

Standard Amazigh terminology implantation: Assessment of IRCAM's experience in light of Bhreathnach (2011)'s best-practice model for terminology planning¹

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Au cours du processus de préparation des ressources terminologiques au sein de l'unité d'études et de recherche du lexique du CAL, bien des problèmes ont été observés. Parmi les plus délicats, on peut citer la résistance des usagers à la terminologie amazighe standard. Un examen minutieux de la littérature montre, néanmoins, que ce phénomène n'est pas spécifique à la terminologie amazighe standard mais, imprègne la terminologie de nombreuses autres langues. Il s'agit d'un phénomène connu dans d'autres expériences.

L'intérêt de la présente étude est d'aborder ce problème en examinant de près la littérature sur la planification terminologique et l'implantation. Parmi les différentes approches abordées dans cet article, l'approche de Bhreathnach (2011), surnommée le modèle des meilleures pratiques pour la planification terminologique. Cette approche a le mérite d'offrir un certain réconfort empirique. Le point central de l'approche de Bhreathnach consiste en l'idée de la planification terminologique en tant que phénomène socioterminologique. L'analyse des attitudes, représentations, sentiments, etc. des utilisateurs est essentielle au succès de la planification et de l'implantation de la terminologie. Par rapport aux approches précédentes, l'approche de Bhreathnach présente des avantages exceptionnels. Le premier est le fait qu'elle insiste sur l'implication des utilisateurs de terminologie dans les différentes étapes de la planification terminologique. Le second réside dans le fait que l'implantation ne doit pas être considérée comme une étape parmi les différentes étapes de la planification linguistique. Selon l'auteur, tous les aspects et toutes les étapes de la planification terminologique doivent servir à un seul objectif, à savoir l'implantation de la terminologie. L'objectif principal de cet article est d'évaluer les pratiques terminologiques de l'IRCAM, et de voir à quel point elles sont conformes au modèle des meilleures pratiques pour la planification terminologique avancé par Bhreathnach (2011).

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Introduction

Since IRCAM (short for Institut Royal de la Culture Amazighe (The Royal Institute for Amazigh Culture)) was founded in 2001, huge efforts have been undertaken to revitalize the Amazigh language in Morocco through a number of steps. Chief among these steps is the ongoing process of standardization of the different Moroccan Amazigh varieties into a single standard Amazigh language. The Language Planning Centre of IRCAM (CAL) has been charged with this responsibility through its Grammar and Lexicon units of studies and research. Interestingly, the endeavors made in the CAL have been translated into a whole range of grammatical and terminological works, whose primary goal is to facilitate the introduction of Standard Amazigh in a number of domains, such as the education and media systems.

Along the process of preparing terminological resources in the Lexicon Unit of Studies and Research, a complex assortment of issues has been observed. Of tremendous importance among these issues is the resistance of Amazigh users to Standard Amazigh terminology (see Ansar (2013)). Close scrutiny of the literature, nonetheless, evinces that this phenomenon is not an oddity of Standard Amazigh terminology but pervades the terminology of many other languages. Resistance to terminology is a worldwide phenomenon. The point of interest in this work is to accommodate this issue by casting a close look at the literature on terminology planning and implantation. Of the various approaches given a handle in this paper, Bhreathnach's (2011) approach, dubbed the best-practice model for terminology planning, offers some empirical solace. The core point in Bhreathnach's account is that terminological planning is a socioterminological phenomenon. Under her approach, analyzing the users' attitudes, representations, feelings, etc. is essentially needed to achieve successful terminology planning and implantation. Compared to the previous approaches, Bhreathnach's approach exhibits outstanding advantages. The first is the fact that she insists on the involvement of terminology users in the different steps of terminology planning. The second is that implantation should not be viewed as one stage among the different stages of language planning. According to her, all aspects and stages of terminology planning should serve one single end, i.e. the implantation of terminology.

The remainder of this paper is organized as follows. The first section provides an overview of the efforts undertaken to revitalize and plan Amazigh in Morocco along with IRCAM's experience in terminology planning. The second section attempts a close look at the notion of implantation in the literature of terminology, the conditions of terminology acceptance, and the deficiencies that befall the concept of implantation in previous terminology works. It also tries to flesh out an interesting approach conceived by Bhreathnach (2011) where implantation is construed as a result of an overall terminology planning procedure that extends from the preparation stage until the modernization and maintenance stage. The section also offers the research design and the data collection and analysis

procedures followed in evaluating IRCAM's terminological planning practices. The final section casts a close evaluative look at the different terminology planning stages undertaken in IRCAM along the underpinnings of Bhreathnach's best-practice model of terminology planning. The central thrust of the section is to consider how far the practices carried out in the CAL are in fine accord with the steps set out in Bhreathnach's model.

1. IRCAM's experience in terminology planning

The central goal of this section is to provide a brief retrospective on the efforts invested to revitalize and plan the Amazigh language; another goal meant to be achieved is to describe IRCAM's experience in the planning of standard Amazigh terminology.

1.1. Moroccan Amazigh language revitalization and planning efforts

North African and Saharan countries, namely Morocco, Algeria, Tunisia, Libya, Mauritania, Mali and Niger, are spaces where the Amazigh language has always been used. However, owing to its contact with a whole range of influential languages such as Roman, Phoenician, Arabic, Spanish and French (Julien (1994)), Amazigh has been subject to a complex assortment of changes, of most concern here its propensity to undergo progressive decline in nearly all of the countries mentioned above.

Close scrutiny of the Moroccan context shows that the lot of the Amazigh language in Morocco has been similar to that in the other Northern African countries. Since the arrival of Arabs to North Africa in the 7th century AD, a whole range of sociolinguistic changes have taken place in Morocco and nearby countries. Paramount among these changes is the arabization process, which has been underway in Morocco ever since the arrival of Arabs. According to Chafik (1989), the arabization process was originally observed in cities and then gradually pervaded rural areas (see also Grandguillaume (1983)). A close analysis of the sociological and sociolinguistic situation, at the very onset of the arabization process, shows that a number of factors may well be viewed to underlie the dissemination of Arabic in Morocco and many other Northern African countries. Two factors may best be construed to have triggered the spread of arabization. The first is the political and military domination of Arabs; the second is the propensity of Amazigh people to convert to the doctrine of Islam. Both of these factors have influentially contributed to the proliferation of Arabic among Amazigh users.

The status of Amazigh has not significantly changed during the colonization period, which started early in the twentieth century. In fact, close scrutiny of the macro-sociolinguistic vista evinces further precariousness of the Amazigh language during, and most influentially after, the French and Spanish colonization periods. The cohabitation of Amazigh with languages such as French and Spanish, the two

languages which happen to fare well in the linguistic market because of their political, economic, industrial and scientific supremacy, has demoted the status of the Amazigh language (see Boukous (2009, 2012)). Despite some valiant efforts invested by the French to promote the Amazigh language by undertaking research on a whole range of Amazigh varieties and creating institutions for the teaching of Amazigh, the status of the language knew little change. The status of the Amazigh language was doomed to get worse after independence owing to the institutionalization of administrative life and the schooling of Moroccans. The creation of administrations and the schooling of Moroccan citizens brought about considerable promotion of the Arabic and French languages, both being complementarily used at school and in the administration, Arabic as an official language in Morocco since 1956, and French as a language of science. The precariousness of the Amazigh language is also reminiscent of an important factor, which is the massive migration of Amazigh people from poor rural areas where Amazigh is spoken to cities, which are, in the most majority, Arabic-speaking zones. The situation as such brought about a complex assortment of results, foremost of which is the linguistic and cultural assimilation of Amazigh people to Arabic-speaking city dwellers.

Well aware of the precariousness of the Amazigh language on a whole range of facets, a number of Amazigh associations and activists have made every endeavor to revitalize the Amazigh language and get around the complex assortment of problems that befall it. The first efforts to contend with these problems were observed in the 1960's. These efforts were intended to increase Amazigh identity awareness by organizing extra-institutional cultural and artistic activities, and by sensitizing people to the importance of claiming their linguistic and cultural rights. However, owing to the inhospitable political context, the endeavors made by Amazigh associations and activists were confronted with a composite of various political, financial and ideological obstacles, and little success has been achieved. A more hospitable atmosphere was observed in the 1990's, most influentially in 2001 when IRCAM was founded. The policy of the government towards the Amazigh language and culture has known a prominent shift. The speech given by the king on 17 October 2001 centered, in large measure, on the necessity to take care of the Amazigh language and culture, as they are significant means of reconciliation with Moroccan identity. This stage may well be viewed as a period when Amazigh identity and rights knew a lot of momentum. Interestingly, a number of moves have been undertaken, since then, with an eye to promoting the Amazigh language and culture. Paramount among these moves is the introduction of the Amazigh language in the educational system, and its promotion in the media as well as in other spheres of life. Further aspects of promotion were observed in 2011 and afterwards. Of prime importance among these aspects of promotion is the recognition of Amazigh as an official language alongside with Arabic, and the formulation of organic rules whose central drive is to evince the nature in which the operationalization of the official status of Amazigh is to be undertaken in real life.

Ever since the creation of IRCAM, attempts have been made to promote and plan the status and the corpus of the Amazigh language. The project of Amazigh standardization, which is carried out by IRCAM, is one of the most prominent status planning projects that have been launched with an eye to revitalizing the Amazigh language. The central insight meant to be attained in this project is to standardize and unify the different Amazigh varieties (Tarifit, Tamazight and Tashlhit) that pervade the Moroccan space (Boukous (2012)). The CAL at RCAM has, in good part, accommodated this project. However, notwithstanding the prominent endeavors made by the CAL in preparing the necessary standardization-oriented resources, both in terms of grammar and lexicon, the results have not been as desirable as expected, presumably due to the lack of a fine-grained governmental strategy. The efforts channeled by the researchers of IRCAM towards standardizing the Amazigh language have not been endorsed by a clear-cut Amazigh linguistic policy in the preparation, formulation and implementation of the language planning. A composite of further issues seem to vitiate an efficient status planning. These issues are the unclarity of the notion of Amazigh officiality, the dearth of fine-grained information on how to operationalize the official status of the Amazigh language, and the absence of harmonious collaboration between the State and IRCAM in planning the introduction of Amazigh in the educational and media systems as well as in other fields.

Under corpus planning, a variety of standardization-oriented works have been prepared by the CAL researchers. Most of these works are driven by the percepts of the polynomic approach, first broached by (Marcellesi (1983)). Under the polynomic approach, it is the progressive development of the three main Amazigh varieties attested in Morocco along with some unifying intervention from the linguists of the CAL that will derive the standard Amazigh language. Amazigh planning and standardization are conducted along a whole range of linguistic levels, such as the graphic, phonetic, morpho-syntactic and lexical levels.

Since the efforts invested by the CAL in the planning and standardization of the Amazigh language on the graphic, phonetic and morpho-syntactic levels are well documented in Ansar (2013), these levels will not be addressed here, and more focus will be grounded on the lexical and terminological levels, which are addressed more thoroughly in the next subsection.

1.2. IRCAM and terminology planning

At the very beginning, it is worthwhile to contend that the lexical component is of utmost importance in corpus planning. Indeed, the importance of the lexical level has propelled the CAL researchers to make every endeavor to collect and enrich standard Amazigh lexicon. The experience of planning and standardizing the lexicon may well be viewed to have undergone two stages. At the first stage, attention was grounded on the compilation of existing lexical items, of most concern here the lexical items that have fallen in disuse. The lexical material was

compiled from field research as well as from dictionaries such as Taifi (1991, 2016), Oussikoum (1995), Serhoual (2002), Azdoud (2011) and Haddachi (2000), and atlases such as Lafkioui (2007). The effort undertaken at this stage was of prime importance for the preparation of a comprehensive standardization-oriented dictionary, dubbed *Dictionnaire général de la langue amazighe*. The second stage serves a different end and is meant to update, modernize and enrich the lexical repertoire via word creation and neologisms. Interestingly, since the efforts to modernize and enrich the lexicon fall under the domain of terminology, they should be accommodated within a terminology planning project. Most of the leading figures in terminology planning, such as Auger (1986), Cabré (1999), Santos (2003) and Onyango (2005) agree that terminology planning should be conducted along at least some of the following stages: preparation, research, standardization, dissemination, implantation, evaluation, training, and modernization/ maintenance. Of the above terminology planning stages, the CAL's interest falls much more on the preparation, research, standardization and dissemination stages, and less so on the stages of evaluation, implantation, training and modernization/maintenance.

The remainder of this subsection is meant to cast a close look on terminology planning as conducted in the CAL. Focus will be more grounded on the preparation, research, standardization and dissemination stages, as they are the most prominent stages of terminology planning in IRCAM. Under the preparation stage, the CAL terminologists are responsible for the choice of the terminology project. More often than not, the terminological project is chosen on the basis of a whole range of criteria, such as the requirement to meet the socially urgent terminological needs and the need to target the domains that are less researched. Most terminology projects are prepared and planned by the CAL terminologists alone while resorting to experts in the preparation of a terminology project is very rare. The CAL is also responsible for setting a strategic plan on how the terminology projects should be undertaken, i.e. if assistance is required from other IRCAM centres of research or not, if the help of experts is needed or not, etc. As regards the budget assigned to the terminology project, it is decided by IRCAM on the basis of the size of the project as well as on account of the existence of other projects that also need to be funded.

With respect to terminological research, two sorts of research are undertaken, project-based research and *ad hoc* research. The central goal of project-based research is to prepare the terminology resources to be published in paper format or online on the IRCAM website. A number of terminological works have been prepared in the domains of education, administration, media, health, law and a variety of other domains (for further information on the lexical works prepared in the CAL, see Ameer *et. al.* (2006, 2009a, 2009b, 2011, 2012, 2015, 2017) and Amouzay *et. al.* (2017), among others). The lexical items that these terminological works conflate are, in large measure, subsumed under the domain of sectorial terminology and have been planned by the terminologists of the CAL, through

morphological derivation or semantic extension. The second sort of research, dubbed *ad hoc* research, is carried out in collaboration with CTDEC (short for [Centre de la Traduction, de la Documentation et de l'Édition](#) (Centre for Translation, Documentation and Edition)). The core point of *ad hoc* research is to meet the users' terminological needs which are communicated to IRCAM on the phone or through e-mail. In both sorts of research, a number of terminological, linguistic and grammatical criteria are observed in the creation of new terms. These criteria are respected to guarantee the accuracy and correctness of the created terms at the linguistic and terminological levels.

As far as standardization is concerned, all the terms created by the CAL terminologists are intended to be standard and are meant to be used in all spheres of life. The standard nature of the terms created by the CAL ensues from the linguistic policy adopted by the government and from the texts setting the functions and prerogatives of IRCAM. Other than the efforts invested by the CAL researchers to standardize Amazigh terminology, IRCAM adopts an interesting policy to accommodate standardization in the best way possible; this policy consists of recruiting researchers from different Amazigh backgrounds.

From the standpoint of dissemination, most terminological works are disseminated in paper format or on IRCAM's website in Pdf format. Resort to the media for the spreading of terminological work and publications is seldom observed. Other means of marketing the CAL's terminological work, other than paper or Pdf format, are not prevalent.

As regards the remaining stages of terminological planning, namely implantation, evaluation and modernization of terminological work, very little effort is undertaken by the CAL in these domains. Under the training stage, a whole range of terminological trainings have been carried out for the benefit of IRCAM terminologists. However, an observation deserves mention concerning the training aspect. Training is not undertaken on a regular basis, i.e. there is no continuous modular terminological training.

Notwithstanding the efforts undertaken by IRCAM, an evaluation of terminological planning in the CAL brings about a complex assortment of observations. Foremost among these observations is the unclarity of the link that holds between terminology planning and terminology implantation. Counter to Bhreathnach's best-practice model for terminology planning which ascribes implantation to all the steps of terminology planning, terminology implantation in the CAL is viewed as a final stage closely associated with dissemination. Paramount among the conditions of success of terminology implantation is the careful and thorough respect and implementation of the different steps of a comprehensive terminology planning model such as the one developed by Bhreathnach.

Furthermore, evaluation of terminological work undertaken in the CAL suggests that attention is much more grounded on the conceptual, linguistic and terminological correctness and accuracy of terms. However, the literature evinces

that a terminologist is obliged to know not only the grammatical and semantic structure of the Amazigh language, but also the representations, perceptions, knowledge structure, attitudes, beliefs, ethnology, sociology and anthropology of Amazigh users. This condition has to be met if good terminological implantation is to follow. With the display as such, the terminology planned in IRCAM is beset by a number of problems, most influentially problems related to its implantation and acceptance by Amazigh users. The remainder of this paper is meant to address these problems.

2. Terminology planning and implantation

2.1. Overview

It is a categorical reality among terminologists that terminological work would be useless if the created terms are not used by the language users. Put in another way, success of terms in everyday life use is necessary if a terminology planning project is to be successful. Interestingly, terminologists have put their hands to understanding the reasons underlying the success of terms in different domains of use. They have also tried to contend with the factors underlying the users' resistance to use some terms and not others. The issue of terminology implantation and acceptability has for long been addressed by terminologists. Fishman (1983) is considered to be among the leading figures that have addressed this issue. Better acceptability and implantation of terminology, according to him, ensue if terminology planning is carried out while taking into consideration the socio-cultural structure of the language community. He explains that lexicons "are not endless laundry lists, without rhyme and reason, without order or pattern, without systematic links to each other and to all other facets of language" and that they are directly related to "socio-cultural and political sensitivities" (see Fishman (1983: 3)). Fishman further argues that social acceptability or non-acceptability of planned terminology falls out from the socio-cultural expertise of the planner and the knowledge of the complex structure of the lexicon.

A variety of terminologists who have addressed the notion of terminology implantation and acceptability such as Gambier (1994), Maurais (1993), Gaudin (2003), Bouveret (1996), Delavigne (2001), Perichon (2001) and Quirion (2003a, 2003b) have not departed much from Fishman's viewpoint, stressing the importance of following the percepts of socio-terminology for better terminology acceptance and implantation. Organizational work on terminology implantation, such as the work undertaken by UNESCO and ISO, is no different from the approaches advanced by most scholars. It emphatically capitalizes on the social dimension of term acceptance and use. UNESCO and ISO have issued two important publications which are in fine accord with Fishman's percepts and the socio-terminological approach: *Guidelines for terminology Policies. Formulating and Implementing Terminology Policy in Language Communities* (2005) and

Practical Guidelines for Socio-terminology (2007), respectively. Both works focus on the social aspect of terminology. According to the UNESCO publication, a national terminology policy should take into consideration highly complex:

- Demographic factors;
- Cultural, ethno-linguistic and geo-linguistic factors; as well as
- Socio-psychological factors.

(UNESCO, 2005 : 4)

Among the most prominent works addressing terminology implantation and acceptance, one should presumably mention Antia (2000). Antia articulates a comprehensive line of thinking along which a terminology planner is, on the basis of written terminological material, able to determine the deficiencies that befall the created terms and, hence, understand why such terms are resisted by the users. His approach articulates a broad range of criteria along which the written material discourse should be assessed to unlock the reasons behind the resistance to use such terms. These criteria are set out below:

- A linguistic approach (strategies used);
- a terminological systems approach (how groups of terms reflect the relationship in the corresponding sets of concepts);
- a communicative approach (the usability of the terminology in discourse);
- knowledge approach (the effectiveness and efficiency of the terminology project as a means of imparting knowledge);
- sociological approach (societal validation of the terminology planning effort as evidenced by knowledge of, and attitudes towards, the terms).

(Antia, 2000: 38)

Antia's account looks very interesting because it provides a whole range of criteria along which terminology may be evaluated to assess resistance to term use. The most important criterion in his account is the sociological approach, which tries to fathom out users' knowledge of and attitudes towards terminology. Antia's account is, nonetheless, fraught with a pernicious limitation. To the exception of the sociological approach, all the other approaches may well fall under term provision (or research) stage. Terminology planning includes many other stages which play an important role in terminology acceptance and implantation, as will be shown in the next section.

2.2. Evaluation of terminology planning and implantation in Bhreathnach (2011)'s approach

Of the most influential works addressing terminology acceptance and implantation is Bhreathnach (2011). Improving on Antia, Bhreathnach's account amounts to an imperative that all aspects and stages of terminology planning have to be implemented thoroughly if better terminology implantation is to follow. She insists that just supplying lists of terms and hoping that they will be used by potential language users is not sufficient for real terminology implantation. Along her line of thinking, strategic thought and planning are sorely needed to achieve terminology development and success in everyday life use. The central thrust of Bhreathnach's approach is to develop a best-practice model for term planning which will guarantee an efficient terminology implantation and acceptance by the users. With an eye to putting her account on the firmest grounds, she tries to answer a number of questions meant to show if a best-practice term planning model holds in the literature and/or in the practices of language agencies that carry out term planning in real-life situations. Crucially, evaluation of the terminology planning literature, notwithstanding the fact that it yields a complex assortment of results that are of vital importance and usefulness for the development of a best-practice terminology-planning model, does not answer all questions. Evaluation of the practices conducted in language agencies terminology planning projects, though interesting, does not seem to offer any solace either.

To develop a best-practice model for term planning, Bhreathnach embarks on a comparative analysis where she checks the literature on term planning against the practices undertaken by three language agencies, namely Termcat (The Catalan Centre for Terminology), TNC (Terminologikum (The Swedish Centre for Terminology)) and GA (The Irish Term Planning Situation). Based on this comparative account, Bhreathnach has been able to erect the theoretical edifice of her best-practice term planning model. She has also been able to flesh out a number of theoretical underpinnings underlying her account. The first one is the focus on the socioterminological nature of term planning. Put in another way, any terminology planning should take into account the users of the language, not only by paying attention to their attitudes and representations but also by involving them in terminology planning. The socioterminological approach also exhibits an interest in the relationship that holds between terminology, society and language. Bhreathnach contends that socioterminology should focus on:

- The use of corpora and an emphasis on description: a move away from definition or the opinion of the domain expert as the only determinant of meaning towards the inclusion of nonexperts. The meaning of terms is socially allocated and negotiated, it was found – it is not just circumscribed by the documenting and describing terms as they are actually used before recommendations are made, so that they can have real authority.

- A move towards a linguistic approach (i.e. one that recognizes that terminology is a branch of applied linguistics, and not confined to technical and scientific standardization). (Bhreathnach, 2011: 140)

The second point is not to view terminology implantation as a separate stage among the stages of terminology planning. All stages of terminology planning, starting from the preparation of the project until its modernization and maintenance should serve implantation ends. Bhreathnach's approach provides a brief retrospective on the notion of implantation in the literature. She argues that, notwithstanding its position in terminology planning, implantation is always construed as a passive stage and not as something that terminology planning organization can actively do. She argues that accommodating the different terminology planning stages along the underpinnings of the socioterminological approach is the only way that guarantees successful terminology planning and implantation.

The third point is that terminological planning, under a socioterminological approach, should not make a distinction between language for specific purposes (LSP) and language for general purposes (LGP), owing to the fact that language users do not make such a distinction. This implies that the gap between LSP and LGP should be bridged. Bridging this gap amounts to an imperative that terminological work methods should be much closer to the methods of lexicography than to traditional terminology, because terms are part of language, and not just signs for concepts.

The best-practice model for term planning derives much of its appeal from a detailed comparative analysis of the literature on term planning against the practices undertaken in a number of language agencies, namely Termact, TNC and GA. With such evaluative work as background, Bhreathnach brings to the fore the pillars of her model, which consist of a whole range of stages that term planning should follow to achieve success in use, acceptability and implantation.

The comparison that Bhreathnach conducted between the literature on terminology planning and the three cases study (Termcat, TNC and GA) brought about an eight-aspect terminology planning approach, which she dubs the best-practice model for terminology planning. The eight aspects are set out as follows: preparation/planning, research, standardization, dissemination, evaluation, training, modernization and maintenance. Although all of these aspects have been accommodated in the literature, Bhreathnach's comparative work between the literature and the three-case study has yielded central insights that can illuminatingly be pursued for better terminology planning and implantation. Bhreathnach's model consists of 8 aspects and 15 sub-aspects. Each aspect encompasses a whole range of measures that terminologists should carry out for an ideal terminology planning and implantation. The whole model includes 88 measures. The model also sets out the language agencies involved in the carrying out of the measures. For expository reasons, Bhreathnach groups all the aspects,

sub-aspects, measures and the language agencies involved in the carrying out of the measures in a single long table (see Bhreathnach, 2011: 135). This table derives much of its appeal from offering an overall picture on the model as a whole. I shall not reproduce this table here due to space limitations. For ease of readability, I shall, nonetheless, adapt and fragment the long table to a number of sub-tables, each one addresses one aspect, and introduce them in due places in section 3. Put in another way, because IRCAM's terminological practices are evaluated against Bhreathnach's model along an aspect-by-aspect-pattern in section 3, each sub-table will be introduced under its corresponding subsection, i.e. under the subsection that handles the same aspect as the sub-table.

2.3. Research design

Assessing IRCAM's terminology planning practices against Bhreathnach's best-practice model has necessitated the resort to a research design approach that aims at achieving the best accurate, valid and reliable results. Indeed, the focus has been more grounded on a qualitative approach meant to evaluate IRCAM's practices, and see to what extent the practices are in fine accord with the best-practice model. To achieve representativeness and reliability, resort was made to triangulation of evidence, an approach which consists of weighting evidence, looking for negative evidence and finding rival explanations if any.

It is worthwhile to contend that both data collection and analysis in this paper have been largely limited to the terminology planning practices conducted in IRCAM. External factors, such as the educational system, publishers, the media, and domain experts, which have an effect on the language choices made by users, have been largely sidestepped for a whole range of reasons. Paramount of which are the difficulties associated with measuring these factors on terminology use as well as the limited scope of the paper.

Data collection was, in good part, based on the CAL's annual internal reports and on interviews conducted with a number of researchers and engineers from IRCAM. Interviews have born on the assessment of the CAL's practices in the different aspects of terminology planning set out in Bhreathnach's model. Technical issues having to do with terminology use at the internet, and the interaction with potential terminology users via IRCAM's web page, have, in large measures, been addressed with IRCAM's computer science engineers, especially those responsible for the programming and management of IRCAM's web page. Last but not least, my experience as a researcher in the CAL, at the Lexicon Unit of Studies and Research, along with my involvement in the different action plans, especially those relative to terminology, have been of prime importance in evaluating IRCAM's practices in terms of terminology planning against the Best practice model for terminology planning.

3. Evaluation of the terminological practices of IRCAM along Bhreathnach's model

In the remainder of this paper, I shall try see if the work conducted in the CAL is in full accord with Bhreathnach's approach. I shall try to address each of the aspects that make up Bhreathnach's account, without presumably going through all the measures that have to be respected or implemented in each aspect or sub-aspect. Accommodating all the measures will drag us for many pages, making this paper longer than what it should be. The central thrust of the remainder of this section is to present the different aspects of Bhreathnach's best-practice model while focusing on some of the measures that have not been respected by the CAL terminologists or that need further consideration and interest. The remainder of this section is also meant to address some of the reasons that underlie the CAL terminologists' disregard of these measures, as well as the gains that could follow if such measures have been respected or implemented.

3.1. Preparation/planning

By preparation and planning, Bhreathnach means all the organizational aspects of term planning, covering the nature of work to be done, the organization to do it, the staff, the funds, the networks and relationships associated along with international involvement (for more comprehensive information on the preparation aspect, see also Taljard (2008), Bauer *et al.* (2009), and Santos (2003). Bhreathnach explains that factors such as setting priorities, the limits set by the budget as well as the sort of staff recruited, and other factors, play an important role in term planning and in terminology implantation. Good preparation and planning are, therefore, essentially necessitated. In table (1)², Bhreathnach portrays the various sub-aspects and measures to be taken by terminologists to undertake ideal terminology preparation and planning.

(1) Preparation/planning aspect

Sub-aspect	Measure	Case study evidence
Organizational structure	1: create a structure that allows dynamism and flexibility	TERMCAT, TNC
	2: Involve language planning institutions and other interested parties in the executive	TERMCAT, TNC, GA

² This table and the tables presented in the forthcoming subsections (aspects) are split parts of the overall table that covers all the term planning aspects (see Bhreathnach (2011: 135)). As explained before, splitting Bhreathnach's table into a number of sub-tables, in conformity with the stages and aspects of terminology planning, serves readability ends.

	structure.	
	3: If there are two or more organizations, ensure that there is close cooperation and a coordination point for leadership and decision-making.	GA
	4: Ensure that there is an organization with clear responsibility for each aspect of terminology planning.	TERMCAT, TNC, GA
Staff	5: Ensure staff have a variety of background.	TNC
	6: Have professional terminologists; do not rely on volunteerism.	GA
Budget	7: Have a reliable funding source.	TNC
	8: Supplement funding, if necessary, with charges and sponsorship.	TNC, TERMCAT
Networks and relationships	9: Ensure cooperation in provision of language resources.	TERMCAT, TNC
	10: Maintain contact with user groups.	
	11: Find out who users are and plan for their needs.	TERMCAT, TNC
	12: Maintain structured links with academia.	TERMCAT, TNC, GA
Resource planning	13: Develop a strategic plan for terminology development.	GA
	14: Consider criteria such as need, likely results, adaptability, distribution and likely implantation.	
	15: Carry out terminology work on request.	TERMCAT, TNC
International involvement	16: Insure involvement in international organizations.	TERMCAT, TNC, GA
	17: Participate in partnerships and international projects.	TERMCAT, TNC, GA

Close scrutiny of the measures that fall under the preparation and planning aspect of Bhreathnach's approach shows that IRCAM respects and undertakes most of these measures. Some issues are, nonetheless, observed at the organizational structure sub-aspect level where measure 1 recommends language agencies to create a structure that allows dynamism and flexibility. Bhreathnach explains that the independence of a language agency in making decisions can help create an atmosphere where more dynamism and flexibility are observed. She supplies the

example of Termcat to exhibit how a language agency that does not depend on the government may attain more flexibility and agility in the management of the different steps of terminology planning. IRCAM does not happen to have the same status as Termcat, because it is a government administration. Being part of the government administration does not endow it with a lot of flexibility and independence in management. Put in another way, planning and preparing a terminology project runs the risk of facing regulatory and administrative constraints that might impede the project at some level or influence the decisions concerning its planning and preparation. It is not uncommon that some projects are modified or abandoned in toto due to rigid administrative procedures and regulations. As a case in point, one may mention how some projects of working with contractual experts are confronted with administrative funding difficulties.

Political and militant decisions may also wreak havoc on the process of terminology planning and may limit the dynamism and flexibility of the projects undertaken in the language agency. Casting a close look at the revitalization and planning of Amazigh in the Moroccan context shows that the government decisions, for instance with respect to the introduction of Amazigh in the educational system, was so hasty. This hastiness did not leave enough time for the preparation of a very good strategy for the planning of educational terminology, a terminology to be used in educational textbooks. It is my belief that this hastiness has influenced the quality of educational terminology required for the preparation of Amazigh textbooks prepared by IRCAM along with The Ministry of Education. Factors, such as time as well as language agency independence, are of prime importance and usefulness in the preparation of an efficient flexible terminology project and may bear part of the responsibility for the success of terminology implantation.

As regards the staff sub-aspect, the issue that may well deserve mention is the lack of diversity in the background of the CAL terminology team members (see measure 5). Following the lead of Bhreathnach, the diversity of background of the terminology team members is a valuable asset for the success of a terminology project both quality and implantation-wise. Linguistic skills are but a small part of the skills that a terminologist should have. Terminologists should have administrative, training and marketing skills, which will be needed in the different aspects and stages of an efficient terminology planning programme. It would be desirable if the team includes experts from domains of computing, law, science and a whole range of other domains. All terminologists in the CAL are of linguistic background. More efforts should, thereby, be made to include full-time or contractual terminologists and experts of various backgrounds in the CAL for better terminology planning and implantation. It is also of utmost importance to undertake continuous, not sporadic, training for the CAL terminologists on the needed skills.

Under the networks and relationships sub-aspect, the measure that is least respected is measure 10, which requires the maintenance of contact with terminology users.

The users of IRCAM terminology include educators, journalists, editors, linguists, students and general users. Interestingly, some sporadic contact is indeed maintained between the terminologists of the CAL and some Amazigh terminology users. Consistent contact, however, is maintained neither during the preparation of the terminology project nor in the course of conducting term research. This non-inclusion of terminology users, Bhreathnach explains, foils the attempt to create a sense of involvement and ownership, which is, in turn, tangential to a better terminology implantation. This means that more endeavors should be made by IRCAM and its Language Planning Centre in keeping a close contact with terminology users.

From the standpoint of international involvement sub-aspect (see measures 16 and 17), although the CAL's researchers may participate in some international conferences, very little involvement in international projects is noted. No participation of the CAL in international terminological activities of ISO or UNESCO is observed. This is presumably due to the sort of terminological research work undertaken in these organizations, which is oriented by the terminological needs of industrialized countries. More often than not, these needs counter the terminological needs of third world countries. Contribution in international projects is, nonetheless, desirable because it will contribute in sharpening the CAL researchers' terminological planning skills and help them learn from terminological experiences observed in other languages. This lack of international involvement may, therefore, vitiate the quality of term planning and implantation in the CAL. It is common belief among terminologists that international involvement promotes the standards of good terminology planning.

3.2. Research

According to Bhreathnach, research recognizes two distinct areas: *ad hoc* research and project-based terminological research (including research into *in vivo* term use and *in vitro* term creation) (see also Célestin *et al.* (1984), Cabré (1998), Suonuuti (2001), Sager (1990), among others, on issues related to terminological research). Research may also include research into new work methods or evaluative research. In table (2), Bhreathnach presents the various sub-aspects and measures to be taken by terminologists to undertake good terminology research.

(2) Research aspect

Sub-aspect	Measure	Case study evidence
<i>Ad hoc</i> research	18: Respond promptly to enquiries.	TERMCAT, TNC, GA
	19: Publish responses promptly.	GA
	20: Use an enquiry form.	GA
	21: Refer general-language queries to a separate	TERMCAT,

	service.	GA
	22: Have a documentation and training system that ensures quality.	TERMCAT
	23: Record all enquiries and responses.	TERMCAT, TNC
	24: Maintain a network of useful contacts.	TERMCAT, TNC, GA
	25: Maintain useful reference works and/or a corpus.	TNC
Project-based research	26: Set up a project.	TERMCAT, TNC, GA
	27: Provide training in terminology methods.	TERMCAT, TNC
	28: Identify content, scope, users, sources and helpers.	TERMCAT, TNC, GA
	29: Make decisions about dissemination and maintenance.	
	30: Use a database to organize the work, if practicable.	TERMCAT, TNC, GA
	31: Carry out term extraction and corpus research.	TERMCAT, TNC
	32: Gather information from as many sources as possible, including expert and media contact.	TERMCAT, TNC, GA
	33: Follow international standards if possible.	TERMCAT, TNC
	34: Create new terms if necessary.	TERMCAT, TNC, GA
	35: Document the work.	TERMCAT, TNC, GA
	36: Review the work.	TERMCAT, TNC

3.2.1. *Ad hoc research*

A good part of terminological work does not fall under project-based research work, hence its labelling as *ad hoc* research. Under this sort of research, terminologists are asked, through mail or on the phone, to provide terminological information for particular groups of users. Queries may well include requests for specific terms, for concept definition, or term usage.

A huge part of terminological work in IRCAM may be subsumed under *ad hoc* research. Most of *ad hoc* research work is undertaken by terminologists from the CAL, or by translators from the CTDEC, especially when the query is of a general-language nature. Of the most prominent subtleties that deserve mention concerning *ad hoc* research, there is the lack of a platform of communication between IRCAM terminologists and terminology users, which is counter to the recommendations made by Bhreathnach in most measures under this sub-aspect (see measures 20, 23 and 24). Put more clearly, other than e-mails and direct phone calls, there is no platform or database on the website of the institute intended to facilitate communication with the terminology users and record their behavior vis-à-vis Amazigh terminology. Collecting information on terminology users and communicating with them through a professional platform or database as well as recording their behavior and their enquiries and responses will supply a lot of valuable information on the type of terms sought, their domains as well as the users' needs and expectations and the sort of problems they face. If these practices are properly conducted in IRCAM, as recommended by Bhreathnach, better results will follow in terminology planning and implantation improvement.

3.2.2. *Project-based research*

All projects meant to collect terms, in the guise of vocabularies, glossaries or dictionaries, may well fall under the rubric of project-based research. Bhreathnach records a number of criteria for better project-based research. They are laid out below:

- comprehensive project planning, to ensure that the work is done on time and within the budget allowed;
- participation by domain experts and opinion-leaders, to ensure quality and implantation;
- research into in vivo language use;
- thorough research and documentation, to ensure consistency and accuracy, especially in *in vitro* term creation.

Of the project-based research measures recommended by Bhreathnach, four measures need to be contended with in the context of terminological work carried out in IRCAM. The first point encompasses two measures: the lack of diversity in terminologists' background (see measure 26) as well as the non-consistent participation of domain experts in terminology projects (see measure 32), an issue that has already been addressed in the planning/preparation subsection. The lack of terminologists' diversity of background along with the non-involvement of domain experts, as has already been pinpointed, exercises a negative effect not only on the preparation and planning of terminology but also on the quality of terminology research projects undertaken, which, in turn, yields pernicious effects on Amazigh

terminology implantation. More efforts are, therefore, needed to get around these two problems so as to improve terminology planning and implantation in IRCAM.

The third measure (measure 30) is the lack of a comprehensive terminological database for organizing the work. Although a database has been developed in a collaborative work undertaken by the CAL and CEISIC (short for Centre des Etudes Informatiques, des Systèmes d'Information et de Communication (Computer Science Studies, Information Systems and Communication Centre)). This database is much more intended for searching terminological data than for generating terminological printed work or helping the terminologist conduct profound terminological analytical work. There is no wonder that a database is sorely needed if better terminology research projects are to follow. Recently, some efforts have been undertaken to develop a comprehensive database that, hopefully, would improve the quality of terminological work in the CAL.

The fourth measure (measure 36) is the lack of evaluation of finished terminological projects, which is essentially needed to achieve consistency and to see how well the product abides by the work methodology. Evaluation yields a complex assortment of desirable effects concerning the improvement of work processes, documentation and training. The issue of evaluation of terminological projects will be revisited and addressed more thoroughly in the evaluation aspect, which will be given a handle later.

3.3. Standardization

Under Bhreathnach's model, standardization is "the selection by a representative committee of recommended terms to be used in a defined field, such as in education or administration" (Bhreathnach 2011: 154). In the literature, standardization may well have other meanings depending on the background of the authors (see Auger and Rousseau (1978), Baxter (2004) and Drame (2009)). In table (3), Bhreathnach sets out the various sub-aspects and measures to be taken by terminologists under the standardization aspect.

(3)

Aspect	Measure	Case study evidence
Standardization	37: Define the meaning of "standardization" in the administrative/ legal context.	TERMCAT, GA
	38: Have a representative standardization committee.	TERMCAT, GA
	39: Only standardize terms which have been exhaustively researched.	TERMCAT
	40: Review standardization decisions when necessary.	TERMCAT

In measure 39, Bhreathnach emphatically recommends to only standardize terms which have been exhaustively researched. This measure is not consistently obeyed by the CAL terminologists for a variety of reasons. For one thing, all the terminology created at the CAL is meant to have a standard status and use in the different domains and spheres of life in Morocco, in conformity with the texts setting the functions and prerogatives of IRCAM. For another, if all terms are exhaustively researched, very few terms will be standardized every year, given the extensive work needed to accommodate the concepts, definitions, contexts, usages and likelihood of implantation of such terms. Exhaustive terminological research counters the Moroccan politically and socially pressing needs in terms of providing extensive terminology in different domains in a short period of time. The CAL terminologists, nonetheless, channel good efforts into undertaking the best terminological work possible within the time limitations set by the action plans. One should not forget the disparity that holds between the terminology needs of developed languages and the terminology needs of underdeveloped or minority languages, either. The need of minority or less diffused languages in terms of terminology is huge (see Antia 2000).

Another point that deserves mention concerns measure 40, which calls for a review of the standardization decisions if necessary. Translating measure 40 into action is sorely needed when a term is not accepted by the users' community. In such situations, some reviewing is nearly mandatory. This recommendation is sporadically respected in the CAL. A consistent review of the to-be-standard terms is essentially required for an efficient terminological implantation.

3.4. Dissemination

Following the lead of Bhreathnach, good dissemination includes a whole range of aspects that are set out below:

- publication of term resources
- publication of information about terminology
- drawing the attention of users to resources
- creating debate about, interest in, and appreciation of terminology work.

(for more information on dissemination see also Bauer *et al.* (2009) and Moffet (2004))

Bhreathnach contends that all the above aspects are necessary if term resources are to be used and implanted. She further explains that the central thrust of dissemination is to encourage language users to use terminology, and that dissemination should not be left to chance. Huge efforts have, thereby, to be invested in involving users in developing interest in terminology, which, in turn, will exercise positive effect on terminology implantation. In table (4), Bhreathnach

lays out a whole range of sub-aspects and measures to be taken by terminologists to undertake ideal terminology standardization.

(3) Dissemination aspect

Sub-aspect	Measure	Case study evidence
Publication of term resources	41: Disseminate term resources online; make everything available online.	TERMCAT, TNC, GA
	42: Make the resource easy to use.	TERMCAT, GA
	43: Monitor the user experience.	TERMCAT, GA
	44: Maintain close links with general language resources.	TERMCAT, GA
	45: Keep resources dynamic and modern.	GA
	46: Provide an <i>ad hoc</i> query service and respond to users.	TERMCAT, TNC, GA
	47: Make other tools available.	TERMCAT
	48: Develop resources for online publication first.	GA
	49: Publish paper dictionaries if necessary and if resources allow.	TERMCAT, TNC, GA
Interaction with the media	50: Develop a media contact network.	TERMCAT
	51: Spread the terminology 'message' in the media.	TERMCAT
Marketing and awareness-raising	52: Have a communications department and a communications plan.	TERMCAT
	53: Identify target groups.	TERMCAT
	54: Share information about terminology work.	TERMCAT, TNC
	55: Bring terms into circulation.	TERMCAT, TNC, GA
	56: Use inexpensive and innovative marketing resources.	TERMCAT, TNC, GA
	57: Encourage users to value terminology.	TERMCAT, TNC, GA
	58: Attend conferences and publish research.	TERMCAT, TNC, GA

Concerning term resources dissemination in IRCAM, some attempts have been carried out to achieve this end. Many terminological resources have been published in domains ranging over as many areas as education, media, law and health, among others. However, effective online dissemination of these works through an interactive terminological platform or database (see measures 41, 42, 45, 47 and 48), and not through pdf versions, happens to be fraught with some problems. Chief among these problems is the existence of conceptual, managerial and organizational misapprehension between terminologists and computer scientists in the conception of such databases. This misapprehension is observed, for instance, in the course of preparing some of the most serious digital terminological platforms and databases in IRCAM, i.e. the *Dictionnaire général de la langue amazighe électronique* (*General Dictionary of the Amazigh Language – Electronic Version*) and a terminological database for internal and external use. Both works have been dragging for a long period due to lack of harmonious communication between terminologists and computer scientists. Furthermore, since there is, up to now, no finished terminological platform nor a means of contact with Amazigh terminology users on the IRCAM website, no communication or contact is ensured with the terminology users to analyze their behavior, track their experience and fathom their needs (see measures 43 and 44). In short, one may well claim that supplying online terminology along with maintaining close contact with terminology users are two insuperable issues that need to be addressed more efficiently. Further efforts in the harmonization of terminological work need to be invested by the terminologists and the computer scientists of IRCAM.

With respect to the media, which is construed to be one of the best means of terminology dissemination and implantation, many efforts have been made in training journalists and developing a media contact network with them (see measure 50). However, the efforts emphatically fail to yield interesting results because of lack of consistency. Further focus should center on keeping a close contact with journalists, and most influentially on involving them in the process of term research. The sense of involvement and ownership is of paramount importance in terminology adoption and implantation. From the foregoing, it emerges that a socioterminological approach, along the line of argument developed by Rey (1979) and successors, is missing in the planning of terminology in IRCAM. The non-involvement of the media terminology users in the different aspects of terminology planning wreaks havoc on terminology dissemination and implantation.

At the marketing level, disseminating terminological resources is emphatically limited to publishing these works in paper or Pdf format and circulating them to different schools, universities and administrations or through giving conferences and press releases about these works. Other forms of marketing, especially those having to do with more developed online marketing, are not so often observed. Using innovative means of marketing terminological resources (see measure 56), such as through blogging or through advertising campaigns (Ad words or

Facebook, among others), is not observed. Furthermore, although the Department of Communication in IRCAM accommodates many forms of external and internal communication, the Department is not involved in terminology dissemination in a consistent or active way (see measure 52). No communication plan has been set to disseminate Amazigh terminology in a systematic way and to keep a close contact with target groups such as translators, language specialists, writers, legislators, educators and journalists, and try to meet their needs. Although some efforts are observed, now and then, these efforts are not consistent. I think the experience of Termcat Antenna di Terminologia in this aspect is worth pursuing (see Bhreathnach 2011: 160).

3.5. Evaluation

Among the different terminology planning stages, the evaluation stage is of paramount interest. It enables terminologists to correct and adjust terminological work. To achieve the best results, evaluation should not be limited to terminology production, but should involve all the stages of terminology planning (for a more comprehensive account on evaluation see Moffet (2004), Auger (1999), Quirion and Lanthier (2006) and Fähndrich (2005)). In table (5), Bhreathnach portrays the various measures to be taken by terminologists under the evaluation aspect.

(5)

Aspect	Measure	Case study evidence
Evaluation	59: Establish an evaluation and assessment mechanism.	TERMCAT
	60: Have a range of participants in evaluation: staff, user groups, external evaluators.	TERMCAT, TNC, GA
	61: Encourage research as an evaluation mechanism.	TERMCAT, GA
	62: Work towards quality certification.	TERMCAT
	63: Evaluate dissemination and implantation.	TERMCAT
	64: Evaluate research, term production and standardization.	TERMCAT
	65: Evaluate term resources.	TERMCAT, GA
	66: Evaluate database/website user behavior.	TERMCAT, GA
	67: Evaluate marketing work.	TERMCAT
	68: Evaluate training.	TNC
69: Evaluate evaluation.		

Evaluation of terminological work is presumably the aspect that is least studied and served in IRCAM. No serious work of assessment that draws on evaluating terminology planning has been observed over the last 15 years, neither in quantitative nor in qualitative terms. Nor has there been a creation of a mechanism meant to track the development of term planning since the creation of IRCAM up to now. Bhreathnach capitalizes on the necessity to evaluate the different aspects of terminology planning, i.e. preparation/planning, research, standardization, dissemination, evaluation, training and modernization. Evaluation of all of these aspects may well be viewed as a valuable asset in locating places of weakness in terminology planning, which may affect term implantation. Evaluation of terminology planning may yield illuminating insights, if undertaken externally by evaluators and users groups and internally by the CAL terminologists. Implantation should also be evaluated to see which terms have been successful in the linguistic market. More efforts need, thereby, to be focused on evaluating terminology planning and implantation in IRCAM. Such an evaluation will unveil a complex assortment of weak areas that need improvement. Interestingly, if such weak areas are properly accommodated, better terminology implantation and planning will undoubtedly follow.

3.6. Training

Under the training aspect, Bhreathnach records four sub-aspects, namely training of terminologists, training of specialists and others advising the terminologists, training of professionals working closely with terminology and training/education of the general public (see also Auger (1986) and Cabré (1998)). Bhreathnach explains that training is inextricably related to the dissemination and implantation of terminology, and argues that training improves the quality and use of term resources. In table (6), Bhreathnach presents the various sub-aspects and measures to be taken by terminologists to undertake ideal terminology training.

(6) Training aspect

Sub-aspect	Measure	Case study evidence
Training of terminologists	70: Provide training for the jobs to be done.	TERMCAT, TNC, GA
	71: Provide in-house training to new staff.	TERMCAT, TNC, GA
	72: Give training in both terminology theory and methods.	TNC
	73: Provide documentation and user manuals.	TERMCAT, TNC, GA
	74: Provide continuous training to	TERMCAT,

	staff.	TNC, GA
	75: Provide opportunities for research.	GA
	76: Provide training opportunities for future terminologists.	TERMCAT, GA
Terminology committee members	77: Provide introductory training on terminology principles and methods.	TNC
Professionals working closely with terminology	78: Ensure terminology training is provided on professional courses, if needed.	TNC
	79: Provide workshops and seminars as needed.	TNC
The general public	80: Assume term users have not been trained.	TERMCAT, GA
	81: Provide information resources online.	TERMCAT, TNC, GA
	82: Give training to students.	TNC

Under the training of terminologists, training should not bear on terminology research alone but should extend to a whole range of other skills that are of paramount importance in the different stages of terminology planning (see measures 70 and 71). These skills may include interpersonal skills, computing, marketing and administrative affairs. With the above in mind, close scrutiny of the aspect of training in IRCAM shows that terminologists sporadically receive training on skills other than terminology research. Bhreathnach argues that an important part of terminology planning involves managerial administrative work. It is not uncommon, she explains, that terminologists lack competencies in managerial work. This lack of training in managerial work, alongside other skills, wreaks havoc on terminology implantation. From the foregoing, it emerges that terminologists in IRCAM should get further training not only in terminology theory and methods but also in other skills that are inextricably related to terminology.

In relation to the training of experts and professionals, a number of training sessions have been organized by IRCAM for experts and professionals, most influentially in the domains of education and the media. Three observations, nonetheless, deserve mention concerning the training of experts and professionals working closely with terminology. The first is the fact that the training sessions usually draw on the different linguistic aspects of Standard Amazigh, without bearing heavily on terminology planning. The second is the fact that training is not regular and consistent. The third is that most trainings are provided for experts and professionals in education and media domains only; other domains are largely

sidestepped. If more efforts are channeled into contending with the above issues, terminology planning and implantation will be positively affected in IRCAM.

Under the general public training, IRCAM provides many Pdf terminological resources online. However, close scrutiny shows that further efforts need to be undertaken in providing online modules on the value and use of terminology as well as on the manner in which terms are compiled and used.

To wind up, IRCAM needs to provide continuous training to staff, experts and professionals as well as to the general public. Such training will yield a complex assortment of desirable effects on the quality of terminology planning and implantation.

3.7. Modernization/maintenance

According to Bhreathnach, modernization and maintenance are of tremendous importance for keeping a high standard of work in the various aspects of term planning. They directly depend on the outcomes and findings of evaluation. If carried out properly, modernization and maintenance will promote terminology planning and implantation. In table (7), Bhreathnach evinces the various measures to be taken by terminologists to undertake good terminology modernization and maintenance.

(7)

Aspect	Measure	Case study evidence
Modernization/ maintenance ³	83: Implement changes suggested by evaluation.	TERMCAT TNC, GA
	84: Plan and carry out technical improvements to databases and work methods.	TERMCAT TNC, GA
	85: Keep resources up to date.	TERMCAT TNC, GA
	86: Maintain research standards.	TERMCAT TNC, GA
	87: Keep up with and use new research technologies.	TERMCAT, TNC
	88: Carry out organizational modernization.	TERMCAT

Since very little effort is invested by the CAL in the evaluation aspect, very few modernization or highlight ideas meant to improve weak areas or services are

³ Modernization and maintenance, despite being grouped under the same heading, refer to two different aspects.

observed. Most modernization and maintenance observed in the CAL ensue from accumulated experience, sometimes from training, but not from systematic evaluation of all terminology planning aspects. This means that efficient evaluation is needed to pave the way to better modernization and maintenance of terminology planning in the CAL. Furthermore, notwithstanding the attempts made by the CAL to keep resources up to date, close assessment of the work conducted in the CAL shows that further collective endeavors are needed in the harmonization of term neologisms (see measure 85 and 86). Put in another way, the process of adding terms to the already existing lists of terms essentially necessitates a harmonization process between the new terms and the already existing terms, especially when the concepts of terms are closely similar. Resorting to the assistance of experts in such situations is highly desirable. More efforts are needed in documenting the work undertaken in the different stages of terminology planning. This will facilitate the processes of evaluation as well as modernization and maintenance.

In summary, we may well argue that modernization and maintenance are no less important than the other aspects accommodated by Bhreathnach, and are, therefore, sorely needed for better term planning and implantation.

Conclusion

To wind up, this work has tried to give a handle on a whole range of issues related to terminology planning and implantation, paving, thus, the way to an assessment of IRCAM's terminological practices against the Bhreathnach's best-practice model for terminology planning. We have, in the very first section, attempted to give a brief retrospective on IRCAM's experience in terminology planning. We have addressed the status of the Amazigh language, by sketching its different stages of decline and the conditions underlying its revitalization. Then, we have tried to handle language planning by addressing status and corpus planning. To bring this section to a close, an overview of IRCAM's experience and practices in the domain of terminology planning is offered. In the second section, we have tried to provide a broad vista on the whole range of strategies provided by terminologists to get around the term implantation issue. A broad range of arguments have been set out to defend the superiority of Bhreathnach's best-practice model. The section has also tried to flesh out and evaluate Bhreathnach's model underpinnings and theoretical bases. As for the final section, its central thrust is to assess the CAL terminological practices against Bhreathnach's model. The evaluation has brought about a broad range of results. Focus has been more grounded on the measures that are least practiced in the CAL, and some ideas have been advanced as to how to contend with the problematic measures and aspects in the CAL's practices. For more effective terminological planning, the terminological work undertaken in the CAL should not be grounded solely on the conceptual, linguistic and terminological correctness and accuracy of terms; focus need to fall also on conducting terminology planning along a socioterminological dimension. The inclusion of terminology users in terminology planning is drastically needed.

Another point which deserves mention is the need to pay more attention to the aspects of evaluation, training, modernization and entertainment. These aspects are not getting their sufficient share of interest in the terminology planning practices in IRCAM. This said, the other aspects need further improvement, most influentially in terms of experts and terminology users' inclusion in the process of preparing terminology projects as well as researching and disseminating terminology. If the recommendations set out above are undertaken in a rigorous fashion and if all the language planning stages are accommodated along the fashion in which they are presented in Bhreathnach's model, better results will follow not only in the planning but also in the implantation of Amazigh terminology.

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