

Promoting the use of Information Technologies close to General Communities of Northeast Portugal

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This paper summarises our experience in furthering the educative use of the Internet by the general community of northeast Portugal. We discuss the problems and constraints that we faced and the approach taken. The most relevant results achieved are described and discussed.

Keywords Teaching/learning strategies; country-specific developments; learning communities

1. Introduction

In 2004 the Portuguese government approved, through the Operational Programme for the Society of Knowledge (Programa Operacional para a Sociedade do Conhecimento), the funding of the Basic Skills Teaching and Certification project (Formação e Certificação em Competências Básicas – FCB). Its goals included motivating and increasing the general level of awareness of all citizens in the Trás-os-Montes e Alto Douro (TMAD) region, in northeast Portugal, to the potential of IT in general, and the computer and the Internet in particular, thus lessening and counteracting the lack of information that existed in the region at the time.

The project has two main objectives (two different actions) intended for the general community: promoting, training and raising awareness towards the use of IT, and the Internet in particular; and award a Certificate in Basic Skills in Information Technologies to individuals.

The need to train, motivate and involve the community in general towards a correct use of IT tools entails a number of technical and cultural difficulties. It is around these problems and the solutions found to circumvent them that this paper turns.

2. The constraints

The physical and human geography of the TMAD region had a major impact on the project, and in a sense determined some of the directions that we followed. The brief outline of the relevant characteristics of the region is necessary to fully understand how the project evolved, and the extent to which it was shaped by the constraints and challenges raised by the characteristics of the target region.

The TMAD region is located in northeast Portugal, and consists mostly of steep hills (slopes reaching 15%) and narrow valleys that flatten out into plateaux above 400m. The Douro river dug deeply into the mountains to form its bed, and the dominant element of the landscape are the vineyards, planted in terraces fashioned from the steep rocky slopes and supported by hundreds of kilometres of drystone wall. The region includes one of the most ancient winemaking regions in the world, and has been recognized by UNESCO as a World Heritage Site.

Despite its unique beauty, the terraces and steep slopes of Alto Douro do not contribute to make the transportation across the region easier. The distances between towns are usually long, and the roads connecting them are twisty and difficult to travel, especially in the winter. It is the vine that drives and sustains the economic activity in the region, which remains deeply rural and sparsely inhabited to the

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present days. The region covers over 60% of Northern Portugal, yet it contains only 13% of its population. The population density of Northern Portugal is approximately 173 people per square kilometre, whereas that of the TMAD region is close to 38. In fact, the least densely populated areas of the TMAD region average only 10 to 15 people per square kilometre.

The climate is characterised by the scant rainfall, long cold winters and very hot summers (“nine months of winter and three months of hell”). Neither the climate nor the landscape of the TMAD region invite human settlement, but their combined potential for winemaking has attracted people for centuries. At the present time, however, the region is no exception to the generalised population decline and ageing that has been felt in the inland regions of Portugal in recent years. According to the Portuguese Institute of Statistics (<http://www.ine.pt>), the largest decrease in population in the period between 1991 and 2001 was registered in the TMAD region (about 6%). On the other hand, the fraction of the population aged 65 and over has been steadily increasing, and in the TMAD region it increased by more 20% in the same period, in sharp contrast with the 33% decrease in the age group 0-14. These facts have further aggravated the isolation in many communities.

We were aware of these constraints from the start and soon realised the impossibility of regularly bringing a large group of citizens to the University for training sessions. It would have been impossible to work with the many hundreds of citizens in the TMAD region in this way.

Being deeply rural, relatively isolated, and with an ageing population, the communities of TMAD were largely unaware of the full potential of IT in general, and the computer and the Internet in particular. To promote and encourage an effective use of IT by the community in general, we felt the need to shift the centre of the training effort from the University Campus to the communities themselves.

The method that we employed, discussed in the next section, was shaped by the constraints so far mentioned, and follows in a natural way from them.

3. Methodology

Setting-up infrastructures is a relatively simple process in comparison with their actual usage, since both the necessary training and the change of habits that lead to routine usage are the result of slow and gradual processes.

We decided to centre the training process in the communities themselves. The methodology implemented is distributed rather than centralised, and consists of a series training and awareness raising sessions.

Bearing in mind some social, economic and geographic factors that we faced in the TMAD region and the goals we wanted to achieve, we have tried a methodology that would allow every citizen to access the formation and certification sessions. Consequently, we have contacted the Town Halls and Board of Villages that have been our partners during the Trás-os-Montes Digital project (please visit <http://www.espigueiro.pt> for details), as well as some priests that have announced these sessions by the end of the mass, charitable institutions, fire-brigade volunteers, recreation and social associations, medical care centre, prisons (jails), teachers and schools from the first-cycle of teaching, etc.. As it can be seen, we have tried to contact as many as possible different types of institutions, in order to reach different genus of citizens. Although our strategy was also shaped by the human and physical geography of the region, as explained in the previous section, it has a number of other advantages that we now discuss.

One of the advantages is that it allows working with the people in their “natural habitat”, i.e., in the places they used to know.

The possibility of increasing or decreasing the frequency of the training sessions to meet the needs of each community or to adjust the workload to the available human resources is another advantage of the approach. Because the communities have markedly distinct backgrounds on the use of IT, there was a pressing need to adjust the schedule of the training and awareness raising sessions to the demands, as these varied from one community to the other.

Because the communities are often located in remote and sparsely inhabited areas, as it follows from the human and physical geography of the region and the population drainage felt in the inland areas of

Portugal in the past years, the training and awareness raising sessions allow for some outside contact, thus breaking the daily routine and isolation. A centralised solution, involving training at the University campus, would not make that possible.

3.1 Training and awareness raising sessions

The main goal of the training and awareness raising sessions is to make the ordinary individual aware of the potential of the computer and the Internet as a source of information and knowledge and as a means of communication. In so doing the project contributes to the development of an information society in the TMAD area. Therefore, one of the noblest objectives of any higher education institution was accomplished – that of making knowledge accessible to the community at large.

The “learning-by-doing” approach was present throughout the whole process, and all sessions were of a practical nature. According to Georg Kerchensteiner, “(...) theory comes naturally out of practice, or rather, both are involved in a process of continuous reciprocity and exchange” [1].

The training and awareness raising sessions were divided into groups. The type of language, material, strategies, and so on, employed for each group was, therefore, adapted to meet its specific needs. These sessions were supported by Netmobiles (Netmóveis). A Netmobile consists mainly of two trainers, one technician and a van, adequately identified and equipped with twelve laptops, a printer, a digital camera, a Router, a Hub, a multimedia projector, a screen projector and a video-conference system among other equipment. Further details can be found in [2].

One of the aims of the project, as already been mentioned, was to promote basic skills training and awareness raising in informatics, in order to set up some practice using computers to the general citizens. These sessions tended to be 12 hours practical sessions, during the working hours or not, and were free of charge. The contents usually introduced were Windows, Word and Internet (Internet Explorer and Outlook Express). By the end of the sessions a final exam was applied in order to certify (or not) the citizens in their Certificate in Basic Skills in Information Technologies.

3.2 Certification sessions

At this stage the project emphasis was placed on the training and awareness raising of the community in general towards the possibility of obtaining a Certificate in Basic Skills in Information Technologies (CBIT – <http://www.diploma.unic.pcm.gov.pt>). This certificate is part of the national policy towards the increment of widespread access to IT. The certificate represents an official recognition of the individual’s acquisition of skills in word processing, Internet browsing and the use of e-mail.

These certification sessions have a maximum duration of one hour, during the working hours or not. These sessions are intended to certify (or not) the citizens in their CBIT. Any citizen may apply to this exam. The supervisors are, obviously, superiorly certified. The citizens that do not overtake this exam can apply to another exam. During this exam the citizens are asked to answer correctly all the following questions: create a new folder in the desktop and rename it; tape, save and print some given text; browse the internet, search and print some specific contents; electronic mail – email (print, read and send messages with and without attaches). This exam can only be applied by government certified entities.

3.3 Other type of sessions

Also using the Netmobiles, the research team participated in several events organised by the Town Halls, such as Book Fairs, Home-Grown Produce Fairs and Arts and Craft events among others. This enabled further promotion of the computer and the Internet and their use amongst the community in general. It should be stressed that the presence of the Netmobiles and their teams in such cultural events was intended to raise awareness and to familiarise the communities with the computer and the Internet. The response was very noticeable, with active participation of people from all ages and backgrounds in both the events and the sessions. The aim was to reach as many people and entities as possible.

4. Some results

The main objectives were fulfilled or even surpassed.

4.1 Training and awareness raising sessions

A vast number of sessions were conducted: 331 training and awareness raising, reaching 3824 citizens from TMAD region. From these 3824 citizens, ranging from 5 to 92 years old, 1086 were less than 15 years old, 636 were between 25 and 34 years old and 617 were between 35 and 44 years old. In what concerns to gender, 2168 were females and 1656 males.

From the grand total of 3824, 3140 have been succeed in the final exam CBIT, 276 already awarded the Certificate, 14 are still waiting for identification documents, 348 were not present in the final exam or have quitted and 46 have not been approved in the final exam. Note that all these 46 citizens have more than 65 years old, and that some cannot even write or read. We have reached 31 councils of the grand total of 38 in the TMAD region, reaching 270 institutions.

4.2 Certification sessions

Since January 2004 until September 2006 we have fulfilled 22110 certification exams, and form these 19623 citizens have been succeeded. From the remaining 2487, 243 are still waiting for personal identification (such as identity card) and 2244 had already a certificate or they have failed the final exam or they have desisted during the exam. From the 22110 citizens that have applied to the final exam 12167 have less than 15 years old and 6113 have between 15 and 19 years old.

In these sessions the qualifications of the citizens had mainly the 3rd stage of the first cycle, which corresponds to 8777 citizens, followed by 5809 having the 2nd stage of the first cycle. In what concerns to gender, 11405 were females and 10705 males.

5. Conclusions

According to the evidence gathered throughout the last few years the introduction of IT in the communities of the TMAD region has been a success. As far as we can tell, the methodology used proved to be highly adequate in the achievement of our goals. The transfer of the training process from the University Campus to the communities themselves allowed for a very high degree of participation. Our efforts to put theory into practice were rewarded by a quicker rate of acceptance by the community in general.

The social role of the visits was important, and grew with the isolation of the communities being visited. The prompt availability of the trainer and the ability to support the citizens by telephone, mobile phone, fax, e-mail or any other means was also an important aspect.

The methodology discussed may represent a new concept in training and a new training model highly suited to regions sharing the characteristics of the TMAD region.

The use of the Internet, namely of web services and e-mail, was addressed through various training and awareness raising sessions (supported by Netmobiles) directed at the community in general. Such sessions enabled many individuals in the region to have their first contact with and experience of ITs. This constitutes a sound and valuable contribute in terms of awareness raising, training and development towards IT in the region.

Several factors played a very important role in the achievement of these goals: The training team was always present or could be easily contacted; There was a continuous exchange of experiences; A vast number of individuals and entities participated in the project. As a result, the process appears to have become self-supporting, and there is already some evidence that IT would continue to be used in the schools and communities even if our efforts were discontinued at this point. Nevertheless, as it is well known, education is a complex, lengthy and gradual process, and persistence and more fieldwork may

well be required before the educative use of IT gathers sufficient momentum throughout the entire TMAD region.

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