NEW CONCEPTS, DIFFERENT APPROACHES: TACKLING E-VISIBILITY IN RESEARCH PROJECT WEBSITES

Abstract: In the last few years, the web has become a privileged access platform for knowledge for an increasingly globalized society. Thus, digital platforms are currently used by researchers to strengthen the visibility of their research output as well as their own. In this study we explore the concept of e-visibility as a key notion in the current digital discursive practices within the scientific context. For such purposes we have focused on international research project websites as instances of such practices. The analysis undertaken is data-driven and has revealed the existence of various entities which are made visible by means of a combination of lexicogrammatical devices together with other modes afforded by the digital platforms. Results also show that there are various types of e-visibility emerging from the combination of the entities and the lexicogrammatical and visual resources used to make them visible.

Keywords: digital scientific practices, e-visibility, research project websites, lexicogrammatical devices, multimodality.

1. INTRODUCTION

The spread of digital platforms has brought with it the emergence of new modes of communication, some of them based on already existing ones, some others, totally new (Herring, 2012). This process has also involved a substantial evolution and change in discursive practices within the academic and scientific world. Among others, two key factors have triggered this process of evolution in their discursive digital practices. One is the researchers’ increasing demands and pressures to disseminate and gain visibility for their research output. The other is related to the affordances of digital platforms, which guarantee global dissemination of results and reinforce the required dissemination and visibility. This scenario has hastened a change of attitude among academics and researchers, themselves internet users, turning them into prosumers (producers + consumers of information) (Miller, 2014). They belong to communities of use whose limits are not clear-cut and which include all levels of expertise. By producing and sharing contents and creations, researchers dynamically contribute to enhance their visibility and disseminate knowledge in different digital spaces such as research web pages, blogs, academic fora, social media, YouTube videos, etc. These new challenges supplement current academic visibility (Dahl, 2004; Hyland, 2010;
Luzón, 2018) and traditional metrics with e-visibility. To account for this type of visibility, researchers in the field of communication turn to online reputation and to dissemination of the results of scholars’ research (alternative metrics for the new medium). Concepts such as e-visibility, academic visibility, digital identity, metrics, impact factor or cybermetrics (interactivity) start to gain importance to curate our e-profile. Researchers’ e-visibility and digital identity are therefore shaped by information generated by the researchers themselves and by others, and also by the context of the researchers’ network, among other sources. As a way to contribute to the understanding of these issues, we here explore how researchers’ visibility is crafted and projected in one digital instantiation, the international research project website. To do so, this study approaches the notion of e-visibility from the field of identity or self-representation in writing (Ivanič, 1998). This broad notion is here studied from the standpoint of widely accepted frameworks of analysis, such as metadiscourse, to see whether they are still valid to study and interpret visibility, taking into account that digital discourse shows its own peculiarities as compared to print discourse (Thurlow & Mroczek, 2011). Moreover, as the combination of modes (i.e. verbal, visual, aurual) is an essential factor in the understanding of how meaning is created in digital discourse, complementary frameworks of analysis such as multimodality (Kress & Van Leeuwen, 2001, 2006) are deemed necessary to explore what visibility may imply and how it is crafted in this type of discourse. Multimodality explores how different means of expression interact to make meaning and its vantage point is that it provides concepts, methods and a framework for the analysis of different modes in interaction (Kress, 2010; Jewitt, 2013, 2016).

Traditionally, the multifaceted and elusive notion of authorial visibility has been studied in English for Academic Purposes (EAP), although not necessarily with that label, under different perspectives such as metadiscourse (Hyland, 1998, 2005), evaluation (Hunston & Thompson, 2000), agency (Lorés-Sanz, 2008; Bordet, 2013), authorial voice (Tang & John, 1999; Herrando-Rodrigo, 2019), appraisal theory (Martin & White, 2005), stance (Biber & Finegan, 1989; Hyland & Sancho, 2012) or footing (Goffman, 1981), among others. Common to all these approaches is the idea that the presence of the writer in the text and the rhetorical roles associated with it can be approached throughout the analysis of writers’ lexicogrammatical choices. It seems, though, that most of the research conducted to study the notion of visibility has revolved around the analysis of the use of personal pronouns and self-citations (Harwood, 2005a, 2005b; Hyland, 2018; Albalat-Mascarell & Carrió-Pastor, 2019).

The evidence that supports the use of personal pronouns as the most explicit realization of the writers’ authorship or presence is undeniable. However, as John (2005), Dressen-Hammouda, (2014) or Stock and Eik-Nes (2016) point out, this research path has mainly utilized the framework of interpersonal metadiscourse, which has been problematized as a unique model for the study of authorial visibility, showing that self-mentions (i.e. personal pronouns) are not the only linguistic features authors resort to in a text in order to project their voices, and therefore craft their visibility. This is the case, for instance, of linguistic expressions of negotiability, authority and solidarity (Tang, 2004); the subject of the clause and its discourse function in scientific research articles (Gosden, 1993); clause structure, lexical density, verbs, nouns and nominalisations, tense, mood and modality in writers’ identity construction (Ivanič, 1998); verbs, adverbs and adjectives in different disciplines (Charles, 2004); metatextual comments, explicit and implicit reference and lexical items in different languages and different disciplines (Breivega et al., 2002); students’ identity claims (Wise, 2005), and grammatical machinery in cultural and linguistic manifestations (Yamamoto, 2006), among many others.

The mechanisms writers use to make themselves invisible have also been explored, for instance through the study of impersonal constructions (Martínez, 2001, 2005). In accordance with Hodge and Kress (1979), Henderson and Hewings (1990), Halliday and Martin (1993) and Stubbs (1996), Martínez states that agentless linguistic constructions contribute to the abstraction of the authorship and thus, to impersonality. The use of this rhetorical convention allows the authors to be present in their texts in a more or less evident way according to their communicative purpose, their audience and the context. They also allow writers to present their knowledge and content cautiously and introduce claims (Salager-Meyer, 1994). This depersonalising strategy has traditionally helped linguists observe how authors hide their attitude towards the content (Lewin, 1998) and how authors fulfill academic conventions to seem more precise and more scientific (Salager-Meyer et al., 2003). Other structures, such as the use of inanimate subjects followed by active verbs suggest that the situation described is independent of human agency (Hyland, 1998; Ferrari, 2003).

Our contention here is that the analysis of interpersonal features, among which visibility is included, demands a wide view of what impersonality means and of the lexicogrammatical resources it makes use of (Lorés-Sanz, Mur-Dueñas & Lafuente Millán, 2010; Mur-Dueñas et al., 2010). The reason is that interpersonal features are conditioned by contextual variables which affect the way they are instantiated in texts. Previous studies identify variables such as corpus, discipline, genre, as well as language and culture, (Dahl, 2004; Yakhontova, 2006; Giannoni, 2010; Crismore & Abdollahzadeh, 2010; Gotti, 2010; Lorés-Sanz, 2011a, 2011b; Ivora Pérez, 2015,

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1 As defined on the information page of Sheffield’s University Library, metrics are quantitative measures designed to help evaluate research outputs. As a type of metrics, alternative metrics are another way to assess the attention received by research output. Thus, alternative metrics tools “track mentions, likes and shares on a variety of platforms including Mendeley, bookmarking sites, academic networking sites, social media, news sites and policy documents. Altmetrics generally track attention to outputs using a Digital Object Identifier (DOI) or links (URL) to the paper online. Whilst citations can take years to build up, alternative metrics can give a ‘live’ picture of how research is being shared and discussed”. (https://www.sheffield.ac.uk/library/research/metrics/intro)
Rosa Lorés-Sanz e Isabel Herrando-Rodrigo

New concepts, different approaches: tackling e-visibility in research project websites

2016; Suau-Jiménez, 2016; Turiman et al., 2018; Herrando-Rodrigo, 2019; Suau-Jiménez et al., in press). Digital discourse is subjected to its own contextual variables, among which we find the combination of modes it affords.

The websites under study here belong to international research projects in which various institutions, private and public, participate. As regards these websites, authorship is a questionable concept and authorial presence a complex notion to explore. These websites offer a multifaceted view of who or what is made visible and, then, of the mechanisms by which their visibility is constructed. Thus, potential limitations to approaching authorial visibility from previous offline discourse perspectives of analysis emerge, which may draw our attention to the complexities existing in the construction of academic identity in digital platforms (Barbour & Marshall, 2012; Luzón, 2018).

It seems to be the case, then, that understanding the concept of researchers’ visibility and how this visibility has been reconfigured to meet the requirements and expectations of Web 2.0 users needs angles of research and empirical methodology to complement the one widely developed by interpersonal metadiscourse. More specifically, to understand the impact of digitization on academic (self-and/or other) representation we need to widen our approach towards the identification of the entities (who/what) that are made visible and the understanding of the mechanisms (lexicogrammatical or other) used to cast light over them. In the understanding, then, that digital discourse shows its own peculiarities as regards the entities which are made visible and how this is done, we here intend to go beyond previous approaches to the exploration of visibility, metadiscourse most prominently, and resort to complementary frameworks in order to include the various modes which a webpage exhibits and combines as meaning-making devices. Thus, multimodality, as stated above, will also be one of our exploratory and explanatory frameworks (Kress & Van Leeuwen, 2001, 2006).

In all, in the present paper the following research questions are formulated:

- Whose visibility is being projected in research project websites? Who or what is made visible in the instances of digital scientific discourse under focus?
- How is visibility constructed in this type of digital scientific discourse under study here? Which lexicogrammatical mechanisms are used to construct e-visibility? Do other modes contribute to its construction?
- To what extent do verbal and other modes combine to craft visibility?

2. METHODOLOGICAL PROCEDURES

In order to explore e-visibility in digital discourse, we here focus on the study of one instance of current digital scientific writing practices, namely international research project websites written in English as an international language of communication. Research project websites are conceived as sites for the dissemination of new knowledge. More specifically, they are taken to fulfill a double role: on the one hand, the role of facilitating the dissemination of the new knowledge that emerges as a result of the research partnership; on the other, giving public account of the funding received.

For the purposes of the present study, research project websites were retrieved from the Horizon 2020 (H2020) Programme for Research and Innovation (2014-2020), funded by the European Union. These websites are compulsory and are considered strategical for the exploitation and dissemination of research results. As part of our methodological procedures, a convenience sample of 10 research project websites were collected (see Appendix A). They are part of the EUROPROW corpus (European Project Websites), which includes 30 H2020 research project websites. For the sake of convenience and availability, the main criteria of compilation for this corpus were that a Spanish institution participated in the project and that the project was still in progress. The application of the first criterion (the partnership of a Spanish institution), although not particularly relevant for the present study, was conceived as a facilitator of ethnographic work, also included as a methodological approach in the research project the present study emerges from.

The first step taken in our methodology was to identify the type of pages that usually appear in these websites. Our aim here was to pinpoint patterns which could then reveal some kind of conventional structure. As a result, and with the limitations that such a small corpus imposes, we identified patterns which reveal a type of stabilized structure for H2020 research project websites consisting of the following webpages:

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A ‘Homepage’ or an ‘About page’ (sometimes both pages appear in the same website) which function(s) as a kind of table of contents for the rest of the site.

A ‘Partners’ / ‘Members’ / ‘Consortium’ page which provides information about the institutions and organizations which take part in the project.

A ‘News’ / ‘Events’ / ‘News and Events’ page updated regularly with information about seminars they organize, conferences they attend, publications that see the light, etc. This is perhaps the most dynamic page of the whole website. Sometimes a ‘Newsletter’ is also included, which somehow collects part of the information referred to in the ‘News/Events page.

Pages displaying deliverables, downloads, and, on the whole, outcomes from the project are also found.

Finally, a contact page tends to be included.

Appendix B displays the distribution of these pages across the corpus under analysis. As shown, the 10 websites include an About page, 7 of them introduced by a Homepage. Also, the 10 websites include information about the institutions and enterprises participating in the project, under various labels (partners, members, consortium). A News / Events page is also present in the 10 websites and 9 of them include outcomes from the project under the form of resources, deliverables, downloads, publications, etc. As for Contact pages, 7 websites include them as a separate page whereas 3 others include a button linking to contact information. It seems, then, that the overall presence of the various pages described above may point towards some kind of pattern or template. However, reliable conclusions about the existence of such patterns should be based upon the exploration of a larger corpus.

For the purposes undertaken in the present contribution, we here focus on three of these pages, present in all the websites of our corpus: the About page, the Partners page and the News/Events page. These three pages also share another essential feature. All of them contain information generated for the web and are not mere repositories of information generated offline and uploaded in the web.

Once the pages to be explored for visibility were identified in the websites, a second step was taken which involved content analysis of the pages selected for study. The identification of data was carried out by means of a methodological procedure which included a first step of manual analysis, then combined with a second step in which data emerging from this qualitative approach was subjected to a quantitative analysis using AntConc. Such content, data-driven analysis allowed us to identify which entities were being made visible in these prominent pages. The manual content analysis carried out by the authors showed that there were three main entities which were made visible on the pages under analysis:

(i) the project on which the researchers are working on;
(ii) the institution, organization or company which participates in the project;
(iii) the individual researchers, members of the institutions, organizations or companies participating in the consortium.

Various lexicogrammatical markers were identified as prominently serving the purpose of providing visibility to the entities singled out. These linguistic markers were the following: proper nouns, common nouns and self mentions.

a. **Proper nouns:** They are found in the corpus to refer to the three main entities identified (project, participants and individual researchers) and are used in all the three pages under analysis. Their distribution, though, very much depends on the type of page itself:

1. The ground-breaking **FieldFOOD** project will demonstrate the successful and real-scale introduction of Pulsed Electric Field (PEF) technology in the processing of plant based foods. [...] (FIELDFOOD)
2. On February 22, 2019, Jordi Solé Ollé from **ICM-CSIC**, coordinator of **MEDEAS** project held a presentation of **MEDEAS** results to date. [...] (MEDEAS)
3. **Tallinn University of Technology (TUT)** was established in 1918 and is the only university focusing on engineering and technology in Estonia. [...] (MIGRATE)

b. **Common nouns:** Common nouns are also used as lexicogrammatical indicators of the three main entities identified in the webpages under analysis, again unevenly distributed across these pages.

4. The aim of this **project** is to demonstrate the influence of different surface enhancing and modification techniques on carbon fibre (CF)-based materials for high value and high-performance applications. (MODCOMP)
5. The **consortium** is composed of the following organizations. (ORCHID)
6. Yesterday, the **COSMIC researchers** started their third network wide event with a company visit to Weber in Karlsbad. (COSMIC)
c. **Self mentions**: To define self mentions we here follow Hyland (2005) in his understanding that they are indicators of explicit author presence, of self-representation, in the text, instantiated by means of first-person pronouns and possessive adjectives. As Hyland states (2005:53), “the presence or absence of explicit author reference is generally a conscious choice by writers to adopt a particular stance and a contextually situated authorial identity”.

The interesting feature about the use of self mentions in these websites is that, in fact, they may refer to the three entities identified: we as project, we as partner/institution and we as group of researchers:

7. **Our** COSMIC 5th network-wide event was held this time in Turin and was organized by **our** Italian partners at the University of Turin. (COSMIC)

8. In addition, **our** project team attends all leading trade shows and conferences in Europe to spread knowledge as widely as possible. (SUPERSMART)

3. **LEXICOGRAMMATICAL MARKERS OF VISIBILITY: SOME INSIGHTS**

The identification of lexicogrammatical markers which give visibility to the three main entities in these websites allowed us to analyse these devices in the texts under study, both in terms of their frequency of use and distribution along the pages and also regarding their grammatical behaviour. This analysis was carried out both from a quantitative perspective and also in terms of the grammatical patterns in which these entities appeared.

3.1. Lexicogrammatical markers of visible entities: A quantitative analysis

As mentioned above, our convenient corpus was organised in three subcorpora corresponding to the three pages explored in the 10 websites selected. Table 1 shows the total number of words as well as the number of words collected in each of the three pages:

<table>
<thead>
<tr>
<th>Total number of words</th>
<th>About</th>
<th>Partners</th>
<th>News/Events</th>
</tr>
</thead>
<tbody>
<tr>
<td>75144</td>
<td>11693</td>
<td>35853</td>
<td>27598</td>
</tr>
</tbody>
</table>

To be able to draw reliable conclusions, the study of lexicogrammatical devices was carried out separately in the three subcorpora (About, Partners and News/Events). Starting with the About page, the three entities (project, individual researchers and institutions) were tagged according to the lexicogrammatical devices used for their identification: proper nouns, common nouns and self mentions. In some cases, entities were referred to by means of a combination of two types of markers, usually proper and common noun (i.e. TRIBE project) but also two common nouns (i.e. the project consortium). In such combinations, the realization was counted only once, ascribed to the type of word which was acting as head of the phrase (in the examples, the common nouns ‘project’ and ‘consortium’). The quantitative study yielded the following results:

<table>
<thead>
<tr>
<th>ABOUT page</th>
<th>Project</th>
<th>Researchers</th>
<th>Institutions</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proper nouns</td>
<td>12.4</td>
<td>0.94</td>
<td>1.45</td>
<td>14.79</td>
</tr>
<tr>
<td>Common nouns</td>
<td>2.05</td>
<td>0.42</td>
<td>0.94</td>
<td>3.41</td>
</tr>
<tr>
<td>Self mentions</td>
<td>0</td>
<td>0.26</td>
<td>0</td>
<td>0.26</td>
</tr>
<tr>
<td>Total</td>
<td>14.5</td>
<td>1.6</td>
<td>2.39</td>
<td>18.49</td>
</tr>
</tbody>
</table>

As observed in Table 2, in the About page the most frequently used indicator of an entity is the proper noun (14.79 ‰). In contrast, the use of self mentions referring to any of the entities projected is almost negligible (0.26 ‰). The use of the proper noun is highly significant when the entity which is given visibility is the project (12.4 ‰), where the use of common nouns (the project) is not that common (2.05 ‰). With regard to the visibility of the researcher as an individual, the proper noun (0.94 ‰) doubles the percentage of use of common nouns (0.42 ‰) and is four times that of self mentions (0.26 ‰). As regards the projection of the institution participating in the project, again the use of proper nouns (1.45 ‰) outnumbers that of common nouns (0.94 ‰). On the whole, then, the project is the entity which is given a stronger focus in the About page (14.5 ‰), basically resorting to the use of its proper name.

9. **SteamBio** is an industry-research partnership supported by the EC Horizon 2020 Programme and SPIRE public private partnership, launched on 1st February 2015. (STEAMBiO)
10. **SuperSmart** is an EU project to speed up the uptake of more energy-efficient refrigeration, heating and cooling solutions for Europe’s food retail sector by reducing its energy use, lowering its environmental footprint, and increasing its economic benefits. (SUPERSMART)

Individual researchers and partners (institutions) are also mentioned, but to a much lower extent:

11. The project coordinator (PC) is TenneT, acting through Mr. Andreas Menze, Team Leader in the Technology and Operation Department and his deputy Mr. Hannes Munzel, appointed by the Project Coordinator. (MIGRATE)

12. Leiden University Medical Centrum (LUMC) will lead the consortium, the Institute for human Organ and Disease model (hDMT) will focus on the strategy and the roadmap, Fraunhofer IGB on impact assessment, CEA Leti on eco-system development and the digital platform, IMEC on the ethical aspects, regulation and standardization and the University of Zaragoza will lead dissemination. (ORCHID)

The presence of self mentions as resources to give visibility to any of the main entities identified is neither significant nor representative. In fact, self mentions are scarcely found (only three cases amounting to a negligible 0.26 ‰) in the supcorpus of About pages and all of them are included in the same webpage (SUPERSMART):

13. Our project team attends all leading trade shows and conferences in Europe to spread knowledge as widely as possible. (SUPERSMART)

14. Contact us at training@supersmart-supermarket.org or check the «Get involved» section to learn more about how to actively participate. (SUPERSMART)

The Partners page shows relevant differences with the About page with regard to the entities given focus and the lexicogrammatical devices to do so. The quantitative analysis yielded the following data:

<table>
<thead>
<tr>
<th>Partners page</th>
<th>Project</th>
<th>Researchers</th>
<th>Institutions</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proper nouns</td>
<td>2.86</td>
<td>4.74</td>
<td>16.92</td>
<td>24.52</td>
</tr>
<tr>
<td>Common nouns</td>
<td>3.76</td>
<td>2.5</td>
<td>1.66</td>
<td>7.92</td>
</tr>
<tr>
<td>Self mentions</td>
<td>0</td>
<td>4.34</td>
<td>0</td>
<td>4.34</td>
</tr>
<tr>
<td>Total</td>
<td>6.62</td>
<td>11.58</td>
<td>18.58</td>
<td>36.78</td>
</tr>
</tbody>
</table>

As in the About pages, proper nouns were by far the most frequent lexicogrammatical devices to refer to all the three entities (24.52 ‰), and, as expected, the institutions (partners) were the most visible ones (18.58 ‰):

15. The Austrian Energy Agency was founded in 1977 as a non-profit scientific association. (MEDEAS)

16. The Department of Food Biotechnology and Food Process Engineering of TU Berlin (TUB) continuously achieves and retains excellence in research, teaching and far-reaching services related to food biotechnology and food process engineering. (FIELDFOOD)

Also noticeable was the relevant presence of visibility markers of individual researchers in these pages (11.58 ‰), much more prominent than the presence they had in the About pages. As regards types of markers of individual researchers, proper nouns and self mentions were more prominent than common nouns.

17. Mr. Angel Nikolaev is researcher in energy policy and economics at BSERC. (MEDEAS)

18. In the heating, cooling and refrigeration sector, we specialise in natural refrigerants. We work with 150+ clients around the world seeking to advance the business case for Natural Refrigerants. (SUPERSMART)

In the case of self mentions, the counting has also included third person pronouns and possessives in textual realizations in which the formal use of the 3rd person is conventional, while the communicative intention is that of a 1st person. This is the case, for instance, of bionotes such as the following:

19. Myrto Theofilidi is an energy analyst at CRES Energy Systems Analysis Laboratory. She is a chemical engineer and holds an MSc in Process, Energy and Environmental Systems Engineering. Her field of expertise includes energy systems and economics, European energy policy analysis and energy
statistics. In MEDEAS, Myrto coordinates outreach, dissemination and exploitation of results, while she also contributes to data collection and policy analysis. (MEDEAS)

Common nouns are less frequently used to refer to researchers but are also found in the corpus:

20. The skilled technical and scientific expertise of its researchers covers a wide range of areas (agriculture, animal breeding, engineering, food technology, biology, chemistry, economics, etc.). (FIELDFOOD)

21. The members of the Coordinating group have both, scientific publication activity and an intense dissemination activity about energy, resources and sustainability, with frequent appearances in press, radio and TV, aside more than 50 talks per year for stakeholders or institutions. (MEDEAS)

To be able to draw adequate conclusions, mention should be made to the fact that the high percentage of references to individual researchers found in the partners pages comes mainly from two webs, one (COSMIC), in which there is a section called “Team”, apart from the Partners page, and the other (MEDEAS) where proper names are shown two clicks away. So, we cannot really infer from the relative presence of references to individual researchers that they are highly visible entities in the Partners pages.

In Partners webpages, the project is the least visible entity. Proper and common nouns are used to refer to them. Interestingly, more common nouns than proper nouns are used to refer to the project, perhaps to make the institutional profile more visible:

22. BIO’s role will be to carry out an environmental, economic and social impact assessment of the project covering the number and type of users required to properly measure the project’s impact, obtaining independent conclusions and establishing its scalability and replication potential. To ensure independence of this task, BIO will not take part in the project solution development itself. (TRIBE)

The News / Events pages also display reference to the three entities by means of various lexicogrammatical devices as Table 4 shows.

Table 4. Use of the different types of lexicogrammatical devices per type of entity in the subcorpus of News/Events pages (per 1000 words).

<table>
<thead>
<tr>
<th>News/Events page</th>
<th>Project</th>
<th>Researchers</th>
<th>Institutions</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proper nouns</td>
<td>10.88</td>
<td>1.56</td>
<td>2.68</td>
<td>15.12</td>
</tr>
<tr>
<td>Common nouns</td>
<td>3.31</td>
<td>0.78</td>
<td>0.33</td>
<td>4.42</td>
</tr>
<tr>
<td>Self mentions</td>
<td>0</td>
<td>0.39</td>
<td>0</td>
<td>0.39</td>
</tr>
<tr>
<td>Total</td>
<td>14.2</td>
<td>2.73</td>
<td>3.01</td>
<td>19.93</td>
</tr>
</tbody>
</table>

The data are, in this case, very similar to those found in the About pages. The most prominent entity is the project (14.2 %), to which visibility is given by means, mainly, of proper nouns. In fact, as was the case in the other two pages under study, proper nouns are the most prominent lexicogrammatical visibility indicators (15.12 %):

23. SteamBio was presented at the IBIOIC Annual Conference and Exhibition from 25th to 26th January in Glasgow. (STEAMBio)

24. TRIBE closes up sharing its activities with the European Commission and other project coordinators in the field of ICT for energy efficiency. (TRIBE)

The use of self mentions, very low and only to refer to the researchers as in the rest of the pages, was instantiated by means of an exclusive we, as in:

25. During this webinar, you will see how to use these new and improved features. We will give a live demonstration of how to use PMLs in the time domain as well as showcase the new solver settings for transient models and the new predefined iterative solver suggestions. We will also highlight some of the tutorial models that use the new features. (COSMIC)

Overall, taking the three pages under study as a whole, and considering only the lexicogrammatical resources that confer visibility to the three entities identified, these are the quantitative results yielded:
Table 5. Use of the different types of lexicogrammatical devices per type of entity in the three pages (About, Partners and News/Events) (per 1000 words).

<table>
<thead>
<tr>
<th></th>
<th>About page</th>
<th>Partners page</th>
<th>News/Events page</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project</td>
<td>14.5</td>
<td>6.62</td>
<td>14.2</td>
<td>35.32</td>
</tr>
<tr>
<td>Researchers</td>
<td>1.6</td>
<td>11.58</td>
<td>2.73</td>
<td>15.91</td>
</tr>
<tr>
<td>Institution</td>
<td>2.39</td>
<td>18.58</td>
<td>3.01</td>
<td>23.98</td>
</tr>
</tbody>
</table>

As a whole, the project is the most salient entity (35.32 ‰) in two of the pages which are likely to be the most visited pages in the website: the About page (14.5 ‰), where general information is provided about the project, and the News/Events page (14.2 ‰), where the development of the project is being recorded and updated. In contrast, the proper names behind the project (individual researchers and institutions) are rather made visible in the Partners page, whereas they are almost invisible on the other pages. The institution is the second most visible entity, especially so in the Partners page, whereas researchers are also visible in that page, but to a lesser extent.

3.2. Lexicogrammatical markers of visible entities: Grammatical patterns

Once the frequencies of entities and the most salient entity per page have been established, a further step is taken to explore the type of grammatical patterns in which these entities tend to appear.

Starting with the most salient entity, the project, the tendency seems to be for it to be used, in any of its realizations (as proper noun, common noun and self mention) as subject in a clause followed by an active verb. The subject position in active clauses ensures a high degree of visibility, contrasted, for instance, with the use of the passive voice. Thus, the entity of the project is ranked as highly visible, as both the parameter of frequency of appearance and the type of pattern in which it appears point towards it.

Variations on this pattern are found especially in Home/About pages and in News/Events pages, which may also be due to the fact that it is on these pages where the entity appears more frequently (see Table 5), allowing for a wider lexicogrammatical variation. In contrast, the entity of the project has a low frequency of appearance in the Partners page and always as subject in an active clause.

Alternative patterns are found in cases in which it is not the project but aspects of the project that appear in subject position in active clauses.

Another alternative pattern identified is the use of the name of the project (proper, common or both) as agent in a passive clause, which confers a lower degree of visibility:

In agreement with Hyland (1998, 2005), we understand that these patterns in which the subject position is adopted by a non-human agent (i.e. the project) nominalise a personal projection and suggest that the situation described is independent of human agency. Suggesting that the process can be fulfilled without human intervention boosts credibility and objectivity around the research project (Martínez, 2001).

As regards individual researchers, on Table 5 above we could observe how these entities are more frequently present in the Partners pages, as expected, whereas they have low presence in the Home/About pages and in the News/Events pages. This quantitative difference mirrors a distinction in the type of grammatical pattern in which reference to researchers appear. Thus, in Home/About pages and in News/Events pages, references to researchers mostly appear in finite clauses:

The researchers at UNIZAR found that in wine-making, PEF-technology shortens the maceration time.

(FIELDFOOD)
In the Partners pages, however, the entity of researchers tends to appear in two grammatical patterns, pointing at different functional roles:

a. as subjects in active clauses in which the researchers appear either as agents in material processes or as carriers of attributions:

31. Currently he is involved in the development and implementation of numerical models within MEDEAS. (MEDEAS)
32. Prof. Mertens is a member of the research center ForWind. (MIGRATE)

b. included in lists of participants or in combination with logos and images (thus interacting with other modes as meaning-making resources):

33. (Caption in Partners page in ORCHID project webpage)

With regard to institutions, they are displayed in grammatical patterns similar to the ones identified for individual researchers. In Home/About pages and News/Events pages, where they appear less frequently (see Table 5 above), their most typical grammatical function seems to be as subject in an active clause:

34. Leiden University Medical Centrum (LUMC) will lead the consortium. (ORCHID)

They also appear as agents in passive clauses:

35. Some results obtained in the framework of the Indus3Es project will be presented by Tu-Berlin. (INDUS3ES)

Their higher presence is recorded in the Partners pages, as was the case with the entity of individual researchers. It is also in these pages where they appear in syntactic patterns other than the clause fulfilling different functional roles, in very similar ways to what was found in the case of individual researchers:

a. as subjects in active clauses in which the researchers appear either as agent in material processes (ex. 36) or as carriers of attributions (ex. 37):

36. Network New Europe Limited founder Huw Parry has worked with Fraunhofer for over fifteen years. (STEAMBIO)
37. SINTEF Energy Research (SINTEF ER) is an independent, not-for-profit research institute. (SUPERSMART)

b. included in lists of participants or in combination with logos and images (interacting with other modes as meaning-making resources):

38. (Caption in partners page in TRIBE project webpage)
4. HOW TO TACKLE VISIBILITY IN THE DIGITAL MODE: A DISCUSSION

One of the most pervasive insights we have gained through the identification and study of the three entities present in these research websites is that a more adequate understanding of how visibility is here constructed asks for the interpretation of the verbal markers identified in combination with other modes with which they connect (i.e. visual), along the lines suggested by multimodal analysis (Kress & Van Leeuwen, 2001, 2006). This “iterative connection of modes” is significant for meaning-making purposes as “the meanings in any mode are always interwoven with meaning in other modes co-operating in the communicative ensemble” (Jewitt, 2016:70).

By way of illustration, let’s take the following piece of news included in the News/Events page of FieldFOOD website:

FieldFOOD workshop @ IUFoST2016

The first FieldFOOD workshop was being held the August 24th at the 18th IUFoST - World Congress of Food Science and Technology, Dublin, Ireland. The congress theme was “Greening the Global Food Supply Chain – through Innovation in Food Science and Technology”. [Lee mas]

Caption 1. News item in FieldFOOD webpage.

Thus, due to the meanings emerged from the combination of modes in a multimodal ensemble, the way in which visibility of an entity is projected is more intricate and complex than a mere adding up of lexicogrammatical and visual means. In the case shown above, the entity made visible is the outcome of a combination of entities, projected by lexicogrammatical means (proper name of project) and visual means (picture of researchers). It may be argued, then, that it is out of the combination of modes that meaning is made and concepts such as visibility can be explored in depth. In the instances of digital discourse under study we can talk about an “e-visibility” which is projected over the salient entities (and confers identity to those entities) and results from the combination of modes.
Further examples of the combination of modes as multimodal devices to project visibility have been identified in the corpus under study. For instance, the combination of proper nouns with logos or visuals referring to the project activity:

In this case, the multimodal ensemble provides visibility to the project, managing to set the focus on the field (biotechnology) and specify the activity they carry out (design of chips for their use in human healthcare). This is done by combining the proper name of the project (Orchid) with a drawing representing human organs (lungs, heart and brain) and a short motto (organ-on-chip in development).

Another example of the multimodal affordances exploited in these webs is found in the use of proper nouns to refer to institutions in combination with the logo of the institution and the hyperlink to their own website, typically found in the Partners page, as mentioned in section 3.2:

The association of the proper name of the institution, their official logo and the hyperlink to their own website adds up to the values of quality, professionalism and reliability that the participants in the project are seeking.

A final type of combination of modes identified in the corpus is the researcher’s proper name next to his/her picture, usually found in the Partners page. Again, the iteration of verbal and visual mode conveys meaning and contribute to give shape to the entity of the individual researcher, identifying him/her as the human agent behind the project.

As a result of this combination of modes we have categorized visibility in research project websites into four types, as shown in the figure below:

<table>
<thead>
<tr>
<th>Webpages</th>
<th>Who/what is made VISIBLE?</th>
<th>How is e-VISIBILITY constructed and projected?</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABOUT</td>
<td>The research project</td>
<td>Lexicogrammatical devices, Multimodal devices</td>
</tr>
<tr>
<td>PARTNERS</td>
<td>The partners</td>
<td>Proper nouns to refer to institutions, Logos, visuals referring physically or metaphorically to the project activity</td>
</tr>
<tr>
<td></td>
<td>The researchers</td>
<td>Proper, common nouns and self mentions to refer to researchers, Pictures of researchers</td>
</tr>
<tr>
<td>NEWS / EVENTS</td>
<td>The research project</td>
<td>Proper noun of project, Visuals of researchers</td>
</tr>
</tbody>
</table>

Figure 1. The construction and projection of e-visibility
The first, and most frequent, type of e-visibility is the one cast onto the project, more salient in the About page. It is called “impersonated” because the project acts as an agent with personal attributions (the project organizes, the project will demonstrate, the project trains, etc.). The lexicogrammar reflects this in the fact that its realizations as proper noun, common noun and self mention often function as subjects in active clauses. E-visibility is here the result of the combination of lexicogrammatical devices such as the proper name of the project, with visuals, which include the logo of the project, photographs which make reference to the project activity, sometimes by showing physically what the project is about or allegorically (see Caption 2 above). Videos can also be found in which the project activity is shown in one way or another.

The second type of e-visibility, which we have labelled “collective e-visibility”, is cast over the members of the consortium in charge of the project, many of them higher education institutions, research centers, or enterprises. Reference to these entities is most frequently found in the Partners page. Although they sometimes adopt the syntactic role of subject or agent in clausal patterns, (see section 3.2. above), they are typically referred to by means of a combination of lexicogrammatical devices (usually their proper name and visual resources (i.e. their logo) (see Caption 3 above).

Also in the Partners page the third type of e-visibility is commonly found: “individual e-visibility”, which projects light onto the researchers, members of the institutions and organizations which take part in the project, referred to by means of a variety of lexicogrammatical indicators (proper nouns, common nouns and self mentions) and visually represented by their pictures, sometimes on their own, sometimes in a group.

Finally, the News/Events page displays its own type of e-visibility, which we will label “multifaceted e-visibility”. On this page, news about the development of the project are collected and researchers give account of the kind of actions and transference activities that they carry out as part of their compromise with the funding body. Typically, the entries on these pages will display a combination of text and visuals. As lexicogrammatical devices, the proper name of the project is commonly found both in the title of the piece of news and in the body of the text (see Caption 1 above), in combination with a visual, which is usually a picture of the researcher or researchers taking part in the event referred to in the news item. In that sense, multifaceted e-visibility is the result of the combination of two other types of e-visibility: impersonated (referring to the project and cast through lexicogrammatical means) and individual (referring to the researchers and projected through the visual mode (i.e. their photographs)).

5. CONCLUDING REMARKS

The aim of the present study has been to explore the concept of visibility in the digital environment (e-visibility) in the understanding that digital discourse shows its own peculiarities as regards this notion. For such purposes we have deemed necessary to go beyond well-established approaches, mediating discourse most prominently. These well-established theoretical frameworks have shown to be very enlightening for the analysis of visibility and related notions such as authorial voice and stance, basically in monomodal texts and mainly focusing on the exploration of self mentions and their associated textual functions. A first, exploratory look at the digital texts under analysis showed that other perspectives should be brought to the fore in combination with the well-established ones, as a more encompassing, multifaceted view of how visibility is crafted in digital discourse was requested, that is, of who/what is made visible and, then, of what the mechanisms are by which visibility is constructed in digital discourse. Thus, we have here aligned with those approaches which sustain that the analysis of interpersonal features such as visibility demands a wide view of what interpersonal means and of the resources it makes use of (Lorés-Sanz et al., 2010; Mur-Dueñas et al., 2010) and with those that sustain that interpersonal features are conditioned by contextual variables such as corpus, discipline, genre itself, as well as language and culture, (Suau-Jiménez et al., in press), which, in the case of digital discourse, should also include the use of various modes in a combined way.

To conclude, therefore, a few considerations may be drawn from the study presented above. First, the fact that the notion of visibility is in itself problematic. Whereas in other scientific textual practices, including digital ones (e.g. academic blogs), visibility is easily ascribed to an author, in the texts under study (research project webpages) the author(s) are unknown and might be multiple. This fact has problematized the study of visibility, as the analysis of well-established resources (e.g. self mentions) to confer authorial visibility, authorial voice and related concepts does not seem to provide the full picture. In the present study, different entities have been singled out as visible in these webpages (the project itself, the institutions and organizations collaborating in the project and the individual researchers participating in it). Among other lexicogrammatical resources, the use of proper nouns, common nouns and self mentions have been identified as indicators of visibility for these entities. By means of a quantitative analysis, it has been shown how these resources are used to project e-visibility onto the entities to different degrees depending on the page in which they appear. Thus, as expected, the project is more visible and prominent in the About page and in the News/Events page, whereas partners and researchers are made more visible in the Partners page. Lexicogrammatical resources used to refer to entities have been found to be displayed in various
grammatical patterns, thus becoming more visible (as subjects in active clauses) or less visible (in passive clauses or performing other, less prominent, grammatical functions) also depending on the entity itself and on the page in which they are referred to. The latter grammatical patterns are conceptualised here as a devoicing mechanism which contributes to blurring the individual researchers’ visibility. Instead, these patterns enhance the visibility of the project as an impersonated entity, with personal attributions.

More importantly, we have argued that the entities’ visibility is built in these research project webpages upon the combination of multimodal resources, mainly verbal and visual. Thus, four types of e-visibility have been identified in the digital texts under study. First, an impersonated e-visibility, cast onto the project to which it confers personal attributions, which is made visible as a result of the multimodal combination of certain lexicogrammatical resources (i.e. the name of the project) with visuals (logos, pictures), typically found in the About page; secondly, a collective e-visibility, projected onto the partners (institutions and organizations) which collaborate in the project, resulting from the multimodal combination of lexicogrammatical resources (usually the name of the institution) and a visual (usually the logo of the institution), typically found in the partners page; thirdly, an individual e-visibility, which casts light onto the individual researchers, referring to them by proper and common nouns as well as self mentions in combination with their pictures, typically found in the Partners page as well; and fourthly, a multifaceted e-visibility, which in itself is the result of the combination of an impersonated e-visibility (as it is the project which is made visible by means of lexicogrammatical devices) and an individual e-visibility (as it is not the logo of the project but the picture of the researchers which combines with the name of the project), typically found in the News/Events page.

The fact that this is a small scale study of a very specific type of digital text does not allow us to generalize and apply the conclusions we are able to draw here to other types of website. Moreover, further exploration of how the affordances of digital platforms are exploited to confer visibility to certain entities is requested: for instance, the number of times we need to click (clicks away) for an entity to be visible, how different degrees of visibility are conferred depending on how far we need to navigate into the page, the role hyperlinks play in the crafting of visibility, are avenues of research that need to be explored for a more complete picture. However, we do hope we have been able to fulfill the aims stated in the present study, to contribute with some answers to the challenges that the study of digital discourse poses and to open paths of research into the complex issue of e-visibility.

ACKNOWLEDGEMENTS

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REFERENCES


Harwood, N. (2005b). “‘We do not seem to have a theory... the theory I present here attempts to fill this gap’: inclusive and exclusive pronouns in academic writing.” Applied Linguistics, 26/3, 343-375. https://doi.org/10.1093/applin/ami012


## APPENDIX A

<table>
<thead>
<tr>
<th>PROJECT NAME</th>
<th>UZ / UZ Institute</th>
<th>Link web</th>
<th>ACTION (H2020)</th>
<th>DURATION</th>
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## APPENDIX B

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<th>WEBSITE</th>
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