Lucio Margulis

The Playful Aspect of e-Learning
Play in Virtual Learning Environments

Introduction:

My goal in this article is to share a particular view on the playful aspect of the production of multimedia contents for education projects based on "E-learning" (electronic learning) and "Blended Learning" (mixed format combining the best of the real and virtual world). I think that using information and communication technology (ICT) is revolutionizing the ways of learning, teaching and playing of the new generations and modern organizations. We can even appreciate how people – in many cases – learn more thanks to their environment (peers, learning situation, elements and institution which the person interacts with), rather than for the specific course contents or teacher.

Learning may become a boring process, with neither motivating nor emotional elements. In on-line education, the difficulty is even harder due to the student's initial loneliness when sitting in front of the computer and the difficulty of replacing the social face-to-face learning environment with a virtual one.

E-learning, as well as other on-line education modalities, has a high drop-out rate due to lack of motivation and commitment with other virtual beings.

For these reasons, I will try to demonstrate that multimedia games, in combination with cooperative games, are key strategies in these types of modalities. In fact, playful activities can help e-learning in motivating students and retaining them until they *have* completed their studies.

Multimedia games or game based learning, helps students spend a joyful, participative, interactive and challenging time in front of the computer. It promotes experiencing and faces us with virtual problems before we face real-world ones, enabling us to make mistakes and learn from them without direct effects on our reality.

According to the words of Maja Pivec and Olga Dziabenko in their article "An experience provided in the virtual world can be considered, were people would have a chance to learn incidentally, without special effort, similar to small children where the learning process through trial and

error is part of life…The learning process should be interesting, easy and should be fun to learn" (*1)

On the contrary, due to its integrating feature, collaborative games enables students to establish a closer relationship with their peers.

Throughout this article, I will first introduce some ideas on the playful aspect of learning, to later attempt to establish the relationship between e-learning and play. I will then suggest you a trip over the multimedia and cooperative dynamics of simulation. Last but not least, I will analyze the way to apply face-to-face playful activities to virtual learning environments and the advantages of said approach.

A hidden game can be found in this text. I invite you to discover it (the solution is disclosed at the end of the chapter).

Play and Learning

Man has always learned through play. The best example can be found *in* children, who discover the world playing since they are born. At kinder garden, playful activities are the key resource to learning, while during school they seem doomed to occupy only breaks and some special subjects. In Pablo Neruda's words, "the child who does not play is not a child, but the man who does not play has lost the child in him, who he shall need strongly."

It is worth mentioning that I have based this chapter on the view presented by Johan Huizinga in his book "Homo Ludens", where he expressed the following: "In its formal aspect, play is a free action performed "as if" and felt as if situated outside every day life, but which, however, can completely absorb the player, without finding in it any material interest".

In fact, playful activities have been the engine and one of the most effective learning modalities since the appearance of man in this world. By playing, it is possible to learn different *things,* some pleasant, some conflictive, such as experimenting, making mistakes and being in someone else's shoes.

Games can:

- **motivate the user by presenting and attractive psychological backdrop for learning.**
- **Simulate the real life situation.**
- **Facilitate operationalization of complex theorical structures.**

Of the e-mentor article from Nicholas and Peter Boltuc (*2)

For pedagogy, play is one of the richest simulation strategies, while in companies – and since the emergence of the theory of emotional intelligence - playful activities have started to be used in order to deal with emotional aspects of people within the organizations.

“Play is a way of life learning. Children role play adults, while adults play to act out their attitudes without actual risk. Thus, playing results in role changing for a moment, while testing at the same time the players’ knowledge and skills" ("Play and Emotional Intelligence”, study by Tareixa Barberena).

E-learning and Play

E-learning gives us the possibility of transforming ourselves in actual protagonists of our own learning process, while technology – among other *things* – provides us with speed, interactivity, and the possibility of collaborating and interacting with others, using different tools and through different channels.

Surfing the Internet, scanning hypertexts, sending emails and chatting is - precisely - like *a* game in itself, like a trip or an adventure we set out to, both consumers and producers of this virtual world.

The relationship between e-learning and playing is initiated by the playful dynamics displayed by browsing trough hypertexts. “The key characteristics of the playful phenomenon (freedom, duality, a space and time of itself, self-movement, chance and double productivity) are generally related with the "book-game" and in particular with the hypertextual narration, while these new means of reading and writing promotes creative freedom, the reconfiguration of the author and the reader, the festive and virtual space, infinite browsing, the mediation of chance and need and interactivity" - points out Marcela Castro (Pontificia Universidad Javeriana, Colombia) in her article "Play and Hypertext".

In this new environment, ICT has promoted a new educational model: More participative, interactive, amusing and collaborative, in which play recovers its starring role and can help turning education into a more amusing and interesting activity.

Types of Games in E-learning

Below *you* will find a possible classification of the games available in virtual learning environments. From my point of view, there are two kinds of games: Those based on multimedia solutions (animations, simulations and virtual reality experiences) and those that we shall call cooperative, used to promote knowledge, integration and creation. The second group helps tutors to create, keep and strengthen learning communities.

Multimedia Games

Multimedia games simulate worlds, scenarios and beings, and give us the opportunity to surf every day in more complex and motivating environments.
Neither simulations, nor virtual reality are actual representatives of the new playful multimedia resources. For instance, pilots and soldiers have been training for years in flight and war simulators respectively.

The great difference over the last years is that these kinds of technologies have become increasingly widespread, and also massively used. This phenomenon results from the huge growth of home computers, the multiplication of cybercafes and internet booths, and the massive use of computer games and consoles (the Play Station type).

The improvement of systems and software for simulating environments helped in giving these kinds of technologies a greater feel of realism. That is how we get to the fact that today new generations spend longer hours playing than studying, and they strive better in virtual rather than in the real world.

The Internet has fostered the formation of children, youngsters and adults communities joined together by multimedia games and roles. An interesting example is the sale of Harry Potter, Star Wars or The Lord of the Rings computer games, the earnings that have exceeded those gained when showed in movie theaters. Another example is the adaptation to motion pictures of virtual concepts such as Mortal Kombat and Lara Croft.

As stated by Antonio Moar, Director of the Moar group *in* his lecture on simulators in On Line Educa Madrid 2004, the above mentioned techniques account for "people's need to be protagonists", *to* actively and joyfully participate in concrete experiences, which enable them to test their knowledge in virtual environments, before facing the real world ones. In short, students want to have a starring role in their own learning process, as they do in multimedia games.

Perhaps the time has come to ponder about what we, pedagogy professionals, graphic and multimedia designers and tutors are doing *to* introduce play - in its different expressions - to educational programs. And in that regard, the question would be the following: How can we profit from the advantages of playful activities in the learning process that takes place in virtual environments?

We should possibly have to take a look at what most universities, business schools and corporations around the world are doing, i.e., introducing individual, group and inter-institutional business games with the purpose of testing their students' *management* skills in the most complex and changing problem-solving situations of international markets.

There are many types of simulations in the market today:

- **System simulation (ERP or CRM). Computer applications that imitate the system operation, guiding and correcting the user in each task They allow testing system knowledge and management in *a* virtual environment before putting it into practice in a real one. They can be produced by software such as the SAP Tutor, Macromedia RoboDemo and Educaterra's Assima.**

- **Environment simulation (*see* flight, war, city, civilization simulators, etc.). Games that take place in virtual worlds, with such detail that makes them similar to real world. Some examples of this type of software are Sim City, Flight Simulator, etc. These games enable to design, create and administrate cities; fly airplanes, drive cars, and operate other machines by means of nearly real commands, situations and feelings. The simplest ones can be produced by applications such as PowerSim.**

- **Situation or case (negotiating, business, etc.) simulation. We can find games, cases or situations in which real-world problems are presented, which should be solved by using different options such as: command keyboards, graphic adventures, answers to questions or a choice of options. They are produced by special 3D animation applications.**

Another classification type was presented for Nicolas and Peter Boltuc in e-mentor article (*2). They have organized the digital educational games through the following categories:

- **Direct combat games: simulator games like the sport games and the *role-playing* games**
- **Strategic computer games: like the perfectly competitive and the mixed strategy, combination between competition and cooperation**

This last category can be better illustrated by an example: the simulation game for decision-making management training, developed by the Moar group, in Spain. The software simulates an office environment, in which the player becomes a company manager for one day. The level of detail is such that one can hear the telephone ringing, get into the restroom to wash your hands or open a window, exactly as it would be done in real-world life. During this virtual work day, the player should make decisions at different complexity levels, which range from answering a client phone-call, fire employees, or making a millionaire financing operation. During the course of the game, problematic situations are posed to the player, about which he should make immediate decisions. Decisions made over the game affect the company's fate.

Virtual reality can be considered a *way* of simulation, which uses the three dimensional space to achieve greater realism. It is most frequently used in games and in situations where it is desired that the player is totally immersed in a simulated environment. For that purpose, a 360 º vision helmet is worn and in some occasions also special gloves to move and choose software options. This technology is used by architects, engineers and the army, among others.

Simulations are excellent tools to test skills, motivate and challenge students. As explained by Elizabeth Gothelf, in an interview with the digital magazine Learning America Latina (Nº34), "problems such as school drop-out or lack of motivation in students in virtual environments, could be solved by the development of simulations able to strengthen the educative drive".

"Simulations help to increase learning program authenticity by making it more conveyable and motivating" says Marc. J. Rosemberg, in his book "E-learning, Estrategias para transmitir conocimiento en la era digital" (E-learning, Strategies to convey knowledge in the digital era". They are another element in an e-learning solution; they do not aspire to replace other learning strategies, nor face-to-face training. These concepts match the ones presented by Mariano Garcia de la Fuente, Director for e-learning at Fycsa, and Joaquín Azcue, consulting manager for Educaterra, among other experts sitting at the round table on simulations at On Line Educa Madrid 2004.

Cooperative Games

Cooperative games are those focused on the promotion of collaboration rather than on competition. They are used for people to meet and join groups, work and study teams, or learning communities.

Retaining users until their studies are completed is one of the challenges that virtual learning environment have to meet. Playful techniques, together with ICT help create and maintain virtual learning communities, exchanging and creating information and knowledge.

Playful techniques based on cooperation promote such dynamics that enriches group learning process and enables the construction and management of shared knowledge. As an old Chinese proverb says: "None of us is as smart as all of us together".

The concept of "shared cognition" is used to define human intelligence through the cooperation in learning communities and its relationship with several instruments. David Perkins defines it as follows: "It is the dispersion of intellectual functioning through physical, social and symbolic instruments (...) Generally speaking, either at home, at work or leisure environments, people function according to different versions of the *individual plus the environment*, making intensive use of the information, physical resources as well as their performance and dependence on others".

Among the instruments mentioned by David Perkins, it is information and communication techniques that are highlighted. According to the author "Computing technology has provided us with a variety of new physical vehicles to support student's cognition".

Some playful techniques for lateral thought were created and have been used for many years by Edward de Bono in training executives. With techniques such as "hats to think", users put themselves in other people's shoes to see and think a certain problem from different points of views.

According to Sigrid Loos, "Cooperation can stimulate the feeling of Community (...) since it provides us with the possibility to change our own role, both the one role-played during play itself, as well as the one performed in the great game of life".

Therefore, cooperative play is a key strategy for meeting, joining and creating learning communities, able to create and share information, knowledge and better performance within organizations.

These are some examples of cooperative games in virtual environments:

- **Unigame: Game-based learning in Universities and Liflong Learning. Unigame is a Social Skills and Knowledge Training. Is parth of the Minerva Project.**
  http://www.unigame.net

- **Proyecto Atlas de la Diversidad Cultural (Atlas Project on Cultural Diversity): Juego del Gin Cana de la Diversidad (Gin Cana Game on Diversity)**
  http://www.atlasdeladiversidad.net

- **"Mi amiga vive lejos, pero me gusta hablar con ella" (My friend lives far away, but I like chatting with her": Juego virtual de conocimiento e integración. (Virtual game on knowledge and integration)**
  http://www.miamiga.org

- **The Association of Company Managers in Argentina (ADE) and the Brazilian Service for Support of Small and Medium Companies (SEBRAE) have launched the "Desafío SEBRAE Argentina 2003" (SEBRAE Challenge, Argentina 2003), a virtual simulation management game for both public and private university students.**
  http://www.elearningamericalatina.com/edicion/junio2/it_6.php

From Real-World Play to Virtual-World Play

Playful proposals that use written or spoken words and images as key elements are ideal for application to *different* virtual learning environments.

In order to use a real-world game and develop it for the virtual-world, it is only necessary to adapt it to the environment and the technologic tools that will be applied. E-mail, chat, forums, MSN, virtual classrooms and audio systems and video conferences are the best tools to work with playful resources.

What is definitely true is that some techniques of real-world games may be enhanced in virtual environments, while others should be transformed in order to work successfully.

To illustrate this transformation, I will use the example of the game of the constructed, dynamic personality, which I have profited of over many years in face-to-face activities, whose application in virtual environment has resulted highly successful.

The Constructed Personality

Dynamics of the "face-to-face" game: While sitting in a circle, each player writes his or her name on a piece of paper and passes the paper to the peer sitting to his or her right. The coordinator suggests an incomplete phrase, which each player has to fill out with something associated with the name written in the paper he or she has just received. When instructed to do so, all players at the same time pass the papers again in the same direction. The game continues with *different* instructions until each person gets his or her paper again. At the end of the activity, those wishing to do so, may read out the description of his or her personality, constructed by the different members of the group.

The following are some instruction examples:

- **John is:**
- **He really likes:**
- **He knows a lot about:**
- **He dreams about:**
- **He lives with:**
- **He is good at:**

Goals of the game: To know about each player, and express traits and characteristics related to the personality and physical aspect of each of them, according to the point of view of the rest of the group members.

Playful Dynamics in a Virtual Environment: The game develops following the same instructions and according to the same dynamics as the face-to-face version. The circle can be replaced by a list of players listed in such *manner* that they can send mails among themselves as if they were passing the paper.

The e-mail messages with the names of the players written in the subject of the message are forwarded to the following player in the list, so that the text corresponding to the given instruction is filled out. A Word form with the written tasks may be used, so that players fill out the first empty activity found in the message and then they forward it to the following player in the list.

In a virtual environment, dynamics changes depending on the timing of the reply, on the tool being used, the profile, the skills and knowledge of the people participating as tutors and students.

Why to Play in a Virtual Environment

- **To foster bonds and group integration (students and teachers).**
- **To motivate both students and teachers, to foster their participation and a maximum expression of their creative ability.**
- **To create an atmosphere that enables a good process of learning.**
- **To enable a more creative, amusing, interesting and innovative learning model.**
- **To increase the degree of retention and desire to learn through pleasant and emotional experiences.**
- **To maintain students longer, thanks to the conformation of an integrated group, ready to perform the task.**

It is obviously clear that, in order to design, coordinate or participate in cooperative playful dynamics, it is necessary to learn to play, leaving aside competitive habits and creating genuine learning, exchange, cooperation and knowledge-generating communities.

“It is a basic need of man to feel part of a group…and it is the first step to achieve his participation. Play is a language, and as such, it enables people to communicate and unite", states Sigrid Loos.

Conclusion

In this chapter I have attempted to go over different virtual playful ideas, thoughts and experiences. I hope you have enjoyed the reading, and that you feel encouraged to put play into practice in the production and implementation of virtual education programs.

In my opinion, learning through playful activities is one of the most pleasant, emotional and participative experience our students can undergo, and it challenges the creativity of all those who design and produce learning strategies in the framework of virtual environments.

""I learned this, at least, by my experiment; that if one advances confidently in the direction of his dreams, and endeavors to live the life which he has imagined, he will meet with a success unexpected in common hours" (*3), said Henry David Thoreau in Daniel Goleman´s book "El Espíritu Creativo" (The Creative Spirit).

Final Game

Perhaps the best way to illustrate and finish this chapter is to invite you to play with the text. To *do* so, you should put into practice your playful ability and look for the last hidden phrase. In order to find it, you should find in this chapter those words *highlighted in bold, italics and underlined* and put them in such an order so that a coherent phrase, closely related to the philosophy set forth in this article can be built. You will find the solution for this activity at the end of the chapter, presented in a different position and in such a way that you will have to rotate the book to be able to read it.

"To do things in a different way,
you have to see things in a different
manner"
Paul Allaire CEO with Xerox Corporation

Consulted Books and Articles:

(*1) Maja Pivec and Olga Dziabenko, "Game-based learning framework for colaborative learning and student e-teamwork", Pub.:e-mentor

Marc. J. Rosemberg, "E-learning, Estrategias para Transmitir Conocimiento en la Era Digital" (E-learning, Strategies to Convey Knowledge in the Digital Era), Pub.: Mc Graw Hill, Bogotá, September 2001.

David Perkins, "La Escuela Inteligente" (The Intelligent School), Pub.: Gedisa, Barcelona, June 1995.

Arminda Aberastury, "El Niño y sus Juegos" (The Child and his Games), Pub.: Paidós, Buenos Aires 1968.

Howard Gardner, "La Mente No Escolarizada", (Non-Schollarized Minds), Pub.: Paidós, Barcelona 1993.

Daniel Goleman, "La Inteligencia Emocional", (Emotional Intelligence), Pub.: Vergara, Buenos Aires 1999.

Daniel Goleman, Paul Kaufman and Michael Ray, *"El Espíritu Creativo", (The Creative Spirit), Pub.: Vergara, Buenos Aires 2000.*

Edward De Bono, "El Pensamiento Creativo" (Creative Thinking), Pub. Paidós, Barcelona 1994.

Sigrid Loos, "Noventanove Giochi Cooperativi", Pub.: Gruppo Abele, Torino 1989.

Johan Huizinga, "Homo Ludens" Pub.: EMECE, 1968

(*2) Nicholas and Peter Boltuc, "Another take on game-based learning", Pub.:e-mentor

(*3) By Henry David Thoreau, Walden. "Conclusion." Ed. J. Lyndon Shanley. Princeton: Princeton University Press, 1971. 323-324. http://66.84.39.89/cgi-bin/thoreau.cgi

(*4) Hans-Georg Gadamer, "The present time of the beautiful thing"

Lucio Margulis is an education expert (Lic. in Educational Sciences), with experience in the field of designing, development and implementation of training courses and projects in international companies and institutions. Today he is Business Developer for the Spanish Market with Tecnonexo.

He has given courses and developed face-to-face training projects and has applied e-Learning and Change Management solutions through Playful Techniques at the Joint (American Jewish Joint Distribution Committee), the Sociedad Italiana para la Educación Musical (Italian Association for Musical Education), the Sociedad de la Academia de

Lombardía (Association of the Lombardian Academy), the Italian Ministry of Labor, the Universidad de Flores, the Universidad Tecnológica Nacional de Argentina, the Fondo Social Europeo (European Social Fund).

He has designed and developed new businesses, training teams, sold projects and solutions to several companies and institutions such as PricewaterhouseCoopers, ITS- Sema Group,Atos Origin, IT College, the Ministry of Culture and Education of the Argentine Republic, and the Education site Educ.ar, among many other organizations.