aiming to catalyze the existent healing forces inside the patient.

The best implementation of a psychotherapeutic environment can be provided, in our opinion, by a multi-user platform. For example, *PAXonline*, a multi-user platform dedicated to the prevention and psychotherapy of anxiety disorders is aiming to provide such a psychotherapeutic environment. Through the platform, the patients interact with their general practitioner and with psychotherapists. On the platform, they find assessment tools, communication tools and e-contents in various formats to help them explain and understand their symptomatology. They may enroll in specific therapeutic programs and benefit, at their choice, by the virtual assistance of a certified psychotherapist. They may communicate with other patients via forums and receive constant feedbacks about the outcomes of the treatments. All guidelines we have mentioned above have been taken into consideration in the design of our solution. Still in the beta phase, *PAXonline* is very promising as a psychotherapeutic environment in facilitating the inner psychotherapeutic process, taking place in the mind of the patient (see www.paxonline.ro).

4. CONCLUSIONS

The guidelines presented in prior paragraphs should be considered as heuristics, not as normative rules. As any heuristics, they reduce the problem space and

improve the problem-solving process, but they do not guarantee the optimal solution. No doubt, producing e-content is a permanent learning process: one elaborates some contents; these contents are evaluated through a peer-review process, than recalibrated and tested again with real users until a satisfactory solution is achieved. Any e-content should be revisited and upgraded periodically. However, as we have underlined in our paper, writing e-content for e-mental health solution can benefit from cognitive transfer of the knowledge accumulated in e-learning. Moreover, we can enrich the basic guidelines presented here with additional heuristics, for specific types of solutions, used in specific contexts.

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