

ARTICLE

# New Technologies in the University Context: The Use of Blogs for Developing Students' Reading and Writing Skills

**Guadalupe Álvarez**

galvarez@ungs.edu.ar

Centre for Research on Philosophical and Cultural Anthropology,

National Council for Scientific and Technical Research (CIAFIC-CONICET), Argentina

Institute of Human Development, National University of General Sarmiento (IDH- UNGS), Argentina

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## Abstract

Many studies have emphasised the difficulties that students have when it comes to dealing with typical reading and writing tasks in higher education. With advances in information and communication technologies, and the constant development of interactive and multimedia dynamics on websites and e-learning platforms, new alternatives can be used to overcome reading and writing problems. The use and potential of blogs, for example, has spread to the university context, including subjects and courses that specifically focus on reading and writing skills. While several studies have shown that educational blogs have both advantages and limitations, there is still a need to develop guidelines on how to facilitate learning through the use of this tool. An important step is to analyse the current use of blogs for specific educational purposes. In this respect, the aim of this article is to analyse, on the basis of an integral semiotic proposal (Álvarez & Álvarez Cadavid, 2010, 2011), a series of blogs in Spanish that aim to develop text comprehension and production skills. This study shows that most

of the blogs analysed thus far tend to concentrate on information management and organisation processes, and include materials in which verbal aspects prevail.

### **Keywords**

technology uses; educational blogs; higher education; reading and writing skills

## *Las nuevas tecnologías en el contexto universitario: sobre el uso de blogs para desarrollar las habilidades de lectoescritura de los estudiantes*

### **Resumen**

Muchos estudios han destacado las dificultades que los estudiantes tienen al resolver las tareas típicas de lectura y escritura en la universidad. En la actualidad, con los avances de las tecnologías de la información y la comunicación, y el continuo desarrollo de dinámicas multimediales e interactivas en sitios webs y plataformas de e-learning, existen nuevas alternativas que pueden ser aprovechadas para superar los problemas de lectoescritura. El uso del blog y sus potencialidades, por ejemplo, se ha extendido en el contexto universitario, incluidas las materias o cursos que trabajan, específicamente, en las habilidades de lectoescritura. Si bien diversas investigaciones han revelado ventajas y limitaciones de los blogs educativos, sigue habiendo necesidad de orientaciones sobre el modo de facilitar los aprendizajes con dicha herramienta. Un paso importante para lograr el desarrollo de dichas orientaciones es analizar el estado actual sobre el uso de blogs con fines educativos específicos. En este sentido, este trabajo analiza, de acuerdo con un análisis semiótico integral (Álvarez y Álvarez Cadavid, 2010, 2011), una serie de blogs en español que apuntan al desarrollo de las habilidades de comprensión y producción textual. Este estudio muestra que la mayoría de los blogs hasta el momento analizados están centrados en procesos de organización y gestión de la información, e incluyen materiales con un fuerte predominio verbal.

### **Palabras clave**

uso de tecnología, blogs educativos, educación superior, habilidades de lectura y escritura

## **1. Introduction**

Many studies have emphasised the difficulties that Latin-American students have when it comes to dealing with typical reading and writing tasks in higher education (e.g., Lacon de De Lucia & Ortega de Hocevar, 2004; Parodi, 2003, 2005; Carlino, 2005; Piacente & Tittarelli, 2006; García & Álvarez, 2009, 2010). Today, with advances in information and communication technologies (ICTs), and the constant development of interactive and multimedia dynamics on websites and e-learning platforms, new alternatives can be used to overcome students' reading and writing problems (Álvarez, García & Qués, 2010). The use and potential of blogs, for example, has spread to the university context, including subjects and courses that specifically focus on reading and writing skills (Reale, 2007). While several studies have shown that educational blogs have both advantages and limitations, there is still a need to develop guidelines on how to facilitate learning through the use of this tool. Thus, in the framework of a broader research project, which intends to establish the criteria for good ICT-

mediated educational practices for the promotion of university students' reading and writing skills,<sup>1</sup> this study analyses a series of blogs in Spanish that aim to develop such skills. This study is based on an integral semiotic analysis proposal (Álvarez & Álvarez Cadavid, 2010, 2011).

## 2. The use of new technologies in higher education

In the university context, the potential of new technologies and the ways in which they can be used have gradually been recognised. As a result, the uses of digital technology as a teaching and learning support have grown (Litwin, 2001; Duart & Sangrà, 2001; Rodríguez Illera & Escofet Roig, 2004; Laurillard, 2010; Torres & Rama, 2010). Today, two modes of networking can be found in universities (Rodríguez Illera & Escofet Roig, 2006; Laurillard, 2010; Torres & Rama, 2010). First, fully online e-learning proposals, where instruction takes place exclusively via digital media, on virtual learning platforms designed and created for that purpose (Buckingham, 2007). Second, blended learning proposals, which are characterised by a combination of two distinct modes of instruction in order to achieve an optimum educational programme for a given target audience (Bersin, 2004). In proposals of this type, technologies, activities and various typologies of instructional situations are combined: multimedia technology, videos, virtual lectures, e-mail, face-to-face lectures, individual tutorials, etc. (Rodríguez Illera & Escofet, 2006). Rodríguez Illera and Escofet (2006) add a condition to the characterisation of blended learning by pointing out that the use of technology to mediate—rather than an occasional use only—should be included in a plan to integrate it with face-to-face lectures.

In 2005 in Latin America and the Caribbean, 201 university institutions implemented the virtual education process, though only 11% were fully online models. The remaining 89% were blended learning models, combining face-to-face and online elements (Rama, 2007; Torres & Rama, 2010).

Given the growing incorporation of ICTs into the university context, it is important to be aware of the particularities of these technologies, which require teaching to be adapted to suit them (Mayer, 2005; Laurillard, 2010).

With ICTs, education can be freed from spatial constraints, thus becoming independent from distance. It can also be freed from time constraints, thus allowing students to learn at their own pace. Students and lecturers can have flexible timetables and schedules. Moreover, digital media offer multimedia, hypertextual and dynamic potential (Salaverría, 2001; Baldry & Thibault, 2006; Scolari, 2008, 2009; Avgerinou, 2009; Kress, 2004, 2010), as well as a high degree of interactivity, which is evidenced at a variety of levels (e.g., objects, browsing, connections, forums, etc.) (Gros Salvat, 2000). In this respect, it has been claimed that ICTs facilitate individual, group and collaborative learning processes

1. I am referring to the project "Aprendizaje, multimedialidad y TIC: modelo de análisis de estrategias discursivas, multimediales, hipertextuales e interactivas en comunidades de aprendizaje totalmente en línea o híbridas en la universidad" (Learning, Multimediality and ICTs: A Model of Analysis of Discursive, Multimedia, Hypertextual and Interactive Strategies in Fully Online or Blended Learning Communities in Higher Education", which I am undertaking as an investigator for the National Council for Scientific and Technical Research, Argentina. Regarding the study presented in this article, we would like to thank the Ministry of Education (Argentina) and Fundación Carolina (Spain).

(Gros Salvat, 2004). When talking about mediated collaboration, Gros Salvat and Larra (2007) refer to two fundamental ideas: on the one hand, the possibility of learning alongside other participants, of sharing objectives and of distributing responsibilities; and on the other, the idea that technology is a mediating element that promotes and supports that process. These are the particularities of ICTs that are beginning to transform teaching situations. However, research on the use of new technologies in higher education (Sosa, 2009; Laurillard, 2010; Torres & Rama, 2010) highlights the fact that, even when instruction takes place on a virtual platform, most of the materials are still based on a textual logic determined by a printed-page culture (Laurillard, 2010; Kress, 2010). Besides that, in certain cases there is no planned integration of tools or materials (Rodríguez Illeras & Escofet, 2006). It should also be noted that the design of virtual learning environments does not always make full use of the potential that electronic media offer, such as their multimediality and hypertextuality (Álvarez & Álvarez Cadavid, 2010).

More work therefore needs to be done on the design of virtual environments and learning materials to ensure that they are compatible with the new educational contexts that are emerging with the advent of ICTs. In the light of technological impacts, it is therefore a matter of understanding that the pace of teaching and learning deserves to be interpreted in terms of ephemerality, atemporality and unpredictability, and that such pace needs to be redimensioned in order to promote critical processes of knowledge appropriation (Duart & Sangrà, 2001; Litwin, Maggio & Lipsman, 2004; Lion, 2006). So the challenges are shifted towards the activity itself, to the way in which teaching and learning is conceived, and to the approaches taken to planning, designing and implementing the activities (Litwin, Maggio & Lipsman, 2004; Litwin, 2005; Lion, 2006; Buckingham, 2007).

In this respect, it is worthwhile investigating how new technologies have been used in the university education context. In consequence, this study forms part of a broader project (see Footnote 1) that deals with the urgent need for guidelines on how to facilitate learning in educational programmes that are offered in fully online or blended learning modes. A general objective of this project is to understand how to use ICTs properly in the university context, and in particular in the area of language teaching, and text comprehension and production. Within this framework, this study aims to get an understanding of the characteristic features of the discursive, multimedia and hypertextual configuration of blogs used in subjects dedicated especially to the promotion of university students' text comprehension and production.

### 3. Blogs in the educational context

Blogs are communication websites that are mostly personal, on which users publish content (posts) on their topics of choice (Granieri, 2005). Users, including those with very little technical knowledge, can therefore share their thoughts and opinions (Stefanac, 2006). In general, posts appear in chronological order and comments can be left about them by other users (Piscitelli, 2002; Orihuela, 2003). In this respect, the tool provides an opportunity to interact. Besides content, blogs usually include information about the user, a categorisation of each post and links to other websites. One of the advantages of blogs is that they are easy to update (Piscitelli, 2002).

According to Deng and Yuen (2011) and in the higher education context, the role of blogs in different disciplines has been explored (Stiler & Philleo, 2003; Williams & Jacobs, 2004), and this includes language teaching (Ducate & Lomicka, 2005). In every case, the fundamental benefits of using them have been underscored: reflexive mechanisms on the one hand, and interactive mechanisms on the other. However, some studies have shown that, while blogs would appear to provide opportunities to foster productive exchanges, the evidence did not indicate that this advantage was being fully maximised (Hall & Davison, 2007; Xie, Ke & Sharma, 2008; Deng & Yuen, 2011). Thus, as Deng and Yuen (2011) indicate, while the advantages for socialisation are highly valued in blogs, there are few and limited interactions in such environments.

In the specific case of developing reading and writing skills, Reale (2008) points to a number of particularities of blogs that are advantageous: economy, which requires writers to be succinct in their interventions; archiving system, which allows students to explore how their ideas develop and connect over shorter or longer periods of time; feedback, which encourages participation and collaboration among peers; the use of multimedia resources, which provides the opportunity to develop skills in different languages; the immediate nature of publication, which generates an instant sense of achievement; and active participation, which extends learning opportunities beyond those offered in lecture time. It is in this respect that blogs to some extent allow the discontinuity imposed by the pace of work —as a subject is taken— to be overcome, given that between one lecture and another there is usually a long time gap of at least a week.

In short, research on educational blogs has shown that their use has both advantages and limitations; however, it is still necessary to explore the strengths of these Web 2.0 tools, particularly in the context of university subjects that aim to develop students' reading and writing abilities, and to overcome the difficulties that have been found with skills of this type. This is due to the fact that reading and writing are conceived as communication skills that are essential for proper academic performance; they are skills that can be improved through a process involving a series of frequent, continuous activities. This type of process requires a continuous pace of work, as fostered by the very nature of blogs.

With all of the above in mind, the aim of this article is to analyse educational blogs in accordance with the principles of a proposal for an integral semiotic analysis of virtual learning environments (VLEs) (Álvarez & Álvarez Cadavid, 2010, 2011).

## 4. An integral semiotic analysis proposal for the study of VLEs

The integral semiotic analysis proposal (Álvarez & Álvarez Cadavid, 2010, 2011) is based on Lemke's semiotic analysis (2002) and adapts it to the study of VLEs.<sup>2</sup>

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2. The development of this proposal is motivated by two observations: 1) while there is a wide variety of perspectives and models for studying online education, they all concentrate on the analysis of verbal aspects and do not consider the

Lemke (2002) defines hypermediality as the conjunction of multimediality and hypertextuality.<sup>3</sup> This suggests that links are established not only between textual units, but also between textual, visual and sound units. For Lemke, hypermediality involves the multiplicative combination of organisational, orientational and representational resources of each semiotic mode (language, image and sound). As a result, every semiosis is related with meanings of three types:

- Organisational meanings: they fundamentally allow the association between elements in larger units to be understood by means of functional relationships or by the correspondence between elements that form chains from common aspects.
- Representational meanings: they present a state of affairs. In connection with this state of affairs, attention is paid to what is said about the events, participants and circumstances.
- Orientational meanings: assumed rather more implicitly, they indicate the participants' stance towards them and their content.

In accordance with this approach by Lemke (2002), a three-pronged analysis is proposed for VLEs.

First, regarding the organisational function, the way in which the sites, and the resources and tools involved in them, are organised. The guiding questions could be: How is the home page organised? What are the most frequent and the most prominent aspects? How are posts organised? What teaching resources are included and what spaces are they presented in?

Second, regarding the representational function, the content and forms of representation brought into play are recognised. The guiding questions could be: What topics and content are developed? What resources are used to present them? What order are they presented in? What relationships are established among the content developed?

Third and finally, regarding the orientational functional, aspects of interaction among lecturers, tutors and students are studied, that is to say, the identities and social relationships formed among them, and the means by which such relationships are formed. The guiding questions could be: What does the blog offer the student (e.g., information, services, options to take action)? What does the blog demand from the student? What type of student is sought, and what strategies and resources are used to indicate that type of student? What type of teaching is updated on the blog? What strategies and resources are used to indicate that type of teaching?

It should be noted that the three functions are simultaneously projected in the courses and resources involved, and are only presented separately for analytical purposes.

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relationship between such aspects and others of a different kind, such as images and hypertextual elements; 2) various proposals for multimedia semiotic analysis have been observed, but such proposals have not been specially designed for the analysis of VLEs.

3. Lemke clarifies that, in the same way as meaning can be constructed through paragraphs and chapters, it can also be done through hypertext, that is to say, through different web pages and hypertextual lexical items (for example, through 10, 30 or 100 lexical items).

## 5. Methodology

As already mentioned, this study forms part of a broader project (see Footnote 1) of a qualitative nature, which is being carried out in accordance with the principles of the integral semiotic proposal outlined earlier (Álvarez & Álvarez Cadavid, 2010, 2011). In the framework of this project, this study deals with blogs used in subjects dedicated especially to the promotion of university students' text comprehension and production. Presented in this article is an exploratory phase of a descriptive nature, on which more work is intended to be done in subsequent analyses. This phase comprises the following steps:

- Collection and systematisation of the corpus.<sup>4</sup>
- Analysis of the blogs in accordance with the principles of the integral semiotic proposal.
- The identification of frequent and significant features of the blogs in connection with organisational, representational and orientational functions.

The corpus comprises 10 blogs corresponding to face-to-face subjects or courses that, in the university context, seek to promote students' reading and writing skills, generally by means of a workshop methodology. In every case, the blogs operate as a support for such subjects or courses.

## 6. Analysis of the blogs

By performing the analysis, it was found that —beyond the particularities of each blog from which information was gathered— there is a discursive, multimedia and hypertextual pattern common to all of them in organisational, orientational and representational terms, and that only one of the blogs (herein Blog-D) presented some differences with respect to that pattern. In this section, then, we shall present the frequent characteristics that configure the above-mentioned pattern, as well as the distinctive features of Blog-D. Finally, we shall attempt to understand the educational consequences of this discursive, multimedia and hypertextual configuration.

### 6.1. Organisational function aspects

Regarding the organisational function, the blogs present different constituent parts, grouped into three fundamental sectors.

The top section gives the identity of the blog, by including the name, a sentence or a representative description, and the colours or images used to identify it. Below this section, there are two columns in a different colour or with a different background from the top section.

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4. Web scanning with keywords (workshop, text comprehension and production, reading and writing, university) was used to gather information from the blogs. In this article, to respect the confidentiality of the blog producers' identities, we have not included any URLs.

One of the columns —the narrowest— comprises several stable elements, laid out vertically: characteristics of the blog and its creator, archive of posts, links and, in a few cases only, the thematic categories of posts and a calendar.

The widest column is used for presenting the posts, which are usually texts or PPT slides in which verbal aspects prevail. These posts appear in chronological order. In some blogs, the posts are labelled by topic, meaning that an item can be selected from the categories in order to see posts grouped under the same topic.

In relation to the above description, an element that gives cohesion to the top section and the narrow column of the blogs is the persistence of their elements, which contrasts with the posts, which are updated daily or weekly, or can be reorganised by any user.

In Blog-D, there is also a top section that allows the blog to be identified, but both the design and the layout of the remaining elements establish other types of organisational relationships, articulating a distinctive configuration of the blog as a unit, and of the constituent parts of that unit.

So, below the top section, there are different tabs, laid out horizontally and in a brighter colour than the rest of the page. Each tab is associated with a specific section of the blog.

Apart from the 'Home' tab, dedicated to presenting the blog and to explaining its utilities, the other tabs refer to the resources and tools necessary for students to perform well in lectures. In other words, unlike the other blogs analysed, in which order and occasionally a thematic order prevailed, Blog-D categorised the posts by the type of resources and tools. In this respect, the tabs covered: 'Classroom Presentations', 'WebQuest', 'CmapTools', 'Videos', 'Books', 'Notes' and 'Links'. As the name of some of these tabs indicates (WebQuest, for example), there are programs, tools and specific resources for students to approach the content from a multimedia and hypertextual viewpoint. By clicking on each tab, PPT slides and videos are displayed, which also involves a multimedia presentation of content.

It is important to highlight the fact that the posts are stable and, though they may be changed over time, they are not updated daily or weekly.

Thus, the distinctive cohesion of Blog-D's elements is provided not only by the colour, but also by the chosen criteria for establishing the tab categories (i.e., programs/tools/resources), by the prevalence of multimedia and hypertextual elements, and by the stability of the posts.

Finally, it is important to highlight the fact that, in the bottom section, Blog-D presents a toolbar that links to other websites, and in particular to YouTube, Facebook and Twitter, thereby offering students the opportunity to engage online through one of those sites. In this case, it was once again found that specific sites and tools are also displayed to meet some of the educational objectives of the blog, such as communication between lecturers and students, or among students.

Thus, the blog's links to sites offering tools and resources to meet various educational objectives, such as tasks to be done by students or communication among the blog's users, represent a distinctive feature that provides the blog with cohesion and articulates it as a unit.

## 6.2. Representational function aspects

From the representational function viewpoint, all the blogs (apart from Blog-D) distinguished between 'Posts' and 'Links'. Regarding posts, they can be grouped into:

- Alerts: referring to information about subjects taken, exam dates and lecture cancellation or postponement.
- Assignment instructions: referring to instructions for doing activities that will be corrected and/or handed in during face-to-face lectures. In contrast, no instructions are proposed for carrying out exchanges on the blog.
- Reading lists: referring to theory texts about the concepts that will be studied in lectures, or literary bibliography (poems, stories, etc.) that will either be worked on in lectures or will act as the trigger for topics to be covered.
- Other study materials: referring to PPT slides and videos explaining the fundamental concepts of the subject. There is usually a high prevalence of verbal aspects in these materials.
- Student productions: referring to texts written by students according to instructions given by lecturers.

Blog-D differs to some extent from this categorisation because the tabs that we mentioned in the previous section cover what the other blogs refer to as 'Posts' and 'Links'. All of these tabs display PPT slides and videos explaining the fundamental concepts of the subject. In these resources, verbal aspects are combined with multimedia and hypertextual aspects. In fact, there are two tabs specially dedicated to tools (WebQuest and CmapTools) that students should use to do activities in which verbal aspects are combined with multimedia (images and sound) and hypertextual aspects.

In connection with the above, Blog-D, unlike the other blogs, also includes information in PPT and video format about the possibility of using different programs and technological media.

Regarding the topics covered, we found a language perspective common to all the blogs, including Blog-D: the topics usually refer to content on a discursive and textual approach to language (Calsamiglia & Tusón, 2008; Van Dijk, 1988, 2000), which suggests studying communication units that go beyond clausal limits. From this approach, the posts cover concepts connected with the macrostructural level (thematic content) or superstructural level (organisational structure of texts). In consequence, many posts work on the concept of gender, either through theoretical presentations or real cases for each gender (opinion articles, for example). The microstructural level (lexicon, for example) is generally included in 'Links', even in the case of Blog-D, which has a tab with that name. So, the blogs are 'linked' to Spanish-language dictionaries or thesauruses, and to punctuation and spelling exercises. This would seem to suggest that resources at the microstructural level are not considered to be priority topics, but rather peripheral ones, in blogs aimed at text comprehension and production with a discursive and textual perspective of language.

### **6.3. Orientational function aspects**

Regarding the orientational function, in most of the blogs analysed, posts are supplied by the blog's creator, who is a subject lecturer.

Other than this similarity, we found differences between Blog-D and the other blogs with respect to student participation modes and interaction with lecturers.

In all the blogs (apart from Blog-D), student participation revolved around leaving comments, generally not very common, on lecturers' posts. The posts receiving the highest number of comments are those referring to alerts or assignment instructions. Faced with these, the students usually ask for clarification or recount their individual problems in search of an alternative solution. In some —albeit a few— cases, the students generate a type of post represented by texts produced on the subject. In that instance, lecturers or users leave comment on the texts, expressing positive, complimentary appreciation. In short, interaction is minimal or non-existent and is not usually aimed at doing exercises or activities, which, if done on the blog itself, would promote the acquisition of subject content.

In contrast, Blog-D puts the option to participate in other sites, such as Facebook and Twitter, which are linked from the blog. As a result, it offers students the opportunity to leave comments or engage via any of those channels, which are rightly acknowledged for their interaction potential (Siemens & Weller, 2011).

## 7. Scope and limitations of blogs aimed at developing reading and writing skills in higher education

In this article, the aim has been to study, in accordance with an integral semiotic analysis (Álvarez & Álvarez Cadavid, 2010, 2011), a series of blogs in Spanish that aim to develop students' reading and writing skills in the university context. Several conclusions can be drawn from the study.

First, from the viewpoint of content connected with the area of language teaching, we found a feature common to all the blogs, including Blog-D: that content contained in the various posts responds to a discursive and textual approach to language. In addition, priority is given to the macrostructural and superstructural levels, while the microstructural level is relegated to 'Links' that students can follow independently. This hierarchy of content on the blogs would be compatible with the organisation of content on programmes for the corresponding subjects.

Parallel to this, we noted the existence of several differences between the ways in which content on Blog-D and the other blogs is dealt with.

Second, on the blogs in general, we found that students are only asked to enter the site, browse the documents on it and participate by leaving comments on the posts. In other words, students do not have to use other specific programs or sites to meet the educational objectives of the blog. In contrast, on Blog-D, the use of technological media is not limited to the use of the blog. Rather, it asks students to browse and use a wide range of sites, tools and resources. Thus, it asks for the use of specific tools to work on topics with a multimedia approach (WebQuest, for example); the use of specially designed sites to promote interaction among users was also found (Facebook, for example). This leads to students being taught how to use such tools, and specific materials on the topic are incorporated for that purpose. The above would suggest a strong cohesive feature of Blog-D, in that it presents several links to sites with services and tools that promote the development of the various educational objectives that are intended to be met.

Third, and in connection with what has recently been mentioned, we noted that the materials on most of the blogs present a high prevalence of verbal aspects, whereas on Blog-D, a combination of text, images and sound is frequent (multimedia), as are links to other sites (hypertexts), both for the lecturers' content presentation and for the students' approach to such content.

Lastly, on most of the blogs analysed, there is a prevalence of materials and tools aimed at information management and organisation processes, while others aimed at group management of knowledge processes have yet to be incorporated. In fact, apart from Blog-D, the space is not organised in such a way as to promote interaction. Consequently, very little interaction between lecturers and students, or among students, was found, and such interaction is limited to solving practical and one-off problems arising from the lectures.

In short, on blogs dedicated to promoting university students' reading and writing skills, and as Begoña Gros (2004) notes, tools and materials promoting the cognitive processes required for the collaborative production of new knowledge have yet to be incorporated. Furthermore, it would be necessary to include and demand multimedia and hypertextual materials for the development of subject content, for which, as we can see in Blog-D, it appeared possible to offer training on specific technological media. This means training students to use new technologies for educational purposes.

Finally, this analysis has enabled an initial approach to the analysis of blogs aimed at promoting text comprehension and production. However, we believe that the research needs to be furthered by reviewing and adapting the integral semiotic proposal, and by expanding the corpus, which means not only including more blogs, but also another type of VLE, such as online courses. We believe that this would make it possible to develop good ICT-mediated educational practices in the university context, particularly in the area of written comprehension and production teaching.

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## About the Author

Guadalupe Álvarez  
[galvarez@ungs.edu.ar](mailto:galvarez@ungs.edu.ar)

Centre for Research on Philosophical and Cultural Anthropology,  
National Council for Scientific and Technical Research (CIAFIC-CONICET), Argentina  
Institute of Human Development, National University of General Sarmiento (IDH-UNGS), Argentina

She holds a Doctorate in Language awarded by the National University of Cuyo (Mendoza, Argentina). She works as a research assistant for the National Council for Scientific and Technical Research at the Centre for Research on Philosophical and Cultural Anthropology, and as a researcher at the Institute of Human Development at the National University of General Sarmiento.  
Her research interests include teaching and learning processes in virtual learning environments, especially in the university context. She is currently studying ways of strengthening the use of new technologies to facilitate the development of reading and writing skills.

Centro de Investigaciones en Antropología Filosófica y Cultural,  
Consejo Nacional de Investigaciones Científicas y Técnicas (CIAFIC-CONICET)  
Lacroze 2100  
(C1426CPS) – Capital Federal  
Argentina



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