

## Empowering women through ICT: strategies and methodology to recover women's historical memory in rural areas.

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Women and older women in particular have been for long victims of exclusion from science and technology. Throughout history many cultures have been hostile to the participation of women in the study and development of these two areas of human knowledge. A project, "Technology in the Heritage of Memory" forming part of a multi-regional European Project co-funded by the European Social Fund, sought to determine specific ICT needs for older women, and through the process of learning how to use specific ICT tools, these women shared their life histories. Through such a process the recovery of historical memory was experienced.

**Keywords:** Empowerment; historical memory; ICT needs for older women

### 1. Theoretical background: Women and technology

If the relationship between technology - science and society is being widely revised and questioned, this is precisely due to the fact that we live deeply immersed in a society marked by technological change. Science and technology are used as an index of the progress of a society, but at the same time such development is linked to the main global problems of the present.

This is a duality that is also reproduced in the area of feminism where discourses about technology are polarized into utopian visions of a future society in which technology would help to dilute the differences associated with gender, or into "dystopian" visions in which technology would emphasize such differences even more.

According to the "dystopian" line, cyber culture has not only changed the stereotypes of gender, but is even being used to accentuate the domination and oppression of women. According to García et al., (2004), those who form the elite of power on the Internet, namely those who make decisions and decide on its design, are mainly men. In this respect, men continue to dominate speech, neutralizing women as subjects and therefore reinforcing an image of women as secondary subjects or even objects.

Some feminists denounce the "dystopia" that the virtual world of cyberspace is constructing. This "dystopia" consists precisely of acting as if cyberspace were a place of domination, oppression and alienation; obviously this is not only for women, but also for all of those who are excluded from mainstream society. Radical cyber-feminism has interpreted western technology as reiterating once again one of its more persistent habits: the trend to create differences, to organize these differences hierarchically, and to thus convert them into inequalities.

There have been several feminist proponents who claim that women have not only been excluded by the social construction of science and technology, but also in the way in which science and technology have been used for the benefit of patriarchy.

In spite of the common opinion that technology is neutral to gender, feminist academics have long been investigating the nature of gender in science and technology and argue that women and men correlate in different ways with technology because of their different values and cultural practices.

In "*From webgrrls to digitaleve. The gender practice of women's technology and organization*" (2002), one of the contributors, Krista Scott Dixon offers a panoramic view of the literature on women and technology, paying special attention to models of gender and technologies and to feminist paradigms of these questions.

Castaño et al (2006) discuss in some detail three of these models, namely:

- *Gender constructs technology*: this model conceives gender as being a non problematical category that produces categories and artefacts marked by gender. It analyzes the differences in how men and women use ICT, as well as the hegemonic form of masculinity that is found in practical technology.
- *Technology constructs gender*: this model considers that artefacts and technological practices are in essence neutral, but are coded by the culture as masculine or feminine, that is, the culture conditions how women and men use technology.
- *Gender and technology are mutually constitutive*: this model conceives both categories in a continuous process of dynamic relations in which they continue to evolve and in to be redefined dialectically.

This project builds on the latter model where gender and technology are mutually constitutive in a continuous process of dynamic relationships, which continue to evolve and redefined dialectically. This project thus promoted a course of digital literacy that sought to empower women by enabling the development, design and creation of contents and which

thus answers, in our case, the needs specified by women when trying to determine the opportunities that technology offers to them.

## 2. ICT training as an empowering strategy

By designing workshops about digital literacy, our project aimed at encouraging women from the region of Montsia in Catalonia, to use new technologies and to raise awareness about the importance of the part that each woman has played and still plays in the construction and in the development of collective memory. Through such a process women are believed to be empowered through their participation in all spheres of society, including decision-making (Beijing, 1995) and thus reduce the inequalities experienced by women (Rodríguez, 2007).

The project sought to help women overcome barriers that are created between women and “gadgets”. These barriers have to be seen as a consequence of the small amount of information that women receive and the cultural stereotypes, traditions, rules and institutions that still impose typical relations of gender in our society and that weaken women and make them subordinate and discriminated against in many fields, including technology.

When analyzing the division of gender in relation to technology and the information society, the main problem is the shortage of studies. But what the literature in the area clearly points to are the well-known risks often referred to as “digital breach” that technological changes often generate. This is an inequality that is created when certain groups of citizens, for various reasons, cannot make use of the technologies and are thus socially excluded. In particular, the groups most affected by this social exclusion are women, elderly people, and more so elderly women, people with fewer economic or cultural resources and people living in isolated zones that are lacking the necessary infrastructures.

From a gender perspective, feminist demands coincide with the need to train women and their organizations in the strategic use of ICT by promoting courses that cover an extensive range of subject matter. It is believed that such exposure to ICT tools, empower women to attain equality, self-development and peace.

Traditionally women have been considered technophobes with a passive or even fearful attitude towards technology (including the Internet). As a matter of fact, there are some barriers (real or subliminal) that often inhibit women’s access and use of ICT. This is reflected in the low percentage of women using these technologies compared to men. Certain barriers have their roots in the education women receive, which has traditionally been less oriented towards technology than that which men receive, or in the stereotype that men relate better to technology than women. (Wajcman, Judith (2000); Tamblyn, Christine (1995); Bertomeu, A (2008))

This idea has been often used “to justify” the low presence of women in the design, production and use of technology. Women have been invisible and silenced and traditionally have not been taken into account during the design of contents and even less so as content designers.

## 3. Context

In the first place the digital breach between the genders is a breach in access to ICT. It is an incontrovertible fact that the number of Internet users has considerably increased in recent years. However, in Europe and Spain in particular, the current digital breach between the genders alone reflects the fact that the percentage of internet-users who are women is still lower than the percentage of male users and that these differences seem to be increasing. However as the study by Castaño (2005), *Women and Information Technology*, shows, the problem goes beyond the question of gender.

In such studies one needs to keep in mind that women constitute a heterogeneous group and socioeconomic and demographic differences between them should be considered. It is thus important to take certain variables into account (age, educational level, job and professional situation and nationality). Gender differences respond to factors that have to deal with the diversity of each collective, and are directly connected with the conditions in which the construction of the information and knowledge society is taking place.

The 2006 Report carried out by the E-EQUALITY Observatory of the University Complutense of Madrid, Spain, shows that the spread of ICT has had significantly different impacts on women and men. Thus in order to determine the relation between women and ICT, we must search for data regarding:

- The presence of women at all levels of education, science and technology;
- The employment of women in ICT related sectors and the new economy;
- The participation of women in the information society. (Castaño 2005, 18-21)

Through its quantitative analysis, the E-EQUALITY Observatory has identified several levels in the digital breach between genders in Spain, one factor being the difficulty women face in gaining access to the labour market. This creates a barrier for achieving equal opportunities.

It is frequently asked why this still happens if nowadays women can have access to the Internet and to ICT via many channels. Previous research in this field has shown that this could be due to many factors such as 1) women have less spare time; 2) there are fewer women in the labourmarket; and/or 3) women may spend more time in less computerised environments. All this means that women have more difficulty in gaining access to economic resources that would permit them to pay for ICT equipment.

Secondly, the low number of women active in cyberspace could also be due to the lack of less interest in new technologies or because they lack self-training (digital literacy and capacities). As a matter of fact, it has been detected that the digital divide in gender is a divide in training and education (digital literacy and capacities).

The E-EQUALITY 2006 observatory also identified that women and men in Spain make different use of ICT. These different uses (influenced, if not determined, by gender differences in access to the Internet and online training) and the fact that women are less frequent and intensive users than their masculine counterparts signify important qualitative differences. These differences mark another digital breach of gender, a digital breach that, apart from being indicative of an existing social inequality, also takes the form of a barrier that prevent full and effective participation of women. This in turn makes the need to improve women's technical capacities training even more evident. There is also a need to improve the contents of the net, in order to motivate women, in terms of access and use.

Castañó (2005) states that computer literacy among women must be improved, as must their ability to participate in programming, design, organisation and decision making at the highest levels in the ICT sector. This capacity is limited because there are formal and informal barriers to the participation in ICT related education and careers.

In an agreement reached between the ministry of Industry, tourism and trade and the Ministry of Work and Social Matters in 2007 to implement a series of measures to promote women's access to ICT, one of the proposed measures was to target people over 45 years of age because, according to Catalan Government data, the number of frequent computer users in this age group is quite low compared with younger generations that have always lived with ICT and who have already integrated it into their everyday lives. For this reason the project "Technology in the Heritage of Memory", chose to focus on older women who experience different variables that affect their quality of life. The first variable is unemployment, which leads to a high rate of inactivity. This can be generated by weak economic activity in the region or by difficulties in entering the labour market resulting from the processes of productive diversification. This has led to the disappearance of jobs which rural women used to carry out such as manually harvesting fruits, vegetables and crops, making handicraft products, working in small workshops in manufacturing sectors such as textiles, footwear or toys, working in family businesses such as trades or small workshops and other specific professional activities.

Another interesting aspect is related to the level of literacy among these women; the rate of illiteracy in the region keeps on diminishing gradually over the years, however, it continues to increase among adult women, although there is little evidence of these problems among *people who have not continued in formal education*. This rate keeps on growing slightly in both sexes in people whose age ranges between 45-49, and increases again in men and women who are older than 65 years of age. This increase shows a clear feminization of illiteracy. In the data regarding people who only have a basic level of education, literacy also decreases in the 40-44 age range for both men and women, when compared with other age groups.

Recent studies on new technologies and elderly people highlight the importance of demonstrating the utility of these tools and the way in which they can help elderly people to overcome many limitations and/or deficiencies.

#### 4. Methodology

The methodology we used worked on two levels: 1) participative research, in which women are active subjects in the research and, 2) gender perspective, a theoretical tool that leans towards a qualitative methodology and considers class, ethnic group and age. This perspective allows women to become visible, gives value to individual and collective experience, and helps them to analyze and reflect on their social relations.

Of the twelve women's associations in the region (Southern Catalonia), eight agreed to participate in the workshops.

Once the associations had agreed to take part, they were given a **questionnaire**. The questionnaire dealt with digital literacy and contained different items distributed across three dimensions. The dimensions and the questions of the questionnaire were determined simultaneously.

**Dimension I: General aspects.** Through this first dimension we gathered some important characteristics about the women who were to participate in the workshops and this information provided the research variables. These included age, level of education, and digital literacy among others. Together with these questions, the women were asked for information about their work and family responsibilities. These two questions were fundamental in order to determine the women's personal situations and to adapt the workshops' objectives accordingly.

**Dimension II: Facilities and Access to ICT.** In this dimension women were asked about the computer equipment they had at home and their access to it because it gave information about their level of ICT use and whether this was restricted by the family environment. Once this had been determined, they were then asked about the ICT knowledge that they gained and the frequency with which they used it.

**Dimension III: Motivation.** The last question aimed to determine the women's motivation for participating in the digital literacy workshops. This provided us with information regarding their expectations and helped us to design the activities that can best suit their demands; moreover their answers provided relevant data regarding the object of this study.

The second instrument was the group discussions. This research tool allowed participants to feel more comfortable and free to participate. It allowed new subjects for debate to emerge and enhanced dialogue. Discussion stimulated

reflection on the women's conditions and on the important effects that empowerment has on the different areas of society and life.

After the data was collected, and a group of women participated in the workshops, a third instrument was used: the semi-structured interview. The semi-structured interviews gathered the experiences of the women who participated in the workshops by using a flexible general procedure constructed from the answers of the initial evaluation. This procedure was useful for cross checking the information obtained during the discussion groups and for collating the final results from the workshops.

The interviews carried out in this research were sent to some of the women who participated in the workshops, in accordance with the subject-type sampling criterion that we had adopted. The interviews were filmed with a video camera once the interviewee's authorization to do so had been obtained.

The interview aimed at gathering information relating to the following dimensions:

1) *The role of the women in the social context.*

2) *The visibility of the women in the productive system.*

3) *The evaluation of the training processes.* The evaluation process was used to determine whether we had attained our research goals, whether we had managed to increase the women's awareness of their ability to learn and whether this had strengthened their position regarding their social and familiar environment. In addition, we were also interested in whether the participating woman's had been fulfilled.

4) *The training process's conditions.*

## 5. Discussion of results

One of the major aims that this project tried to achieve was to empower the participating women to reflect on their individual role, played throughout their own life, from childhood to maturity, and to communicate these reflections with other people. This was made possible through a series of workshops in which these women were exposed to the use of ICT tools, thus counteracting their feeling of incapacity in handling the machine and using ICT tools. This feeling of incapacity came about after years of believing that they are technologically ignorant thus remaining estranged to the rapid advance of information technology and communication.

By using technology in this way, each woman came to appreciate several aspects of their "self concept". This was very valuable information for the main objective of the workshop, which was to train women in the Region of Montsià in the use of ICT as a tool of empowerment in relation to their self-perception. From the training experience, it can be stated that in the analysis of change, the "self concept" is first to be subjected to positive transformation.

The insecurity and low self-esteem that women showed upon first approaching the computer during the workshops was an aspect that was highlighted. By using a computer, the participants changed the preconceived ideas they had about their capabilities. During the workshop with internet surfing and the use of word processing the participants were left disoriented and many had doubts about the understanding and realization of the task which was in front of them but with support and positive encouragement they overcame these doubts and as one of the participating woman expressed they felt valid and appreciated outside their private sphere and they now feel valued and respected.

The training went beyond providing digital literacy skills and allowed these women to contribute in the design of the training process by allowing them attain other personal goals such as being able to access online Medical assistance and to organize their online banking.

Another outcome was that with the support of ICT, the participants learned to document their stories and the stories of others through digital literacy, web browsing, scanning photos and other forms of technology. This helped participants to resurface individual and collective memories and to retrieve the memories of those who never had the opportunity to give their opinion by encouraging them to reflect

This process of sharing and retrieving shared memories was essential to ensure a relatively permanent motivation towards learning the use of ICT. These workshops thus offered these elder women a space for debate and reflection.

These workshops led the participants through a learning process which resulted in the publication of:

- Material in electronic format;
- DVD titled "Life histories of the women of Montsià", which collects photographic documentation, provided by the participants, regarding the themes that were used to develop the workshops.
- DVD titled "Technology in the Heritage of Memory", which contains a comprehensive development of the workshops, showing the methodology, content and so on.
- A photo exhibition from photographic material, which reflects the changing role of women in relation to different aspects and contexts of life.

The above products produced by women who previously described themselves as technologically illiterate and considered most new technologies as very distant and unhelpful for their everyday life, have led to parallel work of extreme importance developed, namely, the recovery of historical memory. Through the discussions that took place in the course of the workshops, women found their own time to reflect, and because of this, issues such as work, education, religion, family and all such factors that have evolved over time and have altered the role of women in

society and in the family were discussed. Such discussions showed that such evolution led the participants to envision a new role for women in the fabric of society. Participating women on giving feedback on these workshops, expressed satisfaction on an enriching experience which moved them to recover their individual and collective memories – giving the opportunity to bring out photos of fathers, mothers and peers, all of which helped to recover the memory of those women, who have never had the space and opportunity to think about such things.

These sessions also served the role of allowing reflection on the role each individual has played throughout her life, from childhood to maturity, being able to communicate this path with others and becoming aware of the weave of injustice while realizing the strength of solidarity within the group. It was a unique opportunity to gather information that was only made available because all these women were there together and they helped each other remember what time seemed to have erased: the memories of everyday life, of feelings and of moments in time.

Thus these technological tools have brought about empowerment, respect and awareness of the capacity that each woman has to use a computer, scan photos, or surf the web, skills which were unknown to these women, hence ICT has served as a means to stimulate memories and stories which had previously only been saved in the individual's memory.

It seems clear that access to ICT is not necessarily guaranteed by having a better computer, but access is also about the opportunity to make use of ICT, and to be able to use such technology, specific knowledge and interest is required. The lack of training in computer use and the lack of the opportunity to make the most of conditions have led to the generational and gender digital divide.

The ability to overcome barriers that lie between women and machines, as a result of insufficient training and cultural stereotypes that still remain in our society, has been one of the main challenges undertaken by the researchers and women participants in the workshops: "Technology in the Heritage of Memory".

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