

# **Digital Cooperation Network: the development of low income communities in a scenery of New Information Communication Technologies**

## **INTRODUCTION**

The current society, characterized by the use of new information and communication technologies, is facing strong changes, which are restructuring ways of production and work. In this context, the social configuration can suffer a worsening of the domination and control, or to take the advantage of technology as a source for the subject identity construction. To promote the access to the computers and Internet for the less favoured population may be one of the challenges, but constructing a network where there are cooperation and interaction between these various actors is considered by the authors as the main question in this context. In this perspective, Fundação Pensamento Digital (Digital Thought Foundation) carries out the Digital Cooperation Network Project, aiming to protagonism, enhancing knowledge and empowerment of people from low income communities.

The Digital Cooperation Network Project offers formation for the NGO's teams, aiming at technology appropriation for the cooperation on Internet and at the construction and register of local knowledge.

In order to do that, the Learning Environment at Distance AMADIS<sup>1</sup>, is used as resource, according to Fagundes (2005). This environment was created in order to be used in schools, but it was adapted to NGO's use.

The network created among various educators and students, who are register in the Environment, is a Virtual Internet Community. Among the objectives wished, are included: the social and emotional ties creation, self-esteem increase, construction of the autonomy and the social enhancing knowledge and empowerment.

## **2. INFORMATION AND COMMUNICATION TECHNOLOGIES (ICT's) FOR THE SOCIAL DEVELOPMENT**

According to this book *“Connecting People for a Better World\_ Lessons, Innovations and Perspectives for the Information and Communication Technology in Development and Cooperation\_ SADC* and by *“Global Knowledge Partnership\_GKP*, cited by Voelcker (2006, p.35), that summarizes the debates of the World Summit of the Information Society of 2003, the Internet may become a resource to share knowledge and opinions. In the cyberspace networks may constitute efficient tools in order to built alliances and interest groups, because they allow from fast and collective reactions and even politics decisions that affect many people’s lives.

The introduction to this book, entitled TIC’s Hoje (in portuguese), says that, for the development agencies is essential to consider that TIC’s Hoje may become more effective development programs when:

- To expand the economic opportunities and employment creation, becoming possible to the small and middle producers, who already exist, to increase their efficiency and to provide access to an appropriation of technology.
- To facilitate the programs retortions and development activities.
- To improve the Governments, increasing their transparency and efficiency delivering the benefits and Social Services.
- To promote knowledge efficient exchanges and learning processes in order to face complex activities of development in an environment with fast changes.

In the subject “Extending the human capacity and empowerment”, Weigel and Waldburger<sup>2</sup>, cited by Voelcker (2006, p.36) poit out, during the World Summit of Information Society, The follow learned lessons:

- ICT’s for development and ICT’s for education projects that focus their investments on the deployment of technology have mostly been unsuccessful and unsustainable.
- Successful ICT’s educational projects focus on developing capacities and cognitive skills as well as on providing access to and appropriation of technology.
- Resources need to be allocated for the development and training of leaders, as well as for follow-up, research and innovation, and support and maintenance activities.

As innovations, Weigel and Waldburger, cited by Voelcker (2006, p.36) conclude that innovative projects that use ICT for development or ICT for education are progressively oriented to redefining educational models and redesigning learning experiences available by technology and do not in the intervention of instruction with traditional methods. The pedagogical and epistemological dimension in projects that aim at empowering and enhancing knowledge are important.

In the summary of the World Summit of the Information Society, Weigel and Waldburger, cited by Voelcker (2006,p.37) also point out burning questions:

- How can the education system re-consider and re-structure its function in knowledge preservation, creation and delivery to cope with the evolving needs of students in the fast moving technology world ?
- ICT's have the potential of revolutionizing the ways in which abilities, knowledge and competences are acquired by individuals, organizations and communities. But, how can this potential be used to reach development objectives or social emancipation?

In Brazil, according to the National Functional Illiteracy's indicator (Paulo Montenegro Institute<sup>3</sup>, 2005) just 26% of the Brazilian population have full command of the reading and writing abilities. It means that 74% of the population don't understand what they read and can't write a text. In relation to the Digital Inclusion, the most frequent practices have been concentrating themselves in the NGO's Telecenters creations included in low income communities. Brazilian deficiency is understood as absence of actions for educator's formation and payment salary that become possible the use of Telecenters as spaces for ability developments.

### **3. DIGITAL THOUGHT FOUNDATION**

Started in 1999 from volunteers mobilization for digital inclusion, and formalized in 2000, the Digital Thought Foundation<sup>4</sup> mobilizes various segments of the Brazilian South society for the educational projects' promotion, through the use of the new ICT's. The Foundation works in contribution with a partnership with business enterprises, universities, NGO's and governments to attract, regain and distribute computers. Being able to work in combination in

educational orientation of the works allowed the Foundation to specialize the formation of the community educator, for the use of ICT's in the promotion of the low income communities development.

To bring the opportunity for low income communities to access to Information and Communication Technology (ICT) and to promote the use of ICTs for the social-economic development of the benefitted communities, are the main objectives of the Digital Thought Foundation.

### **3.1 DIGITAL COOPERATION NETWORK PROJECT**

The Project devotes to the provision of reused computers for NGOs and to the educational-technical creation and support of a virtual community represented by educators and students of benefitted NGO's.

For NGO's educators is offered formation, which aims at the technology appropriation for cooperation on Internet, construction and local knowledge register. When these educators go back to their communities, they multiply this formation with the community Telecenters' users.

The Project makes use of the Learning at Distance Environment, where users from various NGO's talk to each other with volunteer educators and educational team of the Digital Thought Foundation. They share ideas and projects, construct knowledge, creating a learning virtual community.

The Project's main objective is the use of ICT's for various social programs's empowerment that are in progress in the NGO's. Making use of the Educational Projects, the computers and Internet use is proposed a way of potencializing these programs, going beyond the repitted practices in the Telecenters as free use and basic information technology course.

According to Fagundes (2005), the Educational Learning Projects which is unified into the use of a learning at distance environment and into a Virtual Learning Community's construction and feeding, was proposed by researchers from Cognition Laboratory Study at UFRGS, Rio Grande do Sul, Brazil. The learning methods through projects has as "range start" the students motivation in solving a problem or investigating a question, chosen by himself, allowing that he develops ways of autonomous work in the construction of his own knowledge.

#### **4. The Learning at Distance Environment: AMADIS (in portuguese)**

The environment chosen by Digital Cooperation Network Project was AMADIS. This environment has resources that make it possible the planned interactions in the Projects. Besides, the use of an environment is supported in the Piaget's theory, according to Nevado (2001): "*A learning environment is an invitation to learn.*" Piaget says that children and also adults should have opportunities to carry out their own experiments and research. Such explorations and experimentations imply a certain ludic behavior, an interplay of the subject's internal resources (both emotional as well as cognitional, aesthetical, ethical, etc) with the environment's objects and the interactions with other subjects.

#### **5. METHODOLOGICAL STRATEGIES AND OBTAINED RESULTS**

The methodological strategies of the use of each AMADIS's resource, planned and carried out by Digital Thought Foundation's team are as follows.

##### **5.1 PERSONAL PAGES**

In this resource, the registered users in Environment have the possibility of publishing HTML pages in a reserved space for personal files *upload*. This resource have been used aiming at technological resources's learning and a construction of a virtual identity inside Environment.

It saught to give a meaning to the technical resource's learning through the construction of this own page, in which students introduce themselves and present their tastes and experiences. This makes necessary to learn how to formatate a text, to insert images, in other words, it leaves to be just a technical and mechanical activity. At making this exercise of introducing themselves,

telling about their lives and experiences, the students pass by a thinking moment about who they are and what they have to tell about. It helps in the (re) construction of their image and of their own identity, that many times are excluded. In addition, they start to have a virtual identity, many times idealized, or free from prejudice, that exist and is traumatic.

The already published introduction pages were used to start developing the pages. These pages come to be referential for the new ones. Support materials<sup>5</sup> (technicals) are also available for the elaboration of pages.

The two users's pages, Tatiana and Gilciane, are examples of the use of technological resources in the creation of this virtual identity. A reflexion about your life and the discovery of new ways and new challenges.

Hi, my name is Tatiana, I'm 17 years old, I'm a Libra, I study and live in Alvorada in J. Aparecida quarter. I love to laugh, to play and I always try to be in a good mood, enjoying my family and friends. I like to be always occupied, learning new things and teaching a few that I already know.

In my free time I like to watch terror, comedy and novel movies, I also like to read, listen to music and to talk to my friends. But I spent most of my time with my boyfriend. I go to almost all parties, but I won't lie that I prefer to go to the movies with my boyfriend.

Figure 1. Tatiana's page<sup>6</sup>

### **MY WORK**

I love to work at Maria Mulher, because it has being a compensate and innovative experience, and I always wished to work with people and to be talking to them all the time, giving information for those who need, then at Maria Mulher I had the chance to show my community that things may be different, and because of that I became a reference to women of this region. I have been working at this NGO around two years, teaching women who are illiterate, I also work with the information technology workshop. You can believe that my life has already changed a lot, because after I found out that I can change and also improve, not the world, but my life, I have been doing it every day, fighting, searching and conquering other spaces that aren't

always the act of asking and receiving, but that could be a space of exchanging, because I was always a person who believed in destiny, but never in fatality.

Now, I'm passing for a professional process that I have to mix with different people of my reality and find out that there are other places where I can fit. Now, it's time to test if I absorbed what I have learned and go ahead. To face a university's team is an excellent test, but I hope not to disappoint them, and I always want to go ahead breaking barriers, destroying prejudice, and as I always like to say: "poor yes, but miserable, not."

Figure 2. Gilciane's page<sup>7</sup>

## 5.2 DIARY

In this resource the user has saved a personal space to post his reflexions that are visibles and availables for comments to all registered in the environment.

It was used as a strategy to comment these diaries interacting in a more directly way with users, searching to create links, clarifying doubts, suggesting new knowledge, backing up and motivating tasks.

08/11/2005: In 10 days the first a year of Pensamento Digital's team was at Maria Mulher NGO to start the project. Today, it finally is in progress connected to more NGO's technics. I confess I'm very happy of being part of this process. It's really rewarding because I can say that I was one of the pioneers to know this project and see that it really works, and that we can used it. In this first day of capacitation, Décio and Susana from Foundation were present, and Eliana, Caroline, Dolores, Rosélia and I, as members of Maria Mulher's team. Few people, but yet lots for a little beggining. We are all thrilled with this novelty and I confess that I was under the impression that this project really could make the difference.

Figure 3. Gilciane's diary at AMADIS

16/11/2005: You are one of the people who believe in the project and fight for things to be accomplished! Congratulations for your efforts to get Internet for NGO. The project's potential is incredible, even more when interested people are involved...You are one of the pioneers and a reason of pride for all team! We got to pass the idea of the project to you...

I hope we can work with your mates of NGO, and I believe that with your help (and wish) they soon will be engaged in our project, using information technology to promote learning of your own students, in each one's workshop.

Ahhh! We are going to talk to each other by diary more often, ok?

Kisses

Figure 4. Digital Thought Foundation's team's comment

A recognition and incentive to the user by Foundation's team were exemplified above.

This diary (08/11/2005) was commented by a user of other Organization, as a help solicitation. Even though they didn't know each other, the confidence environment created at AMADIS allowed "user 1" to introduce herself and to construct (in the interactions that carried out) social ties with Gilciane.

Hi Gil. How are you? My name is\_\_\_\_\_. I'm Décio's student and I live at Campo da Tuca. I'm going through a difficult time in my life. My parents live far away from me. I live with my three children, and my birthday is on May 26th. Well, I decided to get divorced but he didn't accepted it as I expected. It has been since 5 months he was living with his mother but in the last (12) he assaulted me with a knife in my home. I hope you could help me.

Love getting to know you!

Kisses.

Figure 5. "User 1"'s comment in Gilciane's diary

### **5.3 FORUM**

As in the diary's resource, the objective of this one was to help users with their doubts, but now with a different strategy: to wait for their doubts or comments and then help them.

It is essential to have an open space for doubts where users have both the possibility of asking as well as helping the others.

Hello everyone!!!! (Magda Nice Barrada 02/03/2005)

I'm very busy with my notes, but I bumped into a question: to enter in the composer was easy, but the passwords still continue to bump me as I've written in the previous message. We had two passwords: one for different duties; other to compose the personal page and another when we change to the project. I tried to look for my file but I didn't manage to find it. It seems it doesn't exist. In it I have all my notes, photos, etc, that I can show to my students in class so they can see how my file looked like before I set my page up. Thank you very much!

Re: Hi everyone!!!! (Rodrigo Orestes Feijó 03/03/2005)

Hi Magda, what happened is that the passwords that you have written down is used to access the LEC's computers ( which are protected from passwords). The change that happened with the passwords was to avoid that the computers LEC's ones) stopped in the middle of the course. These passwords will not be necessary for the course you are going to take at Rubem Berta (because the computers are not protected with passwords). To use the composer, the passwords are not necessary, you just have to access mozilla. Therefore, if you go to visit us at LEC, these passwords and users will not be more necessary. As for the files, you will just access those which were published at AMADIS. I hope to have answered your doubts. Love, Rodrigo.

Hi Rodrigo!! (Magda Nice Barrada 03/03/2005)

Thanks for your answer. But now that that's where the shoe pinches. I entered at AMADIS, entered in the project, in the project's file, and what I found was just my files without the passwords that can't be used in this computer. How can I access my file? What are the ways to do that? And how do I go (for examples) to attached new data to my project, now at distance if I don't enter in my files? Please, don't leave me alone!!!!!!!!!!!! Love, Magda.

Figure 6. Forum "Rubem Berta's page course"

The Forum above was created specially to help technical and educationally the educator Magda (student of the first group offered by Digital Thought Foundation) and her students in a course which was taught in the Rubem Berta Telecenter.

Domestic Violence (Juremagostinsky 14/12/2005)

In my opinion all and every assault has to be reported. Alcohol is a licit drug and nothing is done to prohibit it. If the community uses of its strenght to control the commerce in its neighborhood and enforce the law that prohibit to sell liquor to people under 18 years old, it would solve in part the problem. Domestic Violence is not only physical assault, but also moral and emotional. We have to be careful in our home. And in this way, to make our part in the society loving and respecting our neighbor.

Re: Domestic Violence (Gilciane Neves 23/12/2005)

I agree with you Jurema. We are the only ones who can change this reality. We can start with acts and activities in the educational area, because only through it we can modify the situation. My invitation for you and Deivis is thinking on something together, because people like us have a lot to contribute. Let us create something different and free from prejudice that we have when we speak about controversial subjects. I hope to get answers. Love, Gil.

Figure 6. Domestic Violence

In the Forum above, Gilciane, who works at Maria Mulher<sup>8</sup>, plans and invites Jurema and Deivis, proposing that educators from different NGOs and communities of Porto Alegre, get together to create something different, because, according to her own words “people like us have too much to contribute”. In other words, the Forum’s space may serve as a welcoming and safe environment, in order that people can share their experiences.

#### **5.4 CHAT**

This resource is used for communication in real time with a previous registration of dates and schedules.

The strategy used was not to establish only one subject to be discussed, but to take advantage of the collocations that appear, during the chat, in order to do interventions that may encourage people to think.

### **6. LEARNING PROJECTS**

The environment which has been used differentiate from others to stimulate and become available interactions and research on internet that contribute for development and publication of Learning Projects (LP). A project begins with a main question about a subject related to person’s interest. Afterwards, it’s necessary to think about what is already known about this subject, and what is expected to know. The next step is to do a research and interaction and register the discoveries done. Normally the registers are done in an editor of text which creates HTML pages, which are later published at AMADIS, in a suitable space for the Projects.

“ When we talk about “learning by projects” we are, necessarily, talking about the formulation of questions by the author of the project, by the subject who will construct knowledge. To us the student is never a flat plank, in other words, we start from the principle that he/she already have his/her own ideas.” (FAGUNDES, MAÇADA e SATO, 1999).

In the work with the communities, one of the strategies is to make space available for the divulgation of initiatives, proposals and projects of the community institutions, of forming and creating a cooperative network among them. In other

words, many times instead of creating LPs, users publish the pages or projects of their communities.

## **7. CONCLUSION**

The formation of the educators and other members of benefitted NGO's through Cooperation Digital Network, based on pedagogic learning project, integrated to the construction and feeding of virtual community, shared to be appropriated to make it possible a series of vivencias, that contribute the understanding and integrating of the changes in course in society.

At creating contents and taking part in forums and chats at AMADIS, users express themselves mainly through writing. In addition, they demonstrate understanding in relation to the information obtained researching in books and the Internet.

The main result of Cooperation Digital Network Project is to prove that it is possible, starting with formation proposal, using the Information and Communication Technologies, joining with AMADIS environment, constructing an inclusion space where NGO's users can see themselves as subjects of their own process of living, constructing their own instruments of inclusion, giving more chances of developing abilities for the work. But most important to the users of the Environment, who lived the proposal formation and continue to interact in the virtual community, was the construction of the concept "being able".

## 8. NOTES

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<sup>1</sup> Site of the current version of AMADIS, used by Digital Thought Foundation, since April 2006:

[http://amadis\\_fdp.lec.ufrgs.br](http://amadis_fdp.lec.ufrgs.br)

<sup>2</sup> Weigel, G., Waldburger, D. (Ed.). ICT4D Connecting People for a Better World Lessons, Innovations and Perspectives for Information and Communication Technology in Development. Published by Swiss Agency for Development and Cooperation (SDC) and the Global Knowledge Partnership (GKP). Berna, 2004.

<sup>3</sup> Institute of Applied Economic Research\_\_ IAER (Instituto de Pesquisa Econômica Aplicada\_\_ IPEA.

<http://www.ipea.gov.br>)

<sup>4</sup> Site of Digital Thought Foundation: <http://www.pensamentodigital.org.br>

<sup>5</sup> Sites of support materials: <http://oficinas.lec.ufrgs.br>, <http://oficinas.psico.ufrgs.br/html> e

<http://oficinas.lec.ufrgs.br/wiki>

<sup>6</sup> Tatiana's page's address: <http://amadis-fdp.lec.ufrgs.br/paginas/users/user-507/>

<sup>7</sup> Gilciane's page's address: <http://fdp.lec.ufrgs.br/amadis/paginas/user-9/gilciane6.html>

<sup>8</sup> Site of Black Women Organization\_ Maria Mulher:

<http://www.portalafra.com.br/entidades/mariamulher.htm>

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