The Seen Playfulness as Aspect of the Distance Education

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INTRODUCTION

Considering the increase of the necessity of qualified people and continues formation, the great lack of physical resources and specialists, as well as, the continental dimensions of Brazil, it becomes easy to notice the importance that distance education, especially by Internet, will take place in our society. So, it is essential to offer even more distance courses with qualify, and then we will be participating of the construction of a future that has already started. Therefore, we aiming at finding and spreading different alternatives of teaching and learning which make a greater interest, participation possible to the students, we elaborated a teaching and learning methodology. We used the construction of electronic games as pedagogical context, following the constructionist ideas.

The course called "Computer science and Games: the playful technology applied to the education" was totally developed at distance and it presented the construction of RPG[1] electronic, as a pedagogical context. From this scenario on we could verify that there were aspects which were presented as characteristics of the Distance Education (DE) in that context.

We verify that the playfulness found in the construction of electronic RPGs, as well as in the constitution of conjecture elaborated in the current discussions, carried through in synchronous way by chatting, regarding papers read during the course, forms part of a picture of aspects of DE.

In this direction, we will work this aspect in this context, from different theoreticians, and will present collected data in the course that confirm the presence of the playfulness, in a constituted scene of the perspective of DE. We will dialogue, also, with studious who deal with the learning theory called Constructionism, which served as bases for the pedagogical purpose presented in the current course, or either, the construction of electronic games.

However, first, we should point out the context of the course to the reader, initially presenting it in order to, from that, evidence the playfulness as aspect of the DE, which has been turned out in the interior of the pedagogical purpose used in it.

1. THE COURSE - COMPUTER SCIENCE AND GAMES: THE PLAYFUL TECHNOLOGY APPLIED TO THE EDUCATION

The course in question was coordinated by Professor PhD Marcus Vinicius Maltempi and had Professor Master Maurício Rosa as teacher, during 90 hours, totally at distance, with TelEduc[2] platform, as well as, with its tools of communication and interaction, synchronous and asynchronous, for the execution of this. Beyond this platform, it has been used software RPG Maker[3] that makes possible the construction of electronic RPGs and the UltraVNC, which makes possible the manipulation of files, folders and programs of machines, at distance and at real time.

Aiming at showing to the students-participants who currently we are living in a society in which the knowledge is valued and it has a decisive role in the future of all, we adopted papers for reading and discussing which destined to this. Moreover, we also try debating that, changes appear in education, which become viable with the insertion of New Informatics Technologies and use of the same ones. We show, from a theoretical conception, that the way of these changes is the one which searches to favor the construction of knowledge. Therefore, we present experiences of how it has been done in different environments of teaching and learning, from the academic as corporative one, presently or at distance, from the Constructionism, that according to Maltempi (2004, p.265):

It is as a learning theory as a strategy for education, that shares the constructivist idea which claims that the cognitive development is an active process of construction and reconstruction of the mental structures, in which the knowledge can not simply be transmitted from professor to pupil. The learning must be an active process, where the apprentices "put hands into the mix" (hands-on) in the development of projects, instead of keeping on seating aware to the speech of the professor.

Finally, we present the Game as a tool that, allied to the New Informatics Technologies, can mobilize the pupils and become the construction of knowledge a pleasant activity. This way, we take the proper construction of the games, as a way of experimentation of the playful teaching and learning methodology that this process takes as context.

The course got as content:

1. Knowledge Society:
   1.1 Changes in the society, changes in the education;
   1.2 The role of the computer.
Papers: Valente (1999); Daniel (2003).
2. Different uses of computer in education:
   2.1 Constructionism versus Instructionism;
   2.2 Learning by design;
   2.3 The teacher role, student role and community role.
Papers: Papert (1994), Maltempi (2004); Rosa (2004b); Borba and Penteado (2001).
3. The Learning Spiral:
   3.1 Making the knowledge explicit;
   3.2 Stimulating the debugging action.
Papers: Maltempi (2004); Valente (1999).
4. Practice of constructionist approach:
   4.1 In the schools;
   4.2 In business;
   4.3 At distance.
Papers: Schlünzen (2003); Oliveira (2002).

5.   Game, computer science and education:
   5.1 The importance of the games in the education;
   5.2 Possibilities e types;
   5.3 RPG (*Role Playing Game*)[4].
Papers: Macedo *et al.* (2000); Rosa and Maltempi (2003).
6.   RPG Maker:
   6.1 Introduction;
   6.2 Construction of the games;
   6.3 Applications.
Paper: Rosa and Maltempi (2003).

Following the planning of the distance course, we developed the activities of this course in order to propitiate the participation and the construction of knowledge by students. For that, we used the Learning Spiral (VALENTE, 2002; 2003) that was part of the content of the course and that emphasizes the debugging of knowledge in works with projects.

Thus, the activities that composed the course were: researching of materials, reading, presentation and discussion of texts, writing of summaries and the development of a project that aimed the elaboration of an RPG electronic, for educative objectives, followed by reports.

The game was built in the RPG Maker, gratuitous, available software for download on the Internet and, in this case, in the Web page of this course. This course kept synchronous meeting through sessions carried through in the Chat tool of the TelEduc platform. And then, in Chat, there was a previous definition of the responsible pupils to guide it with generating questions for discussions, from the reading of the pre-selected texts. The Forum, however, was used to discuss the projects (beyond questions linked to RPG Maker, RPG etc.) and the email had as function, the change of messages between professor/student and student/student, in order to

Figure 1. Basic elements are used to construction of an RPG adventure

BASIC ELEMENTS FOR THE CONSTRUCTION OF A RPG'S ADVENTURE	
Subjects and Objective	The subject of an adventure is the broached subject for story (for instance: a war, an escape, a disaster...) and the objective is that it is wished to reach to cover the adventure (in the educational case it can be the learning, the revision, the introduction of one determined content, among others).
Content to be worked	It is a clipping of determined content, where it will be done the relation of this with the actions that will turn up in the story.
Personages	They are the stereotypes elaborated by each member of the adventure (protagonists, antagonists, coadjutants, allies, informers and figurants).
Description of Places	It is the construction of the scenes that are inserted in the adventure (houses, castles, forests, islands etc.)
Called to the Adventure	Something is unusual that it happens so that the protagonists if feel invited to leave the routine and to go to adventure itself.
Plot	It is the development of story in itself, the sequence of events (beginning, way and end of the adventure), where the actions happen, the challenging situations, the information, among others actions.
Goal-plot	It is like if it calls the actions in parallel, or either, the alternatives, decisions of the personages in the context of story (for instance, the choice of ways to be trod and the consequences generated for each alternative).
Distribution Tracks	It is what the creator(s) make(s) when he chooses the places where the tracks are disclosed, that they indicate where the personage should follow, what to make, the next events.
Challenges	They are situations generated during story that make the personage think, reflect, and conjecture, aiming to carry on in the adventure.
It rewards	It is the end of the game, with possibility of finding, deciding, unmasking, and reaching what there was the "Called to the Adventure".

elucidate doubts, to deep subjects and to help the work in group. Both (Forum and email) constituted asynchronous tools of interaction in the promoted course.

For the development of the educative electronic RPGs, sessions of attendance for group were executed, through Chat, daily pay-set appointments all Wednesday, from 13/10/04. In the sessions, UltraVNC software was used remote control of the student computers, which made the use of the RPG Maker possible for the pupils and the teacher at the same time, exactly meeting in distinct places.

The total number of participants was 15, being 11 enrolled pupils, the coordinator, the teacher and two pupils of scientific initiation (invited to participate of the course as collaborating). Inside of these perspectives, the participants represented four States of Brazil and different cities of the same ones.

2. METHODOLOGY OF EDUCATION AND LEARNING: THE CONSTRUCTION OF ELECTRONIC RPGS

In order to initialize the construction of electronic RPGs, following the steps of a RPG master, we adopt the basic elements for the construction of adventures of this game. Thus, we disclosed such elements to the participants of the construction, they would be familiar to them, as well they could construct their own narratives, as they would be translated into the electronic RPGs they were made up of.

The basic elements for the construction of a RPG adventure can be seen in Figure 1 constituted from that it affirms Zanini (2003).

The activities of construction of the electronic games had as foundation the basic elements of construction of RPG adventures, attempting for each one of the aspects found in the specified picture, so the adventure could be build and structuralized within an RPG style and could easily be translated into the informatics environment, therefore software RPG Maker also has this style.

Thus, the construction process was happening gradually, first letting the participants familiar to RPG, so they could know its characteristics and potentialities. Then, the familiarizing them to technologies, in this case, the software RPG Maker.

The adopted procedure, initially, during the construction of electronic games, aiming discussions on strategies of education and learning, let possible the constitution of a method that the participants could use it in daily pedagogical practice.

The discussion on the changes in the society, the Constructionism, the learning through projects and the use of the technology was, during the process, linked. These actions happened in the way that, slightly, the constructors, when dealing with the software, were already thinking about the theoreticians' topics recently discussed by themselves.

After that, while the construction of the electronic game, mentalized by the participants, was being executed, the task to materialize the electronic RPG was carried through at the same time that the plot of its story was detailed (from the already idealized daily pay-plot). In the same way, and parallel, the actions that involved the content selected by the participants, was established through the goal-plot, which constituted enough variables. So, the player could reflect on the questions presented in the current game. There were diverse and different tracks and challenges distributed during the game that were part of the reflection around the established content.

With this, the construction of the electronic games were developed from many events what unchained a process of acquisition of an education methodology and learning from the own experience, or either, from the execution of the own methodology.

3. THEORETICAL ASPECTS

Presenting a playful educative environment is a fact that we identify as having a great importance, when talking about learning and teaching methodologies. In this direction, the playfulness of the present RPG in the playing also consists during the construction of itself (ROSA, 2004).

Imagining scenes, personages, actions and situations to be seen in the story, which will consist in the electronic RPG, sending the constructor to a playful world that, in our vision, help the processes of teaching and learning. This makes possible that the educative environment becomes "light", or either, without an obligating characterization that, many times, makes construction of knowledge difficult.

Thus, as Huizinga (1993, p.234) asserts,

[...] the true civilization can not exist without a certain playful element, because the civilization implies the limitation and the self-command, the capacity of not taking its own trends for the last end of the humanity, understanding that it has been locked in certain limits freely accepted. In certain way, the civilization always will be a game governed for certain rules, and the true civilization always will demand the sportive spirit, the capacity of fair play. Fair play is simply the good express faith in playful terms.

The playfulness, then, is faced as inherent to the human being and must be stimulated in all the actions developed for this, also in the related ones to the Education. Playful practice, in the educative context, is seen as a factor that favors the actions of teaching and learning, mainly, in situations that use games. Thus,

Among their many social functions, games have always been instruments of teaching and learning and, also, a way of use of language for transmission of the conquests of the society in some fields of knowledge. When teaching a game, the oldest members of a group used to transmit - and they still transmit - to young people and children knowledge that are part of cultural patrimony of the group. Or either: teaching a game is teaching the proper life (OS MELHORES..., 1978).

However, the knowledge vision that we have makes us disagree with this affirmation through only one word. During the current citation it appears the word "transmission" instead of "construction" of knowledge, we fall in a situation that, in the current society, in our vision, does not find more space. We believe the construction of knowledge is directly linked to making, to the action of projecting.

In this direction, within this propose, taking as bases the ideas of Papert, Maltempi (2004, p.265) claims that "[...] learning must be an active process, in which the pupils 'put hands into mix' (hands-on) in the development of projects, instead of being seating aware to the speech of the professor".

However, just putting "hands into mix" does not work, therefore this activity can provoke, many repetitive times, actions that are characterized as head-out, when the pupil does not get involved with them, therefore the objectives and the resolutions are given by others (MALTEMPI, 2004).

Giving continuity to this idea, Maltempi (2004, p.265) asserts that,

[...] the constructionism broaching goes beyond activities hands-on when leaving more control to pupils on the definition and resolution of problems. The idea is creating an environment in which the pupil conscientiously is engaged in constructing a public device of personal interest (head-in). Therefore, with the concept of learning better when making, the Constructionism adds: and still better when it is liked, thought and talked about what it became.

The playful activity, predominantly, is associated to interactions, to thinking e, mainly, to liking and, in this direction, defends the construction of electronic games to take communion of both the presented factors, to construct and to play.

Moreover, when constructing electronic games, we can say that it is added to the idea of mental construction, according to Papert (1994, p.

127), the question of the construction "in the world", which has tuning with the concept of a product that can "[...] be shown, be discussed, examined, investigated and admired [...] as a support for what happens in head, becoming, in this way, a purely mentalist doctrine". In relation to the construction of games in the Education, Kafai (1994, p. 310) discloses results of his research: "Designing games for learning offered a rich learning environment for children to become engaged in a variety of issues and to learn about many more aspects than I was able pursue in detail in the context of this thesis."

The game may be capable to exert the role of the element that makes the learning amusing, taking its playful character as catalytic source to know and propitiating to educational environment a pleasant image, that opposes the yawns, naps, or even, indiscipline that many times are reason for complaining by teachers in classroom.

Also, the research carried through by Kafai (1994) referring to the construction of games as process took the game as product, first, to evidence its direct relation with the interest of the pupil and, from there, investigating the referring aspects to this relation with the learning of exactly.

In this direction, the interest in constructing games links the fact of having interest in playing them. The own construction, evidenced in the actions of projecting, and creating personages and stories, strategies and action, can be characterized as a game of choices. Therefore, the construction and the application of a game do not stop being a proper game, in which exists interactions, dialogues, actions that if justify because, in any game, it is necessary to reach an objective.

Kishimoto (2001, p.36) to take communion with this idea, remits itself to the playfulness, when claiming that,

When the playful situations intentionally are created by the adult with sights to stimulate certain types of learning, the educative dimension appears. As long as conditions for the expression of the game are kept or, with other words, the intentional action of the child to play, the educator to potential the learning situations.

The playfulness, then, can be disclosed in the fiction need to feed the imaginary, relieve tensions, find answers to doubts, live impossible experiences to be lived in the real world, breaching with the limits of time and the space, beyond the possible constitution of different identities.

4. EPISODE DETACHED IN THE COURSE

Front to the theoretical referential that we adopt, we detach, at this moment, a removed clipping of the course - Computer science and Games: the applied playful technology to the education - which discloses the playfulness as present aspect in educational environments, as what we constitute in this course, carried through total at distance.

We present an event that is a clipping of the lesson of day 22/09/04, which had as subject the proper construction of electronic games with the use of software RPG Maker, as well as, the RPG and, consequently, the electronic RPG. This lesson, through Chat, used as bibliography to discussed the texts by Macedo *et. al.* (2000) and Rosa and Maltempi (2003).

Chat established discussions on what fantasy and what reality are, until point the limits of one invading the other, the possibilities of using imagination for learning etc., until arriving in the following discussion:

CHAT

Subject of the Session: Discussion of paper 5

Beginning: 09/22/2004 06:59:32 PM

End: 09/22/2004 09:06:30 PM

(07:48:06) **Fe** says to **Ma**: It is difficult for me to imagine how to fantasizing, or either, to create a Game RPG for learning integrals and

derivatives, for example, therefore I have always faced games like a diversion way and not learning.

(07:52:10) **Eli** says to **Fe**: it mentions the example of how learning theorem of pitágoras for the staff, who thus knows does not help Fernando.

(07:54:23) **Lu** says to **Fe**: He imagines that it is necessary to decide a problem by stages. And in each stage of these, you need to think about ideas that are to bring mathematics concepts. During the solution of the problem, the player thinks about concepts and learns some thing.

(07:52:28) **Ro** says to **Fe**: As we have already discussed if pupils will be responsible for the creation of the game they will have to have n knowledge to develop it. If he will be a player of a game made by the professor or by another pupil, he will be learning through in a playful situation, for the attempt and error many times, constructing its knowledge. Better the game will be planned, more learning the pupil will be able to have.

(07:55:54) **Fe** says to **Mal**: Guys, we have created an example of use of the fantasy of the RPG in the mathematics education: Imagine the personage taken to old Greece and trying to decide the problem to find the size of one hypotenuse. He walks through several little cities, in each one somebody gives him a tip. And in one of these trips, when he is starting to understand the Theorem of Pitágoras, Pitágoras shows up and asks him to help him to solve it. IMAGINE: The personage of a child teaching Theorem of Pitágoras to the real Pitágoras!

(07:56:34) **Lu** says to **Ro**: I was thinking about this. In NPC's to help the Player. It is a very interesting possibility.

In this episode, we can identify the playfulness that is constituted at distance. Or either, we can realize that in a course that takes, as propose, the electronic construction of RPGs, is discussed on the subject and, consequently, it sends us examples of the act of imagining. The proper participants make the others create in its imaginary a situation that they consider.

Soon, when Lu asks Fe to imagine the situation created by himself, conceives that as Fe, all the other participants sent their minds to the fact considered by Lu, making possible the visualization, coming from this situation, how can the process of learning through the game happen, as says Macedo et. al. (2000). This is identified by us, whom we participate of this fact, in the same way that it makes with that the people who read this dialogue pass through the same process; therefore we playfully create the game subdivided into parts which, of course, would bring the mathematical concepts.

Also, in this episode, when Fe asks the participant to imagine a personage taken to Old Greece, automatically, we realized this transport mentally. Our minds try the process playful to create a scene, in which have a boy teaching the Theorem of Pythagoras to the proper Pythagoras. In this direction, it is the distance that project us into the game and that constructs knowledge from the educative dimension (KISHIMOTO, 2001), it is originated for the playful situations is projected that appear in the mental process.

The aspect of the Distance Education, taken as playfulness, can be observed in this discussion regarding the process of construction of educative electronic RPGs, as well as, in the proper process. The high degree of creativity found in each educative electronic game can be seen, or either, in each one of the projects developed for the participants of the course. This creativity, represented for playful situations, appears since the constitution of histories properly said until the interlacement between plot and established content. Of this form, we understand that a source of so great playfulness can be in the proper action to imagine generated in the sessions of chat, carried through previously the constitution of the projects. Example of this is the clipping that we finish to carry through in this article.

5. FINAL CONSIDERATIONS

From the construction of the electronic RPGs at distance, we perceive that this process takes the playfulness as one of its characteristics.

However, we know that such practical does not happen suddenly. The act to create needs a constant feeding of ideas and a great interest in exerting it.

We perceive in the evaluation of the students that the course acomplished in the molds demonstrated here, contributed for the formation of everybody, mainly, in what it relates to the accomplishment of a distance course, in the case, how a course in this educative modality functions, what is the requirements, the necessities, the prerequisite for an education of quality are.

We also saw that practice of the construction of educative electronic RPGs has already started to create ramifications. Because, in the evaluation made for the students, some had demonstrated have already been using this teaching and learning methodology in its lessons, while that others already planned and executed a course of extension in its education institutions with its research groups with intention to present this methodology to the teachers of the education net.

On the other hand, we intend to accomplish this course as integrant part of one discipline called "Computer science applied on the Education", inserted in graduate Computation course, and to continue to develop research whose subjects are connected the teaching and learning methodology adopted in this version.

This extension course also stimulated our research in other spheres. From it, we are investigating the use of the Virtual RPG in a Calculus course carried through in the distance, which possess the constitution of the definite integral concept as main objective. We investigate the influences of the construction and representation processes of different identities in relation to teaching and learning of this mathematics concept.

Soon, these experiences allow us to say that the DE starts to present elements that characterize it as educative modality that deserves special attention. As we can import evidences of studies which present aspects as the differentiated time and space in this educative modality, once these elements are seen under a made structure at distance the time and space in the present module are characterized as different of, we realize other characteristics that must be detached. So, the limitations identified with determined subjects, for example the Mathematics, can be brightened up by possible characteristics to be executed in the proper DE, as the playfulness.

The Distance Education has aspects that can favor educative practice. Among them, the playfulness can be seen from the constitution of a scene which uses the construction of electronic RPGs and, thus, to potentialize the factors that corroborate the defense of the playfulness in pedagogical practices.

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ENDNOTES

1   RPG – Role Playing Game means "game of interpretation of personage" or "game of make-of-tale" and is a modality amongst the games that it uses as bases to interpretation and imagination of its participants, or either, of the player and the master (responsible person for constructing the atmosphere of the game, besides leading story in it) (ROSA, 2004).

2   "[...] surround for the creation, participation and administration of courses in the Web" (ROCHA, 2002, p. 197).

3   For more information you should see Rosa and Maltempi (2003).

4   (KIM, 2004; HARRISS, 2004).

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