

Action Research and Autonomous Language Learning in the Age of Cybergenres^{1,2}

M. Luisa Villanueva
Universitat Jaume I, Spain

Principles of strategy should be taught which make it possible for risks, the unexpected and the unknown to be tackled and development to be modified depending on the information acquired along the way. We need to learn to sail in an ocean of uncertainties through archipelagos of certainties.

Edgar Morin, 1999

Abstract. In this special issue of CORELL, we will outline the current positions of our research group GIAPEL³ with regard to the multidimensional transformation that the ICT (Information and Communication Technologies)⁴ exert on the three vertices of the classical didactic triangle, that is the interaction between learners, teacher and content. We will also be looking at how the group approaches the new problems that arise in the field of educational mediation and action research in the teaching-learning of languages, which is seen as a dialogue between teachers and learners as subjects and agents of social practices within a particular context.

Keywords: action research, mediation, cybergenres, ecological approach, autonomy

1. Introduction: The new complexity of the didactic triangle

Today, there are many different sources of information and guidance available and as a result the role of teacher or counsellor is no longer restricted to a single figure. In addition, the introduction of consulting and guidance, within the framework of virtual classrooms or by means of the more 'conventional' e-mail, represents a new challenge for strategies guiding educational mediation, which is seen as a process of 'scaffolding'⁵ the aim of which is to help the student to reach progressively higher levels of independence. Another of the vertices of the didactic triangle that has become more complex is the one consisting of the interaction among the students themselves, which offers renewed possibilities both for spontaneous communication and for cooperative (peer mediation and support) and collaborative learning (shared tasks). Finally, authentic materials, which play a key role in a socio-constructivist and *autonomising* approach to language learning, have not only grown exponentially but also, because of their hypertextual mode of working, open up a new intercultural, multimodal and transgeneric dimension of the social practices of reading and producing texts. In the teaching-

¹ Although far from exhaustive, the bibliographic references of the GIAPEL members do constitute examples of the path the group has trod and are included in footnotes.

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³ Group for Research and Pedagogic Applications to Languages (*Grupo de Investigación y Aplicaciones Pedagógicas en Lenguas*) <http://www.giapel.uji.es>

⁴ The possibilities of using the ICT to generate autonomy were already investigated in the SMAIL project (R&D TIC2000-1182, Ministerio de Ciencia y Tecnología), which ended in July 2004: Sanz, M.; Villanueva, M.L.; Ruiz Madrid, N. (2004): "Un outil au service des besoins d'apprentissage des langues en compréhension et expression écrites : le projet SMAIL" *Études de Linguistique Appliquée* 134 : 205-219.

⁵ Luzón, M.J. 2006. Providing scaffolding and feedback in online learning environments. *Mélanges, CRAPEL*, 28, 113-122. Retrieved 24 October 2007 from http://revues.univ-nancy2.fr/melangesCrapel/IMG/pdf/8_LUZON.pdf

learning of languages texts have always constituted, from a psychopragmatic point of view, the terrain in which the linguistic experience, as a process of interactive construction and negotiation of meaning, takes place. Nowadays, the construction of this common field of reference (Riley, 1987), which is the basis of educational dialogue, has become even more complex due to the advent of cybergenres.

2. The epistemological construction of the field of research

Our group, which came into being in 1991 as a multilingual group interested in language learning from a perspective of training in plurilingualism⁶ and autonomy, has been working continuously on studies related with learning styles and the cognitive and pragmatic strategies involved in the process of acquiring, learning and using second languages. The epistemological foundations that guide our research activities have their roots in a three-faceted domain, given that the field in which our thinking and our actions take place is the product of the intersection of linguistic, cognitive and pedagogical aspects.

Our *approach to linguistic phenomena* is guided by discursive and textual criteria, because text types and genre variations⁷ constitute the pragmatic and cognitive frameworks that are taken as a reference for constantly negotiating linguistic interactions, which are contextually bounded social practices. *From a psychological point of view*, our interest in the cognitive frameworks and cognitive strategies employed by language learners⁸ is related to the socio-constructivist theories of Vygotsky (1984) and Bruner (1990), and to Ausubel's (1976) meaningful learning. The construction of meaningful knowledge takes place thanks to social mediation and constitutes a process of interiorising experience that allows new conceptual networks and new frameworks of knowledge to be built. As pointed out by Vygotsky, in this process of social mediation language plays a key role (Vygotsky, 1994) both in teaching-learning interaction (among peers and with the teacher) and in the process of interiorising knowledge through metalanguage.⁹ Meaningful learning entails the development of the awareness of learning itself and leads to longer-lasting retention of information. This occurs because, as fresh networks are formed between new and previous knowledge, the latest information is stored in long-term memory and it can be retrieved later on. One important aspect of meaningful knowledge is that it plays a heuristic role for the learner, that is, it becomes an instrument for collecting and processing new experiences and information (Piaget, 1983; Schank and Abelson, 1977; Bronckart, 1985, 1996; Bruner, 1984, 1990). Finally, the importance of motivational and emotional aspects must also be taken into

⁶ In this respect, the Common European Framework of Reference for Teaching Languages in Europe makes an interesting distinction. Multilingualism is an observable social fact, whereas plurilingualism refers to individuals. The latter constitutes a specific competence that results from an integrated representation of languages. One key dimension of plurilingual competence is intercultural mediation competence.

⁷ Villanueva, M.L. (1993): Análisis de los mecanismos de construcción de los textos desde una perspectiva de aplicación didáctica. Enfoque interlenguas. Rev. Comunicación, Lenguaje y Educación. C.L.E. nº 17. Madrid, p. 81-95.

Investigación teórica y aplicada de la tipología y funciones discursivas de los esquemas formales: su papel en la producción y la recepción de los textos: los géneros del discurso científico (francés, inglés, alemán, español) Generalitat Valenciana. Calls for the Programme of Scientific Research Projects, Order of 15th January, 1998, date of publication: 19/02/1998. Code: 9I014.01 Ref.: GV98-03-133.

⁸ Villanueva M.L.; Navarro I. (eds.) (1997): Los estilos de aprendizaje de lenguas. Un estudio sobre las representaciones culturales y las interacciones de enseñanza-aprendizaje. Publicacions de la Universitat Jaume I de Castelló. Publicacions de la Universitat Jaume I de Castelló. Summa, Sèrie Filologia 6

⁹ Villanueva, M.L.; Ruiz, N. (2005): El discurso de los aprendices. Metalenguaje y estrategias de la mediación. *Teaching and learning the English language from a discourse perspective*. Pub Universitat Jaume I. Estudis Filològics, 22, 2005 p. 149-170.

account, since meaningful learning is necessarily active and personal and depends on the learners' assimilating learning activities and on their cognitive resources. Obviously, *from an educational point of view*, everything discussed up till now constitutes the foundation of an integrating approach¹⁰ towards the teaching-learning of different languages that is oriented towards long-time learning. In other words, the methodology behind the teaching-learning activities must promote the development of the learner's autonomy¹¹ because language learning is a life-long process and one that students will have to later pursue on their own. The languages that have been learnt do not work as watertight compartments but instead the bilingual or plurilingual individual is, in fact, a meeting place of all the languages he or she is learning and has acquired (Weinreich, 1964).

Making a research group's epistemological foundations explicit is relevant because the teachers' thoughts do not make up just a theoretical referent whose importance has been acknowledged by research, but rather they also constitute an action principle that influences professional behaviour. If the activity of teachers as educators and as researchers requires constantly questioning the concepts, beliefs and filters that they use to interpret the practice in a particular context, only the development of their practical awareness can constitute the key to their training and their growth as 'autonomous' teachers and as researchers. This conception of *self-training* through *action research* forms a coherent whole with an epistemology of language teaching based on a dialogism between the object and the subject of the research (Puren, 1998).

Investigating how students formulate operative rules, establish analogies and inferences, and schematise linguistic experience allows the teacher to address teaching strategies that help to develop students' spontaneous knowledge by relaunching it through richer and more complex systematic representations. Research on learning and on teaching and support strategies is *action research* and this means that what is valid for the language student's learning process is equally valid for the researcher's learning process (Villanueva, 2000; Breen, 2001). The origin of this conception of the teacher's or adviser's role as a researcher obviously has its roots in Vygotsky's and Bruner's mediation theory (Vygotsky, 1962, 1979; Bruner, 1984), which places great importance on the function of awareness and thinking, on human beings' capacity to become aware of what they are doing and to go back over a schema of their own in order to reorganise knowledge. This capacity is not self-centred, rather, it is favoured by communication and interaction, and this is what we hope will happen in the cooperative and collaborative relationship of our research group, GIAPEL.

In the age of cybergenres, action research applied to the development of autonomy in language learning has several important implications:

- the need to research on the *new discursive practices on the Web* and the characteristics of *cybergenres* as new frameworks of social communication
- the importance of taking into account the *representations of students as agents of the new discursive practices* related to hypertextual forms of communication
- incorporation of the *new literacies* of understanding and producing texts into the autonomous learning of second languages
- changes in and multiplication of the *forms of educational mediation* and the challenges that this represents for the development of autonomy
- multiplication of the forms of peer communication and of collaborative learning

¹⁰ Villanueva, M^a L. (2001): "Vers une Approche Intégrée de l'Enseignement des Langues en Espagne", *Les Langues Modernes*, 3-2001, 21-31.

¹¹ Navarro Coy, M. (2005): Formación en la autonomía de aprendizaje: implicaciones pedagógicas. Murcia, Pub. Universidad Católica San Antonio.

3. The ecological perspective of cybergenres in autonomous language learning

The diversity of research that is conducted in the field of discourse genres covers a range of dimensions that could be summed up using Rastier's definition, according to which genres are at the same time: genetic norms about how a text is produced, mimetic norms that guarantee a representation and reproduction function, and hermeneutical norms that allow a text to be interpreted (Rastier, 2001). The question of discursive genres has evolved over the last few decades from a taxonomical conception to a dynamic and interactive conception that places more special emphasis on gradual evolution thanks to the interaction among writers, readers and contexts (Devitt, 1993; Berkenkotter and Huckin, 1995; Santini, 2006). Jean-Michel Adam speaks in the same line when, in order to address the problem of the typology of genres, he suggests setting out from the heterogeneity of discursive facts, on the one hand, and from a gradual logic based on the theory of prototypes, on the other (Adam, 2001). A gradual approach will make it possible to explain why a text is more or less typical or atypical from a genre point of view depending on whether it approaches or is further removed from the notional prototype of reference. It is important not to confuse notional prototype with effective realised text, since a text is always, to a greater or lesser extent, a typical example of a category.

From our point of view, the gradual theory of genre prototypes must integrate itself within a pragmatic approach that takes into account the social and historical dimension of discursive phenomena. Genres are not timeless categories, but instead historical realities that are inseparable from the societies in which they occur and they correspond to ritualised social activities (Maingueneau, 1991).

In the chapter "Theorising about genre and cybergenre" in this special edition we will take an in-depth look at the origins and the evolution of the concept of discourse genre and we will also pinpoint more precisely the stances of our research group. For the time being, we will utilise the following criteria: a) admit the huge variety of genre realisations; b) recognise that the limits between genres are often fuzzy, because it must be borne in mind that the interest of prototypical definition does not lie in excluding dubious cases but instead in allowing relations to be established among bundles of similar or related phenomena; c) establish the regulatory and regulating nature of genres with regard to discursive practices (Bajtin, 1989: 50-63) and d) recognise the flexibility of the textual organisation of genre realisations, which is related to the contexts of use, to action and to argumentative orientation.

The notion of ecology applied to discourse genres makes it possible to stress their dynamic and interactive nature, which is precisely what accounts for their production, reproduction and modification. Genres are interrelated and form a system within the context of social practices of a community in a particular moment in history:

Genres tend to be linked or networked together in a way that constitutes a coordinated communicative process (e.g. a conference may start with a call for proposals, followed by abstracts and concluded with papers). Such a cluster forms a genre system and is useful for studying the interaction between people in a community ([Orlikowski & Yates, 1998](http://ccs.mit.edu/papers/CCSWP205/) <http://ccs.mit.edu/papers/CCSWP205/>).

In the case of cybergenres, hypertext technology and multimodality make the boundaries between genres even more blurred.¹² There are new, emergent genres as well as variations on

¹² Navarro, I., Villanueva, L., Girón, C. & Silvestre, A.J. (2008): 'Cybergenres and Autonomous Language Learning. Pragmatic Strategies and Cognitive Models in the Production and Processing of Digital Genres'. *INTED 2008 Proceedings*. Valencia: IATED. File no. 777.

old or pre-existing genres whose evolution is triggered both by new social practices (forums, chat sessions, blogs, etc.) and by the new possibilities offered by the medium. From the point of view of language learning, we are now interested in focusing our attention on a phenomenon of hypertextual writing that again broadens the interactive dimension that is inherent to the processes of production and reading. Even though it is true that author and reader have always co-participated in producing meaning in a text, hypertextual writing opens up the door to a whole new dimension in writing and reading in which the concepts of writer and reader cannot be opposed. George Landow (1992: 5-6), who bases himself on Roland Barthes's ideas about "*le lisible et le scriptible*", claims that the new electronic textuality makes it possible to bring about a fusion of instances of production and of reception into a new combination that he calls a "wreader", which is a blend of the terms "writer" and "reader".¹³

Indeed, the cognitive work involved in reading a hypertext means anticipating what will come after the hypertext link, as well as the creation of a semantically coherent reading product that will be the result of assembling the different fragments or "chunks" of information, i.e. large units of information that are connected by hyperlinks, which correspond to Barthes's (1970) concept of "lexias", later taken up again by Lemke (2003). All this, which is constructed by the reader-writer, is the result of semantic opening and closing operations performed thanks to having established different links among the texts, depending on the options that are selected while navigating through the text. This new transgeneric reality is included by Lemke in his formulation of the notion of "traversals" as routes followed by the reader-navigator through meaningful units of texts at different scales (Lemke, 2003). The same author claims that, today, genres have become the raw material for flexible transgeneric constructions. He also relates the notion of traversals with a new "ecosocial" and cultural phenomenon that would represent the evolution of the standard concept of genre:

Traversals are temporal-experiential linkings, sequences, and catenations of meaningful elements that deliberately or accidentally, but radically, cross genre boundaries. A traversal is a traversal *across* standardized genres, themes, types, practices, or activities that nevertheless creates at least an ephemeral or idiosyncratic meaning for its human participants, and represents at least a temporarily functional connection or relationship among all its constituent processes and their participants (i.e. *actants*). I believe that traversals are becoming a particularly significant ecosocial and natural-cultural phenomenon in this period of world history, the late 20th and the 21st century, in the same sense in which genres and standardization became particularly significant in the high modern era of the 19th and early 20th centuries. (Lemke *Towards a Theory of Traversals* <http://academic.brooklyn.cuny.edu/education/jlemke/papers/traversals/traversal-theory.htm>)

In the "age of *traversals*" the construction of meaning in the routes is performed on shorter textual and time scales. Readers build meanings through the links by evoking or receiving the echo of a complete conventional genre but, by passing through a particular link, they can also evoke a generic sequence either from a genre that is familiar to them or from a functional unit of a known genre. Switching from one genre to another and constructing socio-cognitive schemata that relate certain lexias with certain interiorised generic schemas are therefore the basis of hypertextual reading. The new genres perhaps correspond, as pointed out by Lemke, to partial schemas for building scaffoldings that allow meaning to be constructed by making

Villanueva, L; Luzón, M.J.; Ruiz, N. (2008): Understanding digital genres as semiotic artefacts: meaning and cognition beyond standardised genres, <http://www.bgsu.edu/cconline/DigitalGenres/> *Computers and Composition online*, Spring 2008, Pub. by Elsevier

¹³ This notion of the "wreader" has been employed anew by French and Canadian researchers (Bachand, 2000; Bernier, 1998; Ertzscheid, 2003) and has sometimes been translated as "*laucteur*" (Bernier, 1998).

meaningful leaps among thematic contents, attitudes, points of view or text organisation structures. The new schemas or generic models would be cohesive chains as well as multivariate structures. “Every text animates the ghosts or the echoes of other texts” (Lemke, 2003), which makes dialogism and intertextuality key notions in the new age of textual hybridisation.

Intertextuality is usually understood to mean the inevitable presence in texts of material that has already been written and said in other texts, beyond actually quoting fragments. All texts are constructed as a mosaic of quotes from other texts. And all texts are a palimpsest on which the prints left by previous writings can still be seen (Barthes, 1970; Genette, 1982); to interpret a text is therefore to discover the networks that link it with other texts, i.e. its intertextual relations. The development of critical reading necessarily goes hand in hand with the capacity to uncover the intertextual relations of a text (Foucault, 1969). With respect to cybergenres, it has to be borne in mind that the intertextual relations among the genres are of the order of writing and reading (Finnemann, 1999, 2005), that is, intertextual relations are established by goal-based actions.

Language-learning autonomy and the capacity to access information in a meaningful way are linked to the capacity for critical reading, understood as meaning that which is able to uncover the intertextual and intergeneric relations in the text. The development of these competencies has to take into account an actional and interactive perspective, since students’ linguistic and cognitive development takes place through social practice and action, which are understood as being the learning interactions within the academic context and the vast number of possibilities for communicative exchange that the Web has to offer. From the point of view of the development of autonomous language-learning skills, in the age of cybergenres, the empowerment of learners necessarily involves acquiring new literacies and new interactive cognitive, metacognitive and metalinguistic skills that enable them to manage information and evaluate it critically so that they can navigate their way around the web in a meaningful fashion. Within this new communicative context, it is important not to forget the importance of encouraging attitudes related with *interculturality*, because the democratisation and globalisation of information coexist with an assortment of ways of gaining access to it that are determined by social and cultural factors. Turning information into knowledge and incorporating it into learning and training plans means that the *development of autonomy and critical thinking* are inseparable aspects.

This is the approach that guides the aims of the CIBERTAAAL Project, which is outlined in this special issue and which ends in December 2008.

4. CIBERTAAAL:¹⁴ an action research project

4.1. Hypotheses, objectives and methodology

This project is the result of the convergence of the different lines of research that our group has been working on since it began in 1991. In tune with the socio-constructivist approach that has been outlined above, we set out from the hypothesis that the textual and discursive competence that pupils have in at least one language constitutes prior knowledge that can be made operative, thus making it shift from a state of spontaneous-intuitive knowledge to reflexive instrumental knowledge (Cummins, 1991; Bialystok, 1991; Ludi, 1999). Applying this methodological orientation to virtual communication environments and, more particularly, to the exchange of information via the Internet means investigating the presence of the already-existing genres and the possible appearance of new genres (cybergenres), genre variations or generic constructions at different scales in reading and writing digital texts. Genres are the meeting point for pragmatic and cognitive representations, and reflect a balance point between divergence and the renegotiation of change, beyond which understanding would become impossible. We might say that recognition of the generic echoes in texts constitutes the border of our *semiosphere* (Lotman, 1996).

The incorporation of the new technologies into all aspects of our lives, including language learning, opens up new lines of research on the mediating role of generic schemas. Hypertextual technology has multiplied the semiotic possibilities of texts and images to the point where the new multimedia technological resources have become such an inherent part of the organisation and the structure of digital texts that they no longer work as just texts but also as media in themselves (Askehave and Nielsen, 2005). The numerous possible routes and the interpretation of multimodality (Kress, 2004), as integral parts of the coherence of texts, appear as new phenomena to be taken into account when it comes to researching on the evolution of generic schemas. Hypertextual writing allows for rhizome-based constructions that offer the internaut a number of options and routes within the same website and among different sites. The following are some of the questions that arise:

- Can we speak of cybergenres as *novel* or *extant* genres (Shepherd and Watters, 1998)?
- Are we talking about what Crowston and Williams (1997) called “reproduced and emergent genres”?
- How can genres act as the raw material for new transgeneric constructions in the new socio-semiotic practices (Lemke, 2003)?

¹⁴*Cibergéneros y Tecnologías Aplicadas a la Autonomía de Aprendizaje de Lenguas* (Cybergenres and Technologies Applied to Language-Learning Autonomy). *Estudio de las estrategias y de los modelos pragmático-cognitivos en la producción y en la recepción de los textos digitales* (A study on strategies and pragmatic-cognitive models in the production and reception of digital texts). A Spanish Ministry of Education and Science R&D project. Reference: HUM2005-05548/FILO. This project has been partially reported in different works published by GIAPEL.

A general outline of the aims was carried out by Victoria Gaspar. Gaspar, V. (2007) Cibertaaal project: application of ICTs in German for specific purposes. 7th International Conference of the AELFE (Spanish Association of Language for Specific Purposes). Lisbon, 13th to 15th September 2007 <http://www.edupt.com/aelfe2007/>

A presentation of partial CIBERTAAAL results can be found at <http://www.bgsu.edu/cconline/DigitalGenres/> Villanueva, M.L.; Luzón, M.J.; Ruiz, N. (2008): Understanding digital genres as semiotic artefacts: Meaning and cognition beyond standardised genres. *Computers and Composition on line*, Elsevier.

- How do cybergenres activate the echoes of genres that are known to the reader, and what semiotic strategies are used by the new elements of textual coherence to shape themselves as interpretative schemes for future readings?
- How do readers construct meaning and sense in their pathways as they navigate their way through hypertexts?

The three phases of the research carried out by CIBERTAAAL address these questions on three planes, which intersect to form the field of investigation: a) *linguistic aspects* of digital texts: description and analysis of genericity, multimodality and hypertextuality; b) *psycholinguistic plane*: the study of strategies used by students for tracking, navigating and reading, and their metacognitive evaluation as regards the activities performed (understanding, genre identification, use and navigating); c) *methodological aspects and didactic proposals* related with actional learning: types of webquests and the design of cybertasks.

The original aims of CIBERTAAAL (2005) and the initial description of the tasks associated with each of these aims were as follows:

- 1. To conduct applied linguistic research on the generic, micro- and macro-textual characteristics of digital texts, which entails:**
 - 1.1 *Building up a corpus of digital texts in English, French and German.*
 - 1.2 *Producing a generic description of electronic format texts included in the corpora that have been compiled, while establishing criteria for their generic characterisation at both the macro-textual (structure and rhetorical movements) and micro-textual levels (use of lexical-grammatical resources, modality, connectors, and so forth). Analysing the semiotic and functional value of multimodality.*
- 2. To carry out a qualitative psycholinguistic study of cognitive and pragmatic strategies** by means of experiments conducted with students from the Universitat Jaume I (UJI), the Universidad de Castilla la Mancha (UCLM), the Universidad de Zaragoza (UNIZAR) and from the Universidad Católica San Antonio de Murcia (UCAM).
 - 2.1 To identify and to mobilise the generic schemas of reception by using tests that enable us to determine whether students can recognise the genre that the different texts in the corpus belong to.
 - 2.2 To analyse the pragmatic and cognitive strategies for receiving texts by collecting data using a computer program that will take the use of hypertext links into account.
 - 2.3 To conduct semi-structured interviews, recorded on a digital camcorder, in order to complete the data about the case study.
 - 2.4 To draw conclusions from 2.1, 2.2 and 2.3 and to establish criteria about the production and reception of digital texts in order to improve communication.
- 3. To produce didactic applications for developing autonomous skills for reading digital texts in a foreign language (English, French, German): to carry out a critical assessment of the existing proposals for Webquests and to draw up criteria for designing cybertasks that make it possible to develop new literacies applied to autonomous language learning.**

With regard to the methodology, during the course of the project analysis instruments had to be developed to be able to conduct the research. In order to analyse the architecture of websites, different tools have been used, including the editor *yEd Graph* and *C-map*, which enabled us to describe a series of models of hypertextual writing that are rhizome-based to varying degrees (that is to say, they are open to interconnections with other websites to greater

or lesser extents) and which have different types of modularity. Producing C-maps enabled us to systematise observation of the functioning of internal and external, generic (they appear on all the pages of the website) and semi-generic links (they appear on all the pages at a certain level), actions performed (searching, purchasing, subscribing, and so on) and, when applicable, the intrapage commands.

In order to carry out the experimental phase, Cybertasks were designed in the different languages and the experiments were performed at the participating universities in accordance with a unified protocol that included the following instruments: an observational questionnaire for the researchers; a test to determine the level of linguistic competencies; a test for identifying learning styles; and a self-assessment questionnaire with open and multiple choice questions. This enabled us to obtain data about:

- the functioning of generic schemas and their metalinguistic "tagging" in text recognition
- the representation of the aims of the cybertask, the methodology used to reach the goals that were set, and students' self-assessment of the process and the result
- the mechanisms for anticipating the destination of the links and in the communication among peers and with the teacher
- the spontaneous metalanguage used by students
- the presence of multilingualism and students' attitude towards plurilingualism

To make it easier to read the results that will be presented in the different chapters of this special issue of *Corell*, all these instruments are included in an ANNEX.

Data on the navigating done by students were obtained by means of a tracking program that allowed us to collect information about:

- The actual navigating carried out
- The modes of interacting with the texts employed by students: *browsing, navigating, reading*
- The use of multimodality and following different routes, depending on cognitive styles

The information obtained in the experimental phase will enable us to present, in the last section of this special issue, a number of conclusions regarding:

- the diversity of meaningful routes (traversals) followed by students. This will be achieved by combining the data from navigating, the results from the questionnaires and tests, and the result of the tasks
- the relation between the reading and navigating modes, and learning styles
- the relation between the reading and navigating modes, and levels of linguistic competence
- the degree of competence in utilising the ICT and modes of navigation
- the capacity to use different sources of information and integrate them in order to resolve a task, and students' own perception of this competence
- the relation between the degrees of field dependence/independence and the navigating modes. We define field dependence as the perception of information restricted to its mode of presentation. In contrast, field independence is a capacity to perceive information in terms of relevant features that may be related with other knowledge and other contexts

- the relation between the degrees of field dependence / independence and the results from the assessment questionnaires.

4.2. The structure of this special issue

After this first section entitled “**1. Action Research and Autonomous Language Learning in the age of cybergenres**”, which is devoted to presenting and contextualising the project, the other chapters will address the following issues:

- 2. Theorising about genre and cybergenre:** the state of the art of the problems involved in discursive genres from the theories of Bajtin, Volochinov and Todorov up to the current debate about Web genres and their evolution.
- 3. Webtasks in the Cyberage:** a reflection on the evolution of the task-based approach and a review of the current proposals that will enable us to put forward criteria for designing Cybertasks that incorporate the new literacies in the development of learning autonomy.
- 4. Graph software and the description of Website architecture. Information flows and cognitive models:** a presentation of the computer programs used in this project and some thoughts about their usefulness for establishing cognitive models from data about navigation.
- 5. Critical approach to multiliteracy: Automates Intelligents:** the analysis of a complex website with a rhizome-based structure is compared with the results of students' navigation in order to carry out a cybertask in which they have to read different sources of information on different websites. The results and the discussion address, among other topics, the problem students have with representing tasks.
- 6. Functional approach to multiliteracy: *Cyberjournalism* a cybertask in which the results and the discussion address** generic aspects of digital journalism and the reading done by students.
- 7. Building professional awareness in the Cyberage: *The world of professional translation and interpreting in Germany*:** the presentation of a task in which the results and the discussion emphasise both the importance of contextualising the tasks within a social practice that the student finds relevant and the implications this has for a pragmatic reading based on searching for information for specific purpose. The repercussions that this kind of approach can have on the modes of navigation and on students' self-assessment are also analysed. Likewise, the strategies that characterise a field independent cognitive style are also evaluated.
- 8. *Annex*:** tests and questionnaires.

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*A- Psychopragmatic and generic foundation*¹⁵

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¹⁵ These are what can be considered to be essential bibliographical references for contextualising the epistemological foundations of the GIAPEL group

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