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Constructing academic identities online: identity performance in research group blogs written by multilingual scholars

Abstract

Blogs provide an open space for research groups to publicise their research and activities, become more visible both to the local and international disciplinary communities, and conduct self-promotion. Research groups harness the affordances of the medium to weave a narrative about the group, presented through various modalities, and thus construct their online identity. The purpose of this research is to analyse how identity is constructed in research group blogs written in English by groups affiliated to Spanish institutions. In this study I address the following questions: (i) which are the facets of the group's identities created by multilingual scholars in research group blogs?; (ii) which textual and multimodal practices are adopted by researchers to construct the group's identity?. To answer these questions I conducted a content analysis (focusing on written language, visuals, hyperlinks) of posts taken from 12 research group blogs. The study provides insight on how these research groups mesh different semiotic modes in their blogs to project a multifaceted identity and reveals that blogging may be a powerful instrument for research groups' identity performance and visibility.

Keywords: academic identity, online identity, research group blogs, academic blogs, multilingual scholars

1. Introduction

Digital technologies, and the immediacy, visibility, and connectedness they imply, have changed the way we communicate and present ourselves. Social media offer new opportunities for self-presentation, impression management, self-promotion and identity performance (Barton and Lee, 2013; boyd & Ellison, 2007). In the academic context, there has also been a shift in the ways in which scholars present themselves publicly: they are increasingly turning to online spaces (e.g., faculty webpages, social networking sites, academic blogs) to create an online persona, develop professional identities, and claim their place within their disciplinary community and even outside academia (Barbour and Marshall, 2012; Davies and Merchant, 2007; Hess, 2002; Hyland, 2011b, 2012; Kirkup 2010; Lovasz-Bukvova, 2011; Matsuda, 2002; Sokół, 2012; Thoms and Thelwall, 2005).

The question of identity construction in academic discourse has attracted much attention (for a comprehensive review of identity in academic discourse, see Flowerdew and Wang, 2015), but there is still little research on how identities are constructed in academic digital genres. One of the digital genres that has recently been the focus of increasing interest as a venue for the construction of scholarly identity is the blog (Davies and Merchant, 2007; Dennen, 2009; Ewins, 2005; Graupner, 2010; Kirkup, 2010). Blogs represent a new mode of academic discourse used by scholars to share self-presentation content, and thus construct their online identity. Blogging scholars develop their identity by putting together a compilation of posts, which enables an ongoing and iterative process of subject positioning and facilitates the blending of different facets of scholars' personal and professional identity (Dennen, 2009; Graupner, 2010). Despite the interest in identity development in academic blogs, to the best of my knowledge, there are few studies on blogs written by research groups for self-presentation (see Author, 2017) and no studies on the various semiotic resources drawn upon by these groups to construct their identity in these digital spaces. However, in many disciplinary domains research groups are the primary organizational unit in the process of knowledge creation (Becher, 1989), and they are becoming an increasingly important mode of academic work even in disciplines where research was traditionally conducted individually (Vabø, Alvsvåg, Kyvik and Reymert, 2016), which calls for research on how groups manage discursive spaces for identity construction. When defining and developing their research and communication agendas, Spanish research groups need to consider the *Spanish Strategy for Science and Technology and Innovation* (2012) (henceforth *Spanish Strategy*), which establishes the general objectives and priority lines of action to develop R&D activities in Spain during 2013-2020. This *Strategy* determines that the allocation of public resources should be guided by the quality of research and its social and international impact; it also establishes the promotion of knowledge transfer in open collaboration environments, the support for the internationalisation of research and the increase of scientific culture in Spanish society as priority lines. In order to attract collaboration, have an impact both within their discipline and beyond academia, gain support for their research activity, and obtain research resources and funding, groups need to achieve visibility and project credible academic identities. Since blogs are platforms where these groups can create networks, construct identities, and enhance their reputation and status in different communities, there is a need for research into effective group identity construction and reputation-accruing strategies in this digital mode.

The purpose of this research is to analyse how Spanish research groups represent themselves in their blogs and to study the set of semiotic resources used in these blogs to construct and project the groups' academic identity. I will address the following research questions: (i) which are the facets of the group's identities created by multilingual scholars in research group blogs? (ii) which text-based and multimodal practices are adopted by researchers to construct the groups' identities? The study can reveal the semiotic resources drawn upon by research groups when engaging in the process of online identity development, and thus help those groups that intend to use blogs (or similar digital platforms) to promote different aspects of their identities to better understand which resources can be useful for this purpose.

2. Theoretical background: Identity construction in online and academic discourse

Contemporary research conceives identity as a socially and discursively constructed phenomenon, which develops through participation in specific social practices and communities. Identity is seen as multiple, dynamic (i.e. continuously redefined over time and space), and relational (i.e. constructed, negotiated and interpreted in social interaction) (Block, 2007; De Fina, Schiffrin, and Bamberg, 2006; Flowerdew and Wang, 2015; Ivanic, 1998). In this paper, I draw mainly on theories of identity performance (Goffman, 1959) and identity positioning (Davies and Harré, 1990), since the combinations of both approaches help to explain identity construction in academic blogs: academic bloggers perform in front of diversified audiences in order to position themselves as members of particular communities.

The issue of identity construction has been explored widely both in online discourse and in academic discourse. As this study focuses on academic blogging, research in these two areas will be useful to frame it.

2.1. Online identity

Most research on self-presentation online draws on Goffman's idea of identity as performance. Goffman (1959) considers that in everyday situations we enact performances for specific audiences, trying to project a credible image: through performance individuals endeavour to construct identities that are consistent with audience(s)' expectations. Researchers emphasise the social and multifaceted nature of online identity (Lee and Barton, 2011; Barton and Lee, 2013; Zhao, Grasmuck and Martin 2008): participants in online interactions are networked individuals, members of different communities connected to each other, performing for different audiences and in varying contexts. Therefore, the information they select to disclose and show, and the impression management strategies to do it, will depend on the context and the audience, which may lead to a multiplicity of selves. Scholars have also stressed that online identity is fluid and increasingly more intertwined with offline identity, the performance of identity in online communities reflecting individuals' face-to-face reality and being affected by their offline social networks (boyd and Ellison, 2007; Chen, 2013).

Research addressing identity in digital media has explored the affordances of these media for identity construction and the self-presentation strategies performed in these media (Androutsopolous 2013; Bolander and Locher, 2010; Chen, 2013; Dennen, 2009; Lee and Barton, 2011; Schreiber, 2015). These studies have revealed that writers use a range of semiotic resources (e.g., visual, audio, interactive resources) to position themselves and create their online identity (Hevern, 2004; Zhao, Grasmuck and Martin, 2008), reflecting that "communication is not only a linguistic process but also a multimodal exchange of meaningful information" (boyd and Heer, 2006). In his content analysis of personal blogs, Hevern (2004), for instance, identified several types of self-presentation strategies, some of them "self-focused" (e.g., self-description lists, diary-like narratives recounting daily activities), others "other-focused" (e.g., aggregated links to report an event, embedded images). Three types of resources that play a central role in identity construction in digital media are hyperlinks, visuals, and multilingual resources (Dennen, 2009; Hyland, 2011b; Lee and Barton, 2011). The choice of language has been shown to be strategically used to negotiate and index identity (Androutsopoulos, 2013; Lee, 2014; Lee and Barton, Schreiber, 2015). For multilingual online participants translanguaging (i.e. the participants' use of all his/her linguistic resources to construct meaning and perform identities) is a "salient" writing practice to express a complex, hybrid identity (Androutsopoulos, 2013; Schreiber, 2015). Participants can use different languages in different types of messages (in a single or in various online spaces) to index different identities (Chen, 2013; Lee, 2014). The choice of language is also related to the participants' intention to project a local or global identity: language choice and language mixing are semiotic resources exploited by language users to negotiate their "glocal" identities and project new forms of identities that go beyond those related to ethnicity, nationality or gender (Lee and Barton, 2011).

2.2. The construction of academic identity in online contexts

Ivanič's (1998) theory of identity provides a framework pertinent to understand the identity of blogging scholars. Blogs display a fluid interaction between the aspects of the writer's identity identified by Ivanic (1998): the "autobiographical self," shaped by the writer's life history, beliefs, values or interests; the "discoursal self," i.e., the way writers use discourse to convey an impression of who they are; the "authorial self," i.e., the extent to which writers project an identity for themselves as authoritative; and the "possibilities for self-hood available in the academic community" (Ivanic, 1998: 336). These possibilities for self-hood are constructed in social context in the act of writing and therefore they are multiple, allowing writers to emphasise different aspects of their multifaceted identity. These aspects overlap and interact in writing, helping scholars to demonstrate that they belong to a particular discourse community. Hyland also claims that scholars construct their identities through social interaction in their communities. In agreement with the tenets of positioning theory (Davies and Harré, 1990), Hyland (2011a) posits that when adopting community-specific discourses, values and rhetorical practices, academics signal their membership of a social group and they position themselves in relation to this group. In most written academic genres, academic identity is related to the construction of a "credible" academic persona by using the discourses and language forms of the community (Hyland, 2011a).

Identity is one of the aspects to which more attention has been paid in research on academic blogging. Blogs have been described as tools for self-publishing, self-expression, self-promotion, group relationship, and the construction of social identities (Davies and Merchant, 2007; Dennen, 2009; Myers, 2010); they are tools for 'authoring the self' and forging identities through connections with others (Davies and Merchant, 2007, p. 192). When compared with the development of academic identity offline, there are four outstanding aspects of academic identity creation in blogs: (i) blogs provide a space for more personal content, which facilitates the blurring between the personal and the professional aspects of academic identity (Davies and Merchant, 2007; Dennen, 2009); (ii) the process of blogging also enables the construction of a multiphrenic identity: "an identity not only created out of a variety of narratives, but performed and presented through a variety of media" (Kirkup, 2010, p. 76; Merchant, 2006); (iii) blogs support the creation of a social identity (Boyd, 2003; Merchant, 2006). Boyd (2003) characterises blogs as a good example of 'social software', that is, software supportive of conversational interaction, social networks, and social feedback. They support the desire of individuals to affiliate and allow for the creation of new social groupings. Merchant (2006) also points out that blogging supports the emergence of glocalised networks, by facilitating "interactivity between local and dispersed individuals" who share interests or are members of a community of practice (p. 241); (iv) blogs facilitate the projection of multifaceted and dynamic identities, since they are spaces providing cumulative, personally meaningful and diverse information about various aspects of the blogger's academic life (Hevern, 2004; Graupner, 2010).

Research on online academic genres shows that scholars are harnessing the range of affordances for identity development in online spaces for the construction of new more complex academic identities (Dennen, 2009; Hess, 2002; Hyland, 2011b, 2012; Kirkup, 2010; Lovasz-Bukvova, 2011; Matsuda, 2002; Sokół, 2012; Thoms and Thelwall, 2005; Tsou et al., 2016). Tsou et al. (2016) analysed scholarly profiles in academic social networking sites and showed the important role of publicly shared personal images in shaping professional identities. Dennen (2009) identified the elements used by a community of academic bloggers to develop and maintain their academic identities. Among these elements, she mentions post contents (i.e. sharing selected details about their life and interests), voice and linguistic choices, affiliation (expressed through blogroll links, badges and links to other websites), and visual design (e.g., photos of themselves, images that reveal their personality). Hyland (2011b, 2012) examined the ways in which visual, textual, and hyperlink features are used to construct identity in academic webpages and concluded that these semiotic resources interact to manage a "rhetorical machined identity likely to appear credible to others" (Hyland 2011b: 296). However, as pointed out above, despite the growing research on academic identity in online contexts and, in particular on academic blogging, studies have mostly been concerned with the identity of individual researchers, but they have yet to examine how research groups construct their identity in online contexts.

3. Corpus and method

This paper is concerned with English language blogs written by research groups in Spanish research institutions to showcase their academic output and research activity, and disseminate information related to this activity. They are multi-author blogs, with posts by different members of the groups, whose main purpose is to increase the group's visibility (Author, 2017). The corpus for this study consists of posts taken from 12 blogs written by research groups in different disciplinary fields (Science and Technology, Medicine, Social Sciences and Humanities) (see Appendix I)[1]. English language blogs were selected because this is the language of international communication in academia and writing in English helps scholars gain visibility at the international level. The selection of the blogs was mainly guided by availability, since there are very few Spanish research groups who write their blogs in English. In order to find the blogs I explored Spanish University websites, searching for their blogs, and carried out searches that might trigger these blogs. Blogs which had not been recently updated or that had a very low number of posts (less than fifteen) were discarded. When possible, I selected 30 posts from each of the blogs in the corpus, starting on 27 October 2016 and moving back in time. In 2 of the blogs the number of posts published up to that date was lower than 30 (25 in the *GEAR*[2] blog and 22 in the *OSI* blog); thus the final set of data consisted of 347 individual posts. Collecting 30 posts from each blog resulted in a corpus of a manageable size for manual analysis and large enough for the purpose of this research.

As in Hyland's (2011b) study, I analysed three types of data: text-based content, visual content and hyperlinks. The methodology used was both qualitative and quantitative. I did not start from pre-defined categories to code the data, but generated coding categories on the basis of my observation of the data. I first read the corpus twice to identify and code information in the posts that could potentially contribute to positioning the groups within their community. I then grouped these first codes into higher-level categories (presented in Table 1). For instance, academic awards, grants, or PhD defenses were grouped into "Group member's achievements". After this establishing of categories, I analysed manually each post to determine the type(s) of information provided and coded the data into these categories. It should be pointed out that a single post may contain more than one type of information. As a result, the number of posts in which each type of information was present could be established (see Table 1). In this process categories were refined and modified to fit all the data. The same process was used to analyse and code visual content (see Table 2) and hyperlinks (see Table 3). In the last stage, by observing the codes and categories identified in the two previous phases, I came up with the four aspects of identity performed by the groups in their blogs. Through the qualitative analysis I could determine these four aspects of identity and the semiotic resources to construct them, and the quantitative analysis revealed which resources were most frequently used and which aspects of their identities were perceived as the most important by the groups.

4. Results and discussion

In this section I first present the semiotic resources (i.e. textual content, visuals, and hyperlinks) by means of which the groups construct their identities in their blogs. I then discuss the different identities that the groups in the study perform and how the semiotic resources presented in 4.1. are combined to perform each of these identities.

4.1. Semiotic resources for identity construction in research group blogs

Table 1 lists the various types of textual content in the posts in the corpus and the percentage of posts with this content. As pointed out above, posts may contain more than one type of content, e.g., a post may inform simultaneously about new publications and about the group's collaboration with other researchers.

- INSERT TABLE 1 HERE-

Table 1 shows that, unlike in other types of academic blogs, which are mostly used by bloggers to discuss discipline-related news, disseminate content, or comment on previous research by others in a subject area (Author, 2013; Kjellberg, 2010), in the research group blogs analysed most posts contained information on the group's own research and thus positioned the group in terms of their research output. Interestingly, blogs enable the groups to publicise not only their research publications but also other types of research output that are usually less visible, as well as their social network. Groups can, therefore, weave a more comprehensive picture of their academic identity, and accumulate diverse information to construct their identity as comprised of accomplished and credible scholars. To construct a group identity, rather than individual identities, bloggers use linguistic forms that emphasize collective work, e.g., "In this workshop we aim at", "our previous project", "our latest work", "This is the result of our collaboration with", "We passed our final review!", "This is the second year our group participates in", "We are presenting the results of our research in three meetings".

Table 2 presents the different types of visual media in the posts and the percentage of posts where these visuals appear.

- INSERT TABLE 2 HERE-

Visuals are powerful tools for identity construction in today's visual culture. As Table 2 shows, visuals also provide evidence of the professional activity and expertise of the group members. The visuals that occur in a higher percentage of posts are pictures of the group members in academic events (18.4% of the posts) (the only type of visuals that occurs in all the blogs), and pictures of the first page of publications by group members (15.6% of the posts). These visuals are clearly intended to construe the group members as engaged in continued research. Although the percentage of posts with figures and graphics taken from the group's own research output (publications, doctoral theses, unpublished research) is also high (14.1% of the posts), the figure is actually deceiving. There were four blogs with no occurrence of this type of visual, and most of the occurrences appeared in just two blogs: the *BHPPG* blog, a blog where 56.7% of the posts analysed were intended to present summaries of the group's research in a way that is accessible for a diversified public, and the *SeRMN* blog, where the pictures usually accompany abstracts presented to conferences. In both blogs these pictures function as an aid to help different audiences understand the research. The blogs in the corpus also include logos, pictures of places, or images found on the Internet that may contribute to index the groups' identities. This type of non-academic pictures is a semiotic resource frequently used in the *GENTIC* blog (in 66.7% of the posts analysed), as a way to convey meaning related to their research through suggestive images.

Table 3 lists the various types of links in the posts in the corpus and the percentage of posts in which this type of link occurs.

- INSERT TABLE 3 HERE-

In his study of academic homepages, Hyland (2011b) points to the potential of links to signal social allegiances and connections and to display academics' interests. He regards hyperlinks "as key aspects of an online identity construction as they can be seen as flagging topics, stances and people which the author regards as significant" (Hyland, 2011b: 294). Although this is also true of the blogs analysed for this study, many of the links have a much more explicit promotional purpose: 53% of the posts in the corpus include links to pages where the group members' own production is available and 33.5% of the posts include links to pages with information on the group. Links to external pages (i.e. pages with no information related to the group) also help to construct the group's identity in several ways: group members reveal their interests and attitudes by linking to information they find significant (e.g., links to conference homepages, or to NGO homepages); they show their affiliation and expertise by linking, for instance, to other researchers' pages or to the pages of the journals where they have published their research; and they position themselves as discipline gatekeepers by filtering (and commenting on) information and publications that may be of interest for the community (e.g., upcoming events).

4.2. Aspects of research groups' identities

In the third step of the data analysis, the different categories of textual content, visual media, and types of links identified through coding were distilled into four aspects of the groups' identities that these semiotic resources help to construct. The research groups in the study drew upon various resources to position themselves as: (i) competent, credible and active researchers; (ii) networked researchers within their disciplinary community; (iii) members of the international research community and of the local community; (iv) civic scientists. It must be pointed out, however, that not all the groups sought to perform all these identities and that some groups seemed to be more interested in projecting a particular identity than others. In the remaining of the section I will discuss how these identities are constructed in blogs:

(i) Competent, credible and active researchers

The main purpose of the blogs in the corpus is to showcase the group members' activities and research and thus present the group as composed of competent and active researchers. This is reflected not only in the textual content of the posts, with most them concerned with displaying the groups' research (see Table 1), but also in the kind of pictures embedded (Table 2) and the type of links in the posts (Table 3). Research groups combine text, visuals and hyperlinks to weave an expert and knowledgeable identity by accumulating posts with different types of information about the group. In the blogs analysed there was a high number of posts intended to publicise and evaluate positively research activity and production by group members. 21.1% of the posts made the groups' publications available both to the local and international disciplinary communities, thus helping the group achieve recognition. Example (1) illustrates the impression management strategies used by the group in posts publicising recent publications:

(1) The Computer Physics Communications journal[3] has just made available online our latest work on SaaS+PaaS architectures for service-driven computing. This is again the result of our collaboration with the Institute of Computing Technology from the Chinese Academy of Sciences and it can be accessed here *(DSA)*

- INSERT FIGURE 1 HERE-

Posts publicising the group members' recent publications tend to link to the online paper (or paper homepage), to the journal home page, and, if there are co-authors, to their homepage or the homepage of their institution. The link to the journal enables the reader to check easily that the paper has been published there, and even more importantly, to verify that this is a high-prestige journal. These posts are frequent in the *DSA* blog (63.3% of the posts), where they also include a picture of the first page of the publication and of the cover of the journal, to give visual evidence. In some of these posts, the bloggers also resort to positive evaluation of the group's recently published work (e.g., "*excellent* work by FL", "we are *proud* of this *success*"), and of the journal in which the paper has been published ("*best journal* concerning Artificial Intelligence in games, with a very *strict reviewing process*"). Positive evaluation contributes to emphasising that this publication should be considered a worthy contribution by the discourse community and to project the image of the group as competent researchers. Groups also use blogs to distribute other types of research output (preprints, conference slides) and thus provide more evidence of their research productivity and efficiency. Research outputs like research datasets, conference presentations, computer code, or software applications are gaining importance in assessing competence (Nicholas, Herman and Jamali, 2015) and blogs enable the group members to gain recognition by making these outputs visible, and accessible through links, and bringing to the fore their impact and popularity (see example 2).

(2) Do you have Mitzuli app on your Android phone? This app allows (…) it was created by Mikel Artetxe, a member of IXA Group and student in our HAP-LAP master's programme! And now *it has more than 10.000 downloads, in one month*! (*IXA*)

Blogs also inform about different research activities and academic achievements that are positively valued by the disciplinary community (12.4% of the posts), which helps the group to increase their academic reputation and esteem. These achievements include, for instance, PhD defenses, research contracts and fellowships, grants, awards (for best paper/ best oral presentation), invitations to deliver a lecture, press releases where the relevance of the group's research is emphasised. Very often these posts include a picture showing the member(s) of the group in the specific event (e.g., collecting an award, delivering a lecture, defending their PhD or posing with the members of the committee), thus validating the experience. These pictures play an important role in identity construction: they serve to record important moments in academic life, showing the members of the group performing as competent scholars, engaging with the values of academic culture, and reaching milestones in their academic career. As in posts informing of new publications, bloggers use evaluative lexis to strengthen the impression of success and proficiency (example 3).

(3) XX, member of our research group, *successfully* defended his doctoral dissertation (…) with the *best possible mark*, *summa cum laude*. He gave an *outstanding* presentation and *impresse*d the jury with *his in-depth* knowledge of the topic (*OSI*)

Some posts report on academic events in which group members have taken part (e.g., conferences) or academic events organised by the group (e.g., seminars, workshops, conferences, courses). Through these posts the group achieves scholarly visibility and projects an image of a group composed of active members of the disciplinary community, highly involved in research and academic activity. Additionally, the posts disclose the group's research interests, which, as in other genres (e.g., biostatements) (Hyland, 2011a, p. 27), endow the scholars with academic credibility "through familiarity with areas of current interests" and show their affiliation to their discipline. Most of these posts include a link to the event page (e.g., conference page) and a picture of the researchers either while delivering a presentation or at any other moment during the event, again providing visual evidence of their participation. Some of these pictures show alignment with the values of the disciplinary culture. For instance, 9 posts in the *IXA* blog have pictures of members of the group working together and also with other researchers, showing the group's adherence to the principles of participatory research and collaboration (see example 4).

(4)

- INSERT FIGURE 2 HERE-

Working hard on *#ZureTTS #codefestdss2016 (IXA)*

The bloggers also take advantage of these posts to disseminate their research by summarising the content of their research output (e.g., conference presentation) in the post or by providing general information about the group's projects. 56.7% of the posts in the *BHPPG* blog are intended to disseminate the group research to a diversified audience: they present a detailed summary of doctoral theses defended by group members or describe projects in which the group is working. To facilitate comprehension, all these posts include graphics, figures and pictures. These posts help the group to increase outreach and extend their readership outside their discipline or expertise, so that the general public or funding bodies (and not only their disciplinary community) can perceive them as a group involved in research with societal impact.

The *IXA* group also used the blog to inform about their Master teaching activities, thus providing persuasive evidence of their disciplinary and pedagogical expertise and projecting an image of highly-qualified and expert teachers, who contribute to the discipline by preparing the future researchers in this field (e.g., "More than 80 experts have been trained in these masters. *40 PhD theses* have presented on this subject").

Only a few posts are devoted to discussing and commenting on issues related to the group's research field (0.9% of the posts) or on publications by researchers not belonging to the group (1.2%). This contrasts strikingly with the high proportion of this type of posts in other academic blogs (Author, 2013), and shows clearly that research group blogs have a primarily promotional purpose. The few posts discussing others' publications also have a reputation-accruing function: the bloggers act as gatekeepers, filtering information that is relevant for a given community and thus exhibiting their expertise and knowledge of the field and constructing an identity for themselves as competent disciplinary insiders. In addition, these posts are used by the bloggers to introduce their own research and stake their claim on findings in this research area.

The groups in the study therefore use a variety of semiotic resources to publicise and provide evidence of the quality of their research output, seeking to increase the international impact of their research and thus meet one of the criteria established by the *Spanish Strategy* (2012) for the allocation of resources.

(ii) "Networked" members of the disciplinary community: social identity

All the posts in the corpus signal in different ways that the group is part of the disciplinary community and shares the values, beliefs and goals of this community. In some posts, however, bloggers use more explicit strategies intended to express the group's solidarity and affiliation within a disciplinary tribe and create a sense of "us", of social bonds and community. Revealing one's network helps scholars to construct a credible academic persona, especially in the hard sciences, where knowledge construction is a social process, highly dependent on collaboration and research networks (Hyland, 2011a). In traditional genres like research papers citation is the main discursive resource to construct authors as members of their disciplinary communities. When writing their blogs, research groups use a range of resources not only to show their affiliation to particular academic orientations within the disciplinary community, but also to display their collaboration networks.

The development of social identity in research group blogs is closely related to the projection of a more personal facet of the group's identity than the identities which may be found in traditional genres. Although there were few posts with personal content (0.9%), in some posts the bloggers make reference to personal relationships, share personal experiences related to their work, or use narrative to talk about academic events in a personal way, which contributes to creating cohesion and a sense of community.

In the post "YAPC::Europe 2015", used to close a conference organised by the *GENEURA* group (example 5 below), there are several references to the concepts of sharing and friendship, a link to Joe Cocker's song "With A Little Help From My Friends", which the blogger describes as the song which best reflects what programming in Perl means, references to tastes in fiction, which seem to be shared by the members of the community and enable the blogger to make playful comments only understood by "insiders" ("Maybe Frodo Baggins and the Fellowship of the Ring would fully agree with me").

(5)

- INSERT FIGURE 3 HERE-

During the week from 31-Aug-2015 to 5-Sep-2015, Granada has been hosting the YAPC::Europe 2015 **(…).** Along these days, more than 250 professionals, most of them Perl developers, have been talking, listening, discussing, laughing, singing (…), and sharing drinks and tapas around a main topic: Perl. (…) Thus, from the very first moment, we realized that YAPC is mainly designed to keep people, the community, in touch (*GENEURA*)

Pictures posted in the blog also contribute to positioning the group as part of the disciplinary community by creating, recording and sharing common experiences. Conference pictures and conference logos were often used in these posts as semiotic tools to construct a social identity. This is also the function of more personal and informal pictures, where group members are portrayed with other members of the community, sharing non-academic activities (e.g., walks on the beach, dinners out) (example 6), thus contributing to the blurring of the group's public and private academic identities.

(6) In the picture below some participants enjoying the great beach of Aveiro.

- INSERT FIGURE 4 HERE-

(*SGB*)

Some of the groups use their blog to construe themselves as researchers involved in Science 2.0., which helps them to build professional reputation in their disciplines. Science 2.0. refers to a way of conducting research harnessing the Web2.0. enabled possibilities for online networking and collaboration, online sharing of ideas and data, and open-access publishing. Since scholarly activity has become a more open endeavour "with crosscutting ties between researchers, be they university-affiliated or lay experts, low-status or high-status, from the core or the periphery, established or novice" (Nicholas, Herman and Jamali, 2015, p. 15), an open and networked approach to research helps the group to gain credit. The *GENEURA* group uses the blog adeptly to make their commitment to open science and sharing explicit and to make their research outputs available through links, thus giving them public visibility (see example 7).

(7) Also, as we are commited to open science and open software, you can download the MADE environment from its web (*GENEURA*).

(iii) Members of the international research community/ glocal identity

In today's world of global knowledge and competition for financial resources, internationalisation is a strategic objective of research institutions. Groups involved in internationalised research are likely to get more funding (see the *Spanish Strategy*, 2012), which explains the interest of research groups in establishing an international identity. This international identity is intertwined with the scholars' performance as accomplished researchers. International research activity is considered to be of higher quality and the capacity to maintain international relations and be involved in international projects and partnerships is a sign of excellence and research proficiency.

In the blogs analysed the international identity of the groups is also inseparable from their "networked" identity: these blogs were aptly exploited by the group to construct their international identity by projecting an image of the group as engaged in international collaboration. Groups used blogs to inform of publications co-authored with members of other research groups (preferably international groups), international projects or networks in which they participate (example 8), partnerships with other groups or institutions, meetings with partners in consortiums or international projects, participation in and attendance to international conferences, visits and exchange of ideas with other researchers, discussions of what they have done in their academic stays or invited lectures, seminars or talks, PhD committees with international members. Posts reporting on research visits tend to include explicit references to opportunities for collaboration (e.g., "I'll take the advantage of this travel ...to continue and expand current collaborations").

(8) The Gender and ICT research group has just started working on the EFFORTi project, a H2020 Research and Innovation …. With a total budget of just under 2 million €, the project will build an evaluation framework for gender equality measures across Europe. The effort is coordinated by the Frauenhofer Institute in Germany and involves partners from Denmark (University of Aarhus)… (*GENTIC*)

In addition to explicit references to collaboration in the posts the groups also exploited hyperlinks and pictures to project this international identity. Posts include links to the collaborating researchers' homepages and institutional homepages and pictures of the visiting scholars. This may be a portrait picture, especially when the scholar is just visiting to deliver a talk, but more frequently it is a picture of the scholar with the group, or with members of the group, either in an academic settings or in social activities (dinners out, barbecues, etc.), which projects a more personal relationship. These pictures reveal the strength of the bonds with the visiting scholar. Relationships get "sanctified" by recording them in pictures and sharing them online to be seen by the whole disciplinary community.

The international identity of the group was also indexed by the deliberate choice of English to write their posts. 97% of the posts analysed were written in English, supporting Mauranen's

(2006, p. 27) claim that for multilingual scholars English works “as a language of secondary socialization into the academic discourse community” and helps them to construct their identity as insiders, as members of this global research community. English is the lingua franca of international scholarly communication and non-English background scholars need to write in English to gain visibility and recognition in the international academic community. Only 6.1% of the posts are written in a language other than English. In 6 blogs (50% of the blogs in the corpus) all the posts are written in English, thus emphasising the groups’ international identity. In the other 6 blogs, there are 18 posts in Spanish (8 of them in the *GENEURA* blog and 6 in the *GEAR* blog), 3 in Catalan (in the *GENTIC* blog), 1 written both in Spanish and English, and 1 written in several languages (English, Basque, Spanish and Arab). The coexistence of English and local languages in these 6 blogs serves to project a hybrid glocal identity and connect with the local community. While English is used in posts dealing with the group’s research activity, to signal the group’s belonging to the global research community, posts in Spanish or Catalan project their local identity, as researchers concerned with local issues. They deal with matters that are only of interest for a local audience or matters to which the groups want to draw the attention of the local audience, which shows that the groups perform differently for different audiences.

(9) a. Premios Extraordinarios de Doctorado, curso 2012-2013 (Doctorate awards, academic year 2012-2013) (*GEAR*)

b. Debats RecerCaixa: “Dones i treball: hem aconseguit la igualtat d’oportunitats?” (Debates RecerCaixa: "Women and work: have we achieved equal opportunities?" (*GENTIC*)

Pictures also contribute to projecting a glocal identity. Some posts informing of upcoming conferences include pictures either related to the groups’ own institution (e.g., buildings, signs), or related to the institution or place where the conference will take place. For instance, the picture in example (10) appears in a post informing of a conference in Paris.

(10)

- INSERT FIGURE 5 HERE-

(CoM)

(iv) Civic scientists

Some groups used their blogs to raise social awareness about specific issues (e.g., breast cancer, women's contribution to science) or to advocate for a cause (e.g., sustainable development), in order to create an identity for the group as civic scientists, that is, "scientists and engineers [that] step beyond their campuses, laboratories, and institutes and into the center of their communities to engage in active dialogue with their fellow citizens" (Lane, 1999) and try to "influence political, economic, social or cultural issues" (Kyvik, 2005, p. 290). In 5 of the posts in the *GENTIC* blog the main purpose was to raise social awareness towards gender issues, because the group's research deals with the relation between gender and scientific and technological innovations. In the following example the civic identity of the group members is made even more prominent, since the group uses the post to address readers explicitly, encouraging them to take action (example 11).

(11) The GENTIC group is pleased to present the PREZIosa initiative, which aims to raise awareness about breast cancer (…).
We have created (and it is already active) a website where (...) We encourage you to participate in the blog (*GENTIC*)

The blogger links to the website for the "PREZIosa initiative", created by the members of the group, where they state explicitly "els membres del grup de recerca GENTIC volem afermar el nostre compromís envers la millora de la qualitat de vida de les dones" (*the members of the research group GENTIC want to state our commitment to improving women's life quality*) and also to the page of the "Spanish Association against Cancer". The links provide more information about the initiative and thus help to reinforce the group's civic identity. The links to organisations embedded in these posts have a self-presentation function, since bloggers link to associations whose values and objectives they share. For instance the post "Men in Movement: Trans/forming Masculinities in Politics, Care, and Media" (*GENTIC*) includes, among others, a link to *Homes Igualitaris (AHIGE),* the Association of Men for Gender Equality.

Pictures also have an important symbolic meaning in these posts. In the post "GEAR presente en la V Gala Benéfica de AUDA" (*GEAR present at the 5th Charity Gala of AUDA*) the blogger makes the NGO visible by describing its objectives and embedding its logo in the post (example 12), thus indicating the group's commitment with this NGO and projecting their civic identity. The picture in the post "Tribute to women 's contributions to technology" (*GENTIC*) (example 13), with Grace Murray Hopper appearing in the middle and three male researchers paying attention to what she is doing/saying, gives visibility to the role of women in technology.

The link leads to a document intended to make women's role visible (i.e. the presentation about women in technology) and thus show the group's active engagement in this cause.

(12)

- INSERT FIGURE 6 HERE-

(*GEAR*)

(13)

- INSERT FIGURE 7 HERE-

Access the presentation about women in technology prepared on the occasion of the International Women's day (*GENTIC*)

Since in Spain knowledge transfer has become an important requirement for the allocation of funding from institutions or government (see the *Spanish Strategy*, 2012), the groups in this study also use the blogs to provide evidence of their dissemination activity and of the societal impact of their research. 4.9% of the posts publicise the group's dissemination activities and thus show their commitment to communicating science to different publics and to helping to develop scientifically informed and engaged citizens. Through these posts the group members position themselves as "bridge builders", who seek to communicate science in informal settings and thus attract and engage students to the discipline. The *EG* blog, for instance, has 4 posts intended to inform of the group's dissemination activities. The bloggers flag their "bridging" role through the titles of the posts (e.g., "PRBB open day: the link to society", "Talking science at school") and explicit references in the text of the posts (example 14).

(14) Our group at Saló de l'Ensenyament (Education Fair)

How can we analyze genomes? What is junk DNA? Why is bioinformatics useful? Today, members from our group have been trying to explain these questions to the visitors of the Education Fair.

- INSERT FIGURE 8 HERE-

(*EG*)

Pictures help these groups to perform their identity as civic scientists, as can be seen in example (14). Pictures show the members of the group conversing with students, in an informal and relaxed atmosphere, thus portraying their adherence to the principles of "participatory science" and "science for all". Again, links also contribute to projecting this image: these posts provide links to the pages of organisations involved in, or events related to, science dissemination (e.g., Science Week, Barcelona Citizen Science Day, BarcelonaLab Citizen Science Office, PRBB open day, Education fair) and to pages where the readers can access the product of the groups' dissemination activity, such as presentations or interviews. For instance, the post "Entrevista en Cienciaes.com" (*GEAR*) links to a webpage intended to disseminate science, where readers can access the podcast by one of the group members on the topic of "carbon footprint".

5. Conclusions

Digital media have opened up new possibilities for researchers to communicate, collaborate, conduct research, and assert their identities. The purpose of the present study was to explore the identities performed by Spanish research groups who write their blogs in English and the array of semiotic resources drawn upon in these blogs for identity construction. The study adds to the understanding of academic identity, by focusing on the identity of research groups and showing how these groups use online genres for self-presentation, self-promotion and identity management.

Research group blogs are useful reputational platforms for self-presentation, employed by research groups to perform intentional acts of positioning, by selectively posting information about themselves and their academic life (activities, interests, networks) in various modes. In agreement with previous research on identity (e.g., Barton and Lee, 2013; De Fina et al., 2006; Ivanic, 1998), the analysis of the blogs has shown that research groups in the study developed dynamic multiple identities through the combination of various text-oriented and multimodal practices. Research groups used their blogs to project scholarly credibility and authority and to position themselves as competent and active researchers, connected with other members of their (global) disciplinary community, and involved in collaborative research and partnerships at the international level. Some of the groups also strove to present themselves as civic scientists concerned with societal issues and involved in science dissemination. The projection of these online identities is a strategic resource or valuable asset in the context of the Spanish R&D system. Research groups used their blogs to position themselves as research entities with the capacity to produce quality research, transfer knowledge, engage in international collaboration, and achieve international impact, thus showing that they meet the requirements for public funding established in the *Spanish Strategy for Science Technology and Innovation*. The data therefore suggest that the priorities established by the national agencies responsible for the allocation of resources partly influence the identities that research groups seek to project in their blogs. The results also show that in this genre the promotion of the group's research output, achievements and activity is key for the negotiation of a credible academic identity.

The study has also revealed that the identities constructed by research groups in their blogs are consistent with the expectations of various audiences, reflecting how they want to be perceived by these audiences. Blogs enable research groups to gain scholarly reputation by making their academic activity and achievements visible to the international and local communities. In addition, they also make it possible for the group to gain prestige outside the boundaries of their discipline and even of academia, by enhancing the visibility of activities that have not traditionally been considered reputation-accruing and of practices which have a societal impact. Blogs allow groups to present themselves as leaving their "ivory towers" and connecting with the public audience. Although all the groups in the study used the blogs to craft multiple identities, each group sought to emphasise specific aspects of their identities (e.g., international identity, civic identity). As the audiences for whom these groups perform are not exactly the same, the groups made a different use of the semiotic resources at their disposal to emphasise different aspects of their multifaceted identity.

The study provides support to the claim that blogging enables the construction of a multiphrenic identity, performed through a variety of media (Kirkup, 2010; Merchant, 2006). This study has identified the different text-oriented practices and strategies (such as informing of new publications or achievements), visual resources and hyperlink elements that interact to project or index each of the various aspects of the groups' identities. Text is used by the groups to selectively post information which helps them to perform particular identities, provide a personal narrative of their academic life, emphasize the collective nature of their academic activity and evaluate their own work. The fact that the blog is a more personal type of writing than traditional academic genres; and that the group's activities and achievements are presented as collective endeavours seem to make explicit positive self-evaluation acceptable. Visuals are used in the blogs analysed as strategic representations of the group, to authenticate experiences, activities and achievements, and to document relationships. Links enable the groups to connect with other researchers and institutions and thus position themselves as members of the discourse community, and also to create a hypertext connecting all the information that the bloggers consider useful to project a particular identity in a post. Readers can follow the links and get more information to ascertain the credibility of the identities performed by the group. Language was also used expertly to project a particular identity: some groups endeavoured to establish and emphasise their international identity by composing all the posts in their blogs in English, while other preferred to index a glocal identity, by combining English and the local language(s), and create bonds both with the international disciplinary community and with a more local audience with different degrees of expertise in the discipline.

One significant finding from this study is that digital genres offer possibilities for the construction of group identity not afforded by traditional academic genres. Blogs are online spaces providing cumulative and diverse information on the group's academic activities and output. These activities may involve the whole group or particular members, but, since they are presented in the context of the group blog, they all add to and contribute to the group's identity. The resources afforded by the medium are skilfully combined by the research groups to construct a complex multifaceted group identity, which would be more difficult to project through non-digital genres. Groups can project a more personal aspect of their identity by aggregating information (visuals, narratives of their academic life) about the group as a whole and about the group's members. Groups can also position themselves as "civic scientists", by documenting their dissemination activities in the blog and adding pictures of the group when performing this identity, or as researchers involved in Open Science, by explicitly stating their commitment to this way of knowledge creation or by using the blog to share their data.

Interestingly, despite the potential of blogging for the construction of group identity, in research group blogs identities are negotiated within tighter constraints than in other academic blogs. Since the group identity projected in the blog may have an influence on the group's and its institution's reputation and on the impact of its research, this identity has to be very carefully crafted. Bloggers need to use semiotic resources skilfully to create a group identity that is coherent with their offline identity and that complies with the expectations of particular audiences. The authors of these blogs also negotiate the line between public and private information carefully, and dimensions of their own identity that may be visible in other types of academic blogs (e.g. political ideas, hobbies) are not disclosed here. In addition, since research group blogs are not intended to discuss others' research or the bloggers' ideas on disciplinary issues, bloggers do not engage in discussion through comments and thus do not harness one of the key tools of blogs for identity construction.

The results of this research have implications for the study of academic identities. Firstly, they show the strategic importance of online identities for research groups. These groups draw upon a wide variety of semiotic resources to project a multifaceted online identity, which helps them to enhance their reputation and credibility in front of multiple audiences. The groups' online identities revealed themselves as deeply embedded in their research practices and academic life, and intimately connected with their offline identities. Writing their blogs enables the groups to authenticate, but also to develop and extend their offline identity. By showing that groups are negotiating their identities online, the study highlights the need for more research on the digital genres used not only by individual researchers but also by groups to construct their identity. A fuller understanding of identity construction by research groups would require more data and a more holistic approach, which considers all the different (social) media used by a particular group to perform acts of identity positioning. This would make it possible to compare the strengths and limitations of each of these media for identity construction in academia and to establish up to what point they offer different possibilities. Secondly, by focusing on the resources drawn upon by research groups for identity performance, the study contributes to our understanding of how group identity is constructed collaboratively in online multi-author texts and invites further research on how the affordances of the digital media are exploited in other online genres for the performance of group identities, and on the ways in which in individual identities merge and contribute to the construction and negotiation of group identities in these genres. The study also has implications for the teaching of academic literacies to (multilingual) scholars. In the current academic context, where digitally mediated practices play an increasingly important role in the construction of scholarly identities, the analysis of these practices may provide insights to inform pedagogies which focus on helping scholars to develop the ability to use the semiotic resources at their disposal to negotiate their multiple identities in digital environments.

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Appendix I

Blog of the High Pressure Processes Group (http://hpp.uva.es/) (*BHPPG*).

Compositionality of Meaning (http://blogs.uab.cat/composing2/) (*CoM*).

DSA Research Group Blog (http://blog.dsa-research.org/) (DSA).

Evolutionary Genomics Group (http://evolutionarygenomics.imim.es/group/?page_id=42) (*EG*).

GEOTEC Group Blog (http://www.geotec.uji.es/) (*GEOTEC).*

Gender and ICT blog (http://gender-ict.net/) (*GENTIC*).

Geneura Team (https://geneura.wordpress.com/). (*GENEURA*).

Global Energy and Environmental Economics Analysis Research Group (https://groupgear.wordpress.com/) (*GEAR*).

Ixa Group. Language Technology (https://www.ehu.eus/ehusfera/ixa/) (*IXA*).

Spectroscopy Group Blog (http://blog.grupodeespectroscopia.es/) (*SGB*).

Open Science and Innovation Research Group (http://osi.blogs.uoc.edu/) (*OSI*).

SeRMN – NMR Service at UAB (http://sermn.uab.cat/) (*SeRMN*).

Footnotes

1. This research follows the ethical guidelines produced by the Association of Internet Researchers (Markham and Buchanan, 2012). The posts analysed are considered public data because these blogs are publicly accessible, open to anybody with an Internet connection, and, rather than expecting privacy, groups write them to gain visibility. Groups were informed that their blogs were being discussed in a study.
2. For the sake of brevity acronyms are used in this paper to refer to the blogs.
3. Underlining is used in the paper to signal links.

Textual content of posts	**Percentage of posts**
Group's networking	25.7
Group members' research and activities	24.8
Members' new publications	21.1
Content of the group's projects/ research	16.5
Upcoming events organised by the group	13.6
Group members' achievements	12.4
Group's dissemination activities	4.9
Upcoming events organised by other researchers	4.7
Availability of unpublished work/ posts/ preprints	2.6
Availability of deliverables/ product releases	2.3
Social issues	2.1
Group's press coverage	2.1
Non-members' biodata/CV	1.8
Appeal to readers (inviting readers to do something, asking for help)	1.8
Other researchers' publications in their field	1.2
Congratulating others on their work and achievements	1.2
Personal academic content	0.9
News of interest to the disciplinary community	0.9
PhD positions	0.6
Group meeting summary	0.6
Group members' biodata/ CV	0.3
Other	0.6

Table 1. Information provided in the posts

Types of visual media	**Percentage of posts**
Pictures	
People	
Group member(s) in academic events	18.4
Group member(s) in non-academic event	2.9
Group member: portrait picture	2
Group member(s): picture from newspaper	1.1
Non-members: alone	4.6
Non-members: group picture	3.5
Other	
Figures and graphics from members' research output	14.1
Members' publications	15.6
Logos	9.2
Non-academic pictures or drawings	7.5
Conferences/courses posters/flyers	6.9
Places	1.7
Presentation posters	0.6
Non-members' publications	0.3
Other	1.1
Embedded slideshare presentation	2.6
Embedded video	2

Table 2. Content of visual media in the post

Types of links	Percentage of posts
Group's pages	
Links to their own production	
Scholarly output (online papers, journal page of paper, abstract in database)	23
Grey literature (e.g., pre-prints, posts, online presentations)	12.4
Archived output (e.g., repositories with deliverables (programs), teaching material)	7.8
Academic events (e.g., homepage of conferences/courses organised by the group members)	9.2
Popularisations	0.6
	53
Links to information on the group	
Member's homepage	12.7
Group's homepage (research group page, group's project page, project blog, group blog)	11
Press release (news about the group in media)	5.8
Group's institution homepage	4
	33.5
External pages	
Conference (not organised by the group members) homepage	19.3
Non-member's homepage	10.7
Journal homepage	7.2
Non-member's production and research activities	6.3
Organization/ association homepage	5.5
Institution homepage	5.2
Non-members' biodata/ CV	4.3
Application homepage (homepage of computing/online applications/ companies	2.3
Academic/ science-related event (e.g., "Science day")	1.4
Prizes and award pages	1.4
Total	**63.6**
Other: non-academic	
Videoclip	0.6
Wikipedia	0.9

Table 3. Types of links

Figure 1

ELSEVIER

SaaS enabled Admission Control for MCMC simulation in Cloud Computing Infrastructures

Abstract

1. Introduction

Figure 2

Figure 3

Figure 4

Figure 5

Figure 6

AUDA

Porque todos somos animales

Figure 7

Grace Murray Hopper (photo from the Smithsonian Institution)

Figure 8