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New ways to revitalise minority languages: the impact of the internet in the case of Aragonese

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Abstract

Aragonese is listed by UNESCO as an endangered language. Due to the number of speakers (around 10,000) and the sociolinguistic situation it finds itself in (fragmentation, language desertion, lack of teaching projects, etc.), Aragonese is the language with the lowest levels of vitality in south-east Europe and that with the fewest resources and possibilities to face up to the future. This article studies the advances made via the media offered by new technologies, and the web in particular; the dangers deriving from these, and the possibilities for development arising from the application of ICTs in a possible and necessary strategic planning for the language, as a case study of growing vulnerability. The underlying reflection in this article is of great value for other minority languages, and their planning and development in terms of the internet.

Keywords

Aragonese, internet, revitalisation, planning, minority language, ICTs

Noves vies de revitalització per a llengües minoritzades: la repercussió d'internet en el cas de l'aragonès

Resum

La llengua aragonesa és catalogada per la Unesco com a llengua en perill de desaparició. Pel nombre de parlants (prop de 10.000) i per la situació sociolingüística en què es troba (fragmentació, deserció lingüística, escassetat de projectes d'ensenyament, etc.), és la llengua que té menys vitalitat del sud-oest d'Europa i una de les que disposen de menys recursos i de possibilitats més baixes per a afrontar el futur. És per això que en aquest article estudiarem els avenços que s'han obtingut a partir dels mitjans que han aportat les noves tecnologies, especialment, gràcies a internet, els perills que se'n deriven, i les possibilitats de desenvolupament que es plantegen gràcies a l'aplicació de les TIC en una possible i necessària planificació estratègica d'aquesta llengua, com a exponent d'un cas de vulnerabilitat creixent. En aquest sentit, la reflexió que subjau en aquest article pot ser d'utilitat per a la situació d'altres llengües minoritzades, per a la seva planificació i el seu desenvolupament gràcies a internet.

Paraules clau

aragonès, internet, revitalització, planificació, llengua minoritzada, TIC

Introduction

There is growing literature on the impact of the advance of information and communication technologies (ICTs) on promotion and protection of minority languages. Being the main example of ICTs, internet, by its very nature as well as the number of tools it provides, has proved very useful when it comes to supporting actions and language revitalization programs that could not have been carried out with conventional media. In fact, it has made it possible for both majority and minority languages to not only survive in an environment considered as preeminently Anglophone, but also to increase the number of their users (Wright, 2004). The fact that the presence of a language on the internet may become a key to its future is also determined by the steady increase in internet use by young and middle-aged persons. In much the same way, D. Crystal (2000, p. 141) predicted a decade ago that "an endangered language will progress if its speakers can make use of electronic technology".

Experiences that have been implemented and studied in minority languages around the world have achieved results which in most cases call for optimism. A simple review of the literature on revitalization of languages such as Hawaiian, Maori, Welsh, Irish, Mohawk, Occitan, Sardinian, Amharic, etc. (Wright, 2004; Galla, 2009; Cunliffe *et al.*, 2005; Eisenlohr, 2004; Bittinger, 2006; Djordjević, 2007, Streit *et al.*, 2006) allows us to observe how, in the languages whose communities have access to new technologies, these play a very important role in the revitalization programs being developed, either in a planned manner, as in the case of Hawaiian since 1994 (Galla, 2009), or from individual action by activists or speakers, as in the case of Occitan (Djordjević, 2007).

However, in order to obtain favorable results, several aspects, either cultural or related to internal conflicts (Eisenlohr, 2004), must be kept under control. For instance, one of the problems identified in the development of Native American languages in relation to ICT was that, although in theory they offered their language a better chance of survival, several factors prevented this in practice: i) a conception of language bound to their traditions and their past, which makes it strange to use the technology, ii) lack of programs and materials created by the community and rejection of those created by external scholars disconnected from their reality, and iii) the absence of actions aimed at young people, more permeable and responsive to changes (McHenry, 2002). It must be noted that if a community of speakers chooses not to maintain their language; this will be inevitably relegated to oblivion (Fishman, 1991; Warschauer *et al.*, 2003).

It should also be noted that actions on minority languages on the internet are often carried out by state institutions, NGOs, or in many cases by a local middle class that wants to protect the tongue (Eisenlohr, 2004). This implies that without official protection, it must be scholars, activists, educators, etc., who generate enough resources to maintain the digital community.

1. Aragonese language

Aragonese is a Romance language[1] spoken in the northern area of Aragon by a population of about 10,000 speakers. Recently, it has been legally recognized, together with Catalan, and given the status of *lengua propia e histórica de Aragón* ['Aragon's native and historical language'], and as one of the languages of application of the European Charter for Regional or Minority Languages in Spain. Moreover, UNESCO considers Aragonese as an 'endangered language' in its *Interactive World Atlas of Endangered Languages* (UNESCO, 2009).

2. Aragonese on the internet

Aragonese has been present on the web since 1994, when the website of the Cultural Association Nogara-Religada was created. Since then, the growth of its presence online has paralleled that of other Western European languages. If, by 1995, the percentage of web pages in English was of 80%, the most recent measures of linguistic diversity on the net give English a prevalence of 45% (Pimienta *et al.*, 2009). Clearly, this trend of increasing linguistic diversity on the net has had a positive effect on the Aragonese language, which contrasts with the gradual loss of native speakers.[2]

2.1. Websites

The web portal in Aragonese *charrando.com*, online since 2002, provides listings of websites in Aragonese, in addition to an interesting collection of their own resources. The portal receives about 7,000 unique visitors per month, and has an associated newsletter to which more than 1,000 users are subscribed.[3]

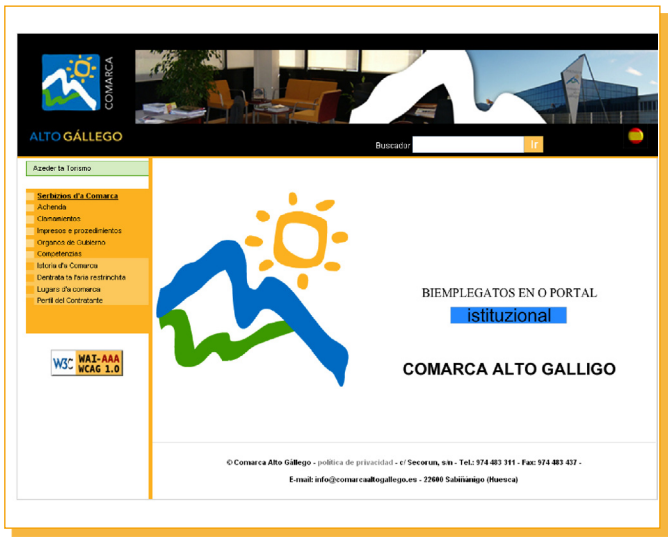
1. See López (2000, p. 98-105) for a brief introduction to the language.
2. See Nagore (2002) for more information.
3. Data from February 2010, personal communication.

It is also one of the few internet sites where advertising in Aragonese can be found. The portal distinguishes the following categories: cultural associations (20 websites), pages about Aragon and its villages (17 websites), media (26 websites), humanities and music (26 websites), society and politics (45 websites), resources on Aragon (45 websites) and personal websites and weblogs (60 websites). It must be said that the frequency of content update is very variable, as is the quantity and quality of the information present in each one.

Image 1. Web portal *charrando.com*

Contrary to what happens in other languages with official support (Cunliffe, 2009), the contribution of institutions to the visibility of this language on the internet is minimal – El Justicia de Aragón[4] and Comarca Alto Gállego[5] are the only websites almost entirely navigable in Aragonese.

Image 2. Website of Comarca Alto Gállego



While there is very little presence of the Aragonese language on commercial or business pages, it is individuals, cultural associations and political associations – as a marker of identity (Cunliffe, 2009) – who are responsible for the presence of Aragonese on the net. Moreover, while more rigorous study is needed, it is perceived that a majority of these websites are maintained by organizations or individuals located outside the areas where the language has a social use.

2.2. Blogs

The blogging phenomenon has made it much easier for individuals and groups to publish contents online, which has resulted in an increase of the amount of users, readers and subjects related to Aragonese with visibility on the internet. The first blogs in Aragonese were born in 2004. In 2006 there were 11 active blogs, and now, as an estimate, we counted 28 active blogs with at least a monthly update, of which 15 were updated at least once a week, although the figures may change rapidly.

Topics are varied: cultural, news, technical, scientific, personal, sexual, political, protest, associative, educational, etc. In most cases they are written by speakers who have learned the language as L2, although some blogs can be read, among others, in dialects such as *cheso, belsetán* or *somontanés*.[6]

4. See: <http://www.eljusticiadearagon.com/index.php?cambia_idioma=1&zona=que_es>.
5. See: <http://www.comarcaaltogallego.es/index.asp?idioma=aragones>.
6. See: <http://www.charrando.com/cat4.php> for an incomplete listing.

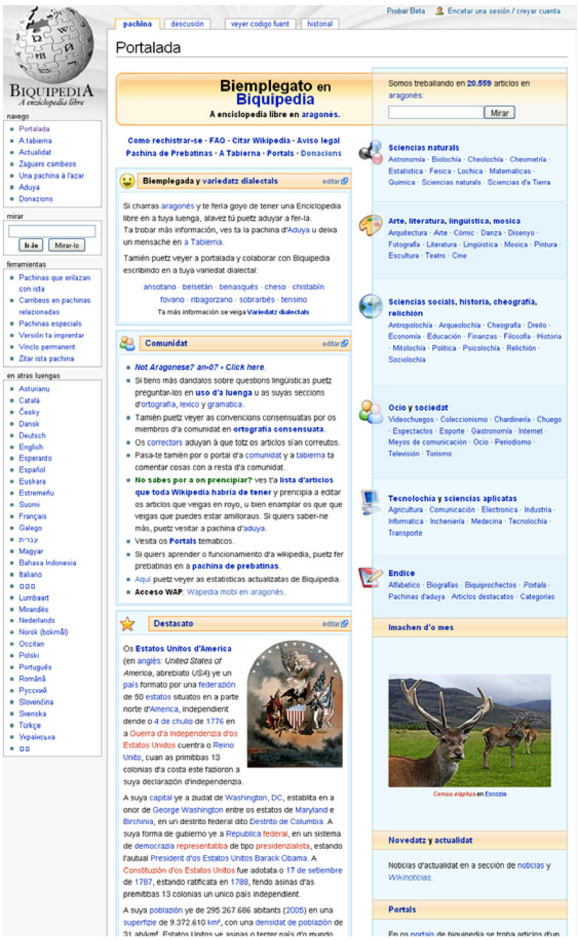
Image 3. *Felqueral* blog

2.3. Collaborative websites (Wikipedia)

Thanks to the possibilities of collaborative and distributed work, some recent tools such as wiki technology have allowed the growth of projects that would have been unthinkable just a decade ago, such as the creation of an encyclopedia in Aragonese.

Currently, Wikipedia in Aragonese[7] has 20,569 encyclopedia articles with more than 5.8 million words (ranked 70th among the 270 language editions),[8] surpassing official languages with millions of speakers such as Belarusian or Afrikaans. Aragonese has become the natural language with the largest number of Wikipedia articles per speaker.[9] Also, the Aragonese Wikipedia is now the largest digitally available corpus in Aragonese, both for its length and its broad thematic scope.

Image 4. *Portalada Biquipedia* (Wikipedia in Aragonese)



2.4. Press and media on the internet

The virtual absence of news media in Aragonese is striking in comparison with other minority languages, but it is a true reflection of what occurs outside the internet: there are no news agencies, or daily or weekly publications in Aragonese.[10] In the past, there have been regularly updated online news pages, such as the newsletter *O Lupo* (1997-2003) or the news page *A Rebista* (2000-2003),

7. See: <http://an.wikipedia.org>.
8. See: <http://meta.wikimedia.org/w/index.php?title=List_of_Wikipedias>.
9. See: <http://meta.wikimedia.org/wiki/List_of_Wikipedias_by_speakers_per_article>.
10. With the exception of a weekly column on traditional topics, which appears in the Sunday supplement of the *Heraldo de Aragón* newspaper.

but today, we can affirm that blogs are the only source of current news (and their authors are usually aware that they represent such a role in the Aragonese-speaking community). Currently, only cultural magazines, such as *Ambista* (average of 4,865 monthly visits, and 1,479 monthly downloads),[11] or electronic versions of paper journals like *Fuellas d'infomazión d'o Consello d'a Fabla Aragonesa*[12] can be found online.

2.4. Speakers' networks

In a reduced and dispersed speech community, new technologies have allowed networking and the creation of virtual communities of speakers in which the vehicular language is Aragonese (and often, the main link between members).

Added to the existence of discussion forums and mailing lists (existing since at least 1997), we now find social networks like Facebook, Twitter or Tuenti, where Aragonese is used in personal communications, and networks and groups of Aragonese speakers are created.

In these networks most native speakers tend to communicate in Spanish, or at most practice passive bilingualism. But social networks have also encouraged contact between native speakers and new speakers, and some projects are beginning to facilitate the formation of virtual communities of users. This sense of community and desire to strengthen it has led to organization of face-to-face meetings, such as meetings of bloggers in Aragonese and Wikipedians meetings.

2.5. Linguistic materials

The amount of Aragonese linguistic material that is accessible online is modest but steadily growing. Global initiatives such as Google Books and Internet Archive offer researchers easy access to linguistic studies, vocabulary and transcripts of texts in medieval Aragonese, whose copyright has expired. A significant amount of linguistic studies published in scientific journals are also available in digital version such as the *Archivo de Filología Aragonesa*. However, there is a lack of linguistic reference resources for the average speaker.

In the audiovisual field, we can highlight the *radiocharrando.com* and *charrandotb.com* initiatives, which are repositories of audio and video resources, respectively. Since its creation in 2005, *charrandotb.com* has had a total of 100,000 views, which is proof of its popularity. In addition, the magnificent *Archivo Audiovisual de l'Aragonés*, initiated in 2002 by the Cultural Asociation Parola,[13] is an important experience in recovery, research and dissemination of the Aragonese linguistic heritage. It consists of 150 hours of audiovisual recordings of more than 300 native speakers in 53 locations in all areas of use. This material is being made available on YouTube (at the moment, 34 fragments of different areas), with more than 400 visits a month. All of this material will eventually be available on a website along with documents from both sides of the central Pyrenees (in Aragonese and Occitan/Gascon).

Image 5. Web site of Association Parola

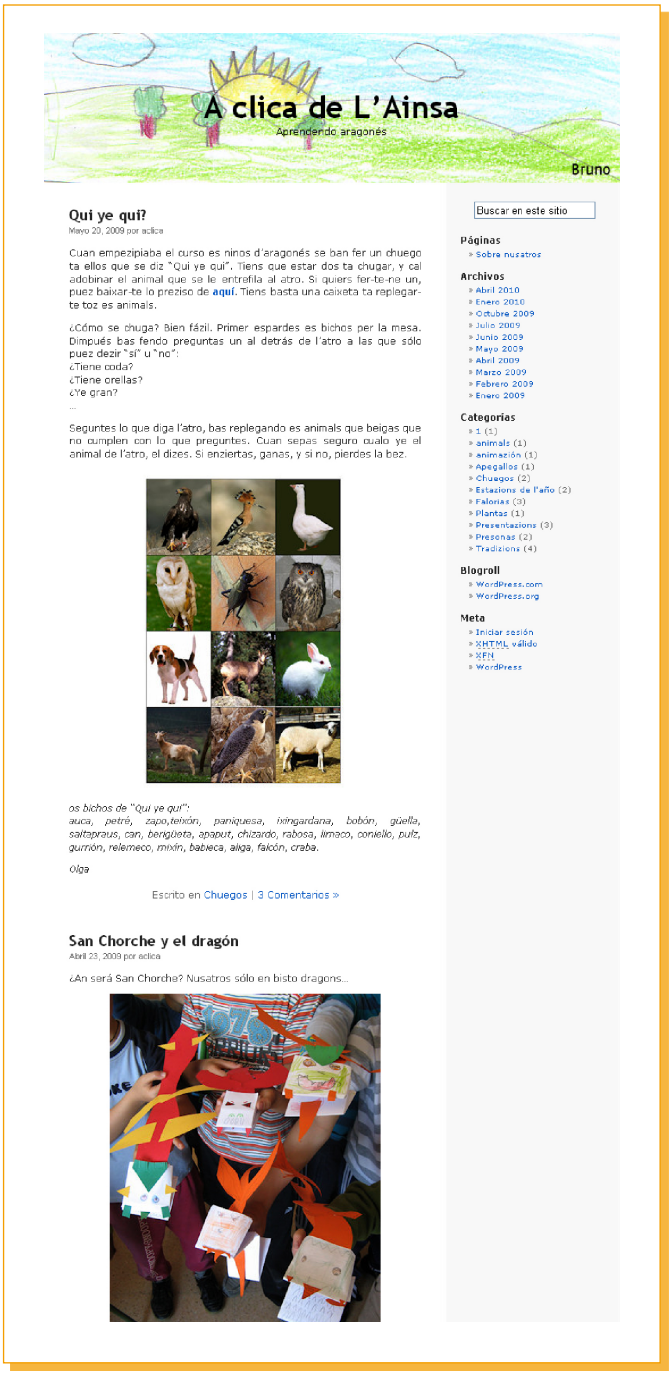
2.6. Language learning and outreach

The availability of open-source platforms, such as Moodle, for managing online courses has expanded the range of adult learning of Aragonese offered by associations, now including online courses. As an example, the *Escuela d'Aragonés* of the Cultural Asociation Nogará,[14] where an average of 100 persons a year take courses in the Aragonese language, has offered online courses since 2007, using the communication possibilities offered by Moodle as well as external applications (like Skype) to cover the required linguistic competences. We must highlight the blog

11. Information provided by publishers. Electronic magazine about the Aragonese heritage, initially published entirely in Aragonese but now also including texts in Spanish (<http://www.ambista.com>).
12. See: <http://www.consello.org/fuellas.htm>.
13. See: <http://www.acparola.com>.
14. See: <http://www.nogara-religada.org>.

A clica de l'Ainsa,[15] which is created by the teacher and students of Aragonese in the primary school of L'Ainsa and where student activities are published.

Image 6. Blog *A clica de l'Ainsa*



3. Issues

Although the resources described above show a greater vitality of the language on the internet than outside the network, the use of Aragonese online has certain problems arising from its particular sociolinguistic situation.

Both in the real and the digital worlds there is a gap between native Aragonese speakers and new speakers who have learned a fairly standard model of the language. In this sense, internet is a reflection of society, because there is less participation of native speakers in online projects. Indeed, the new speakers, with a lower mean age and having grown up in an urban environment, have a much greater web presence than native speakers, a more aged population coming from a rural environment. Thus, the landscape of the Aragonese-speaking users is, in part, a community of new speakers with many bonds of union and shared activities versus various micro-communities of speakers of various dialects, with little crossing or hybridization between them.

The absence of strong language normativisation,[16] added to the lack of language teaching, makes it possible to observe a profusion of language models, which can hinder the identification of the speakers themselves with the different models. The absence of specific terminology in many novel areas produce either the abandonment of Aragonese in favor of Spanish, or the adoption of individual solutions, which in turn can cause rejection or perplexity in other speakers. It has been documented in languages such as Welsh that there is a preference for resources in the majority language when the minority language version contains terminology with which the speakers were unfamiliar, or when the model used was deemed too artificial (Cunliffe, 2009).

There are, finally, no reference websites, newspapers or portals, which may work as nuclei for irradiation of information and which would allow greater community cohesion. Thus, although there is a high level of activity, we are still faced with resources that are too sparse and limited for Aragonese speakers to be able to functionally use their language in the digital realm.

4. Toward strategic planning and language policy

This section is motivated by the need to plan a comprehensive language policy and language politics for Aragonese, including specific components for the internet that should follow different courses of action than those focused on the "real" world (Diki-

15. See: <http://aclica.wordpress.com>.
16. See Metzeltin (2004, pg. 199-205), Berceo (2003) and Estudio de Filología Aragonesa (2010) for more information.

Kiridi, 2007). Fortunately, there is extensive bibliography on previous experiences of promoting minority languages on the internet that can serve as a roadmap to plan actions for Aragonese (cf. Introduction).

The actors in the design and implementation of these actions must be, as in any process of language policy and planning, all the stakeholders participants of the language, although we establish a certain hierarchy according to their relevance and impact:

- The Government of Aragon by designing and coordinating the process, undertaking awareness and promotion campaigns, making the language visible on their websites, creating and promoting resources and language technology, etc. In this regard, the recently established Technical Office of Language Policy should take into account the possibilities offered by new technologies.
- The media, especially the public media, as for instance in the promotion of Welsh by the BBC,[17] or Radiotelevisión del Principado de Asturias[18] and Europapress[19] in the case of Asturian.
- Local governments (*comarcas* and municipalities), using their local varieties of Aragonese in their websites, or publishing resources on them (toponymy, stories, etc.).
- The Aragonese-speaking community. The creation of small projects without institutional support can be of great interest, as has been seen with other languages. At least, this process has already begun for Aragonese.

4.1. Creation of resources for language correction and advice

One of the key problems for Aragonese to develop a linguistically acceptable corpus is the diversity of language models, their correctness, and the possibilities of advice or supervision needed to avoid rejection by speakers, as discussed above in the case of Welsh (Cunliffe, 2009). The state of the art in language technologies and computational linguistics makes it possible to develop useful tools for the revitalization of minority languages in the digital realm: synthesizers and speech recognizers, editors and translators. While it is not easy to develop these technologies for a language from scratch, the existence of free software projects (Apertium,[20] Festival,[21] HTS,[22] etc.), and the possibility to reuse much of the structure from projects developed for neighboring languages such as Catalan, should allow the case of Aragonese to be addressed with a moderate effort.

4.2. Creation of reference portals

To compensate for the lack of reference sites in various areas, it is of the highest priority to activate projects requiring few resources and easy maintenance, but with great functionality and relevance for the language. Thus, it is essential to launch a digital media portal in Aragonese, like those existing in other languages,[23] having a more professional, systematic and comprehensive scope than current blogs or blog aggregators. We should not forget, though, that linguistic communities expand their online language through content aligned with their needs and aspirations (Cunliffe *et al.*, 2005; Galla, 2009), and that without their approval and use little can be expected from these actions.

In this sense, it is not only necessary to increase the number of monolingual pages in Aragonese, but also to build bilingual reference pages, using interfaces such as those proposed by (Cunliffe, 2009) that can project the interest in the minority language by speakers of the majority language.

4.3. Normalization on the net

For implementing language policy and status planning of the language on internet, it is necessary to launch specific campaigns and empower marketing in the language.

In the first case, we can distinguish three types of campaigns relying on the scarcity of resources for the Aragonese language: i) educational campaigns, carried out by government entities, educational institutions or local associations (Diki-Kiridi, 2007) to introduce students to ICT and the Aragonese language through the use of specific teaching materials; ii) coordinated campaigns arising from language policy offices or associations, with the aim of promoting the use of Aragonese by young speakers in rural and urban areas, and iii) building resources to be used in social networks, user groups and mailing lists in a way that not only creates community but also serves to make the language visible.

In the second case, the commercial use of Aragonese should be enhanced, given the inherent characteristics of the tongue: a small, aware community of active users, specific market

17. See: <http://www.bbc.co.uk/cymru/> and <https://www.bbc.co.uk/wales/learnwelsh/>.
18. See: <http://www.estayadasturianu.com/>.
19. See: <http://www.europapress.es/asturies/asturianu/>.
20. See: <http://www.apertium.org>.
21. See: <http://www.cstr.ed.ac.uk/projects/festival>.
22. See: <http://hts.sp.nitech.ac.jp>.
23. See: <www.asturnews.com> and <www.asturies.com> for the Asturian language.

segments, similar user profiles, etc. This commercial use, so far only incipient, can lead to rewarding creators and increasing the prestige of the language among users through its use in ads and web advertising.

Finally, as noted by Romance (2008), when referring to the need for a communicative space in Aragonese, the internet is one of the hopes for creating a community of speakers and a network of information spaces on and in the Aragonese language.

4.4. Outreach and education

A very common use of ICT, of which minority languages can greatly benefit, is the ability to conduct educational and outreach activities online (Wright, 2004) to coordinate and create a critical mass of volunteers and active speakers and to undertake cooperative projects. The Aragonese language must extend its already existing offer of non-presential courses with courses and workshops employing mixed distance and face-to-face learning formulas, improving materials, etc. Furthermore, the use and creation of social networks allowing speakers to connect with students and create voluntary teaching relationships should be promoted.[24] Internet can also be used as a place to disseminate educational work, cooperative projects, educational materials, immersion of adults through multimedia resources, courses and tests for self-evaluation, etc. As an incentive, these projects have been very successful in other languages such as Welsh, Hawaiian or Native American languages such as Mohawk, Inupiaq, Chiricahua or Dena'ina, among others (McHenry, 2002; Warschauer, 2002; Wright, 2004; Cunliffe *et al.*, 2005; Bittinger, 2006; Galla, 2009).

5. Conclusions

In this study we have attempted to show the status of the Aragonese language in relation to its shortcomings and problems, but also in terms of its achievements and future prospects as a minority language that can develop, and, indeed, is starting to do so thanks to the possibilities offered by ICT.

Therefore, despite being listed as a language in a dangerous situation, it is important to note that the community of speakers, especially those who have taken it as a second language, have been conducting activities in recent years aimed at creating noteworthy reference sites, online communities, websites and blogs on various topics and of increasing quality, audiovisual archives, encyclopedias and emerging software localization projects. In the near future this can bring about a set of indispensable tools to give visibility and prestige to the language and to enhance its use and promotion on the internet, which may beneficially reverse the real-world situation of the language.

We believe it is of interest to present this table, in which we adapted and extended the Diki-Kiridi (2007) planning model, discussing the various steps that should be taken to "ensure the presence of a language in cyberspace".

Actions to be taken	Compliance level in the case of Aragonese
1. Selection of text (audiovisual) and transcription	Incipient
2. Development of an orthography compatible with internet use	High
3. Creation of reference works: dictionaries, grammars, encyclopedias…	Low
4. Development of ICTs specific terminology	Low
5. Character map and fonts	Completed
6. Software localization: translation and adaptation	Incipient
7. Development of cultural content: literature, art…	Medium
8. Routes to access cyberspace: portals, news pages, webs, and blogs	Medium-high
9. Community development: social networks, forums and chats	Medium-low
10. Reference tools: institutional support	None

Thus the three key points: the creation of linguistic resources and software localization, normalization of use of the language on internet, and outreach and education, need to be taken into account by the competent authorities, or be analyzed by associations to address coordinated actions. Regarding the former, we hope that with the new legal framework in Aragon public institutions will decide to lead this process after decades of oblivion. However, its possible postponement until the results of the coming regional elections in 2011 is worrying.

By describing specific projects such as online education, social networks, or collaborative projects, we have shown the possibilities that internet offers to minority languages that, with the help of free software, and the possibilities for expansion of human language technologies on the Web, must be prepared for a change that Aragonese should not ignore for the sake of its survival.

24. An example of this is Busuu.com <http://www.busuu.com>, where the Aragonese-speaking community is negligible, but could potentially be a source of resources for the language.

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