



Knowlege, Literacies and the Teaching of Reading English as a Foreign Language

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ABSTRACT

This paper addresses some key issues cutting across disciplinary fields and influencing EFL reading teaching and research. Reading models have been informed by Information and Knowledge Management paradigms, gradually focusing on different components of prior knowledge and schemata. Lexis has proven to be determinant in cognitive models, as it provides direct access to concepts, stocked as semantic propositions. But schemata are built in the speaker's mind according to the individual experiences, depicting reading acts as meaning creation on a socio-pragmatic basis. Secondly, the parallel evolution of the Literacy and Reading concepts calls up for multi-literacy approaches, which integrate digital competence into the learning goals, as technologies force changes in information, the way we access it, and on the pedagogical approaches to learning, and to EFL reading. The role of overt teaching, meta-cognitive strategies and individual factors, such as motivation or attitudes, continue being the focus of present and future research.

KEYWORDS: EFL reading, knowledge schemata, reading models, literacy, technologies, multi-literacy pedagogies

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I. INFORMATION, KNOWLEDGE AND READING

Cognitive models have envisaged learning and reading as gradual processes of specialisation that go together with the development and reinforcement of neuronal connections on the neuro-physical side. The various cognitive approaches developed over the past decades have gradually depicted language processing as a specific type of information processing, first (McLaughlin, Rossman & McLeod, 1983), and later as a way of knowledge management (Anderson, 1983; MacWhinney & Anderson, 1986; Nassaji, 2007). The learning process, and reading in particular, would be of a controlled nature in its first stages, requiring a maximum level of attention, to gradually become automatic, and thus needing a minimum level of attention. In MacWhinney's Competence model, the human processing system is capable of using a limited number of signals at a time in order to construct meaning, so the potential existing signals – word order, vocabulary, morphology, prosody – would be integrated into a common channel. Knowledge acquisition would consist on assigning each signal its relative weight within the system¹. Among these signals, vocabulary has been the one most clearly linked to reading comprehension, L2 vocabulary knowledge being a predictor of reading success (Eskey & Grabe, 1988; Haynes & Baker, 1995; Laufer, 1989; Pulido, 2007; Xiaolong, 1988).

Former reading models make emphasis on lower-level processes, such as syntactic mapping or lexical access, later on giving way to bottom-up approaches to reading, which in turn showed limitations for a complete explanation of the reading act. Pragmatic theories have influenced studies that stressed the contextual or situational element in Reading Comprehension models. Situational Models and later approaches have included both lower and higher-level processes. Cultural models, stocked in the reader's experience as schemata, will to a certain extent determine the interpretation this reader will make of the message. Computational and memory-based models, such as construction-integration ones (Nassaji, 2007) establish a link between discourse comprehension theories and theories of memory, as they provide a system of rules and mechanisms for how texts – as propositions– are processed. Knowledge would be primarily text-based, with information from multiple sources helping in the complete construction of meaning.

But meaning has not a unique value. In reading there is an interplay between reader and information, which involves at least three components, i.e. decoding, text-information

building and reader-model construction (Koda 2007: 4). Consequently, there are different levels of meaning, as there are different levels of textual representation, which means that there are different levels of comprehension too. In order to assess comprehension in relation to any text, decisions should be taken before anything else concerning which level of meaning will be checked, i.e. which type of reading strategy or mode we will be measuring (e.g. getting the gist, skimming, scanning, extensive reading). Besides, for a complete grasping of the meaning, the reader will relate the text to a socio-cultural or professional frame within which the text belongs to a tradition of similar text instances that share one or more communicative goals or intentions. These will have to do with the overall aim of the reading task which leads us to the concept of genre as will be used throughout this paper.

In the case of foreign language learners, more specifically, interactive models (Carrell, Devine & Eskey, 1988) and interactive-compensatory ones (Stanovich, 1980; 1982; 1991) have provided a frame flexible enough to account for different learning stages and situations in which reading – and the interplay between the task (and its purpose), text type and reader variables – will be affected in varying degrees by contextual, educational and individual factors.

II. PRIOR KNOWLEDGE AND EFL READING MODELS

Readers already possess a knowledge repository that will interact with the information being processed. In EFL contexts this repository includes different types of knowledge (i.e. knowledge of the mother tongue or L1, topic knowledge, formal knowledge, meta-linguistic knowledge, strategic knowledge). In the case of adults and, especially, in formal settings, many studies have shown the usefulness of these “data banks” in order to help learners grasp the meaning of their reading, provided they possess a minimum FL threshold level that again will vary depending on the task demands or on text difficulty. We will now review some of the research that has been conducted on the different components of prior knowledge and its effect on EFL reading.

II.1. L1 Knowledge and transfer theories

Within the literature focusing on transfer, Koda (1994) distinguished two perspectives: a universal one, calling for the universality of reading processes (Goodman, 1971), and another one that which defends the specificity of reading processes for each linguistic code.

The studies carried out from the universal perspective angle have focused mainly on reader-related factors, such as prior knowledge, age, motivation or attitude, or on context-related ones (teaching approaches, pedagogic aims, learning settings, etc). Those centred on specificity, by contrast, have tried to set apart the linguistic from the cognitive aspects with readers of diverse linguistic backgrounds in order to find out whether there are any inter-language mechanisms proper to FL reading, and to determine what they consist of. It remains unclear which specific reading skills would be transferred, and there seems to be more evidence backing the second option (Carrell, Carson & Zhe, 1993) although some data supports the transference of skills of a cognitive, general kind (Sarig, 1987; Eisterhold *et. al.* 1990). Koda (*ibid.*) pointed to a third possibility, i.e. that general cognitive skills are more likely to be transferred, while those of a more linguistic kind are language-specific, as shown in Geva and Ryan (1993).

II.2. Topic knowledge and the linguistic knowledge components

Topic knowledge can be critical when reading neutral texts, especially at academic levels. According to Alderson and Urquart (1985; 1988), Johnson (1981), Olah (1984), Zuck and Zuck (1984), Perez and Shoham (1990), Hammadou (1991) and Salager-Meyer (1991a), the degree of FL reading comprehension can be more easily predicted by topic familiarity criteria than by the student's linguistic competence or the linguistic level of the text (in terms of syntactic simplification or of explicit knowledge of text-related vocabulary). But, again, research results are not conclusive.

Counteracting Clarke's hypothesis of a linguistic competence ceiling for reading comprehension (Clarke, 1979), Hudson's short-circuit hypothesis (Hudson, 1982; 1988) that knowledge schemata would help to compensate the lack of linguistic knowledge was tested by through the use of pre-reading activities. In this and other subsequent studies, the results support this compensation of lack of linguistic knowledge by readers making use of inferences, but only at basic and intermediate levels. Hudson also suggests that at higher competence levels readers just make use of textual information, so extralinguistic knowledge does not affect their reading outcome.

Several authors (Ulijn, 1984; Alderson, 1984, etc.) have further suggested that that relevant conceptual knowledge could lead to comprehension at a lower threshold level, following Hudson's arguments. And the reverse (i.e. the lack of relevant conceptual

knowledge hindering the reading comprehension process of students with a high linguistic level) has also been posed (Alderson, 1984:19).

Devine (1987) provides evidence supporting interactive compensatory reading models in which readers use cues at all levels. What is more striking, her work does also show that learning isolated linguistic content does not help much for reading purposes, with pedagogical implications about the use of significant, contextualised learning environments in which language and reading are learnt in an integrated way.

Further research has been done on reading specialised academic prose, and on how this type of knowledge can help comprehension, especially of EFL. The positive role of specialised knowledge has been shown, but when compared to L2 knowledge, results are uneven.

Again, at intermediate levels several studies (Codina & Usó, 2000; Donin & Silva, 1993; Ridgway, 1994; 1997) show the compensatory effect of applying specialised knowledge schemata to reading. But the negative effect of these schemata has also been proven (Alderson, 1984; Peretz & Shoham, 1990; etc.), as expert readers – especially adults – might tend to rely too much on their own knowledge, overusing it to compensate for the lack of accuracy.

There have also been several attempts (Codina & Usó, 2000; Fernández-Toledo, 2000; Ridgway, 1994, 1997) to show the existence of a maximum threshold level in the realm of specialised prose reading beyond which specialised knowledge does not help much, as suggested by Hudson (1988). In Fernández-Toledo's study (2000) with Spanish Librarianship students, no difference was found between experts and non-experts when reading a familiar text, in the case of high-proficiency students. A similar study by Codina and Usó (2000) conducted with Spanish-speaking Psychology and English Philology readers supports the existence of a minimum level, as previously shown by Ridgway, but the maximum threshold level is not clearly detected.

Summing up, the research carried out so far on conceptual, thematic or experiential knowledge points to a relative influence over comprehension for which a minimum linguistic competence is needed. But there seem to be other factors taking place, which make it a rather complex phenomenon. Both linguistic and thematic knowledge can benefit reading, as Chen and Donin (1997) have shown. Their study indeed indicates that lower level syntactic and lexical processing are positively affected by linguistic knowledge, while semantic processing seems to be more related to specialised background knowledge.

The first problem arises when defining the concept of background knowledge itself because there are many variables (such as expertise, interest, degree of specificity) that make it difficult to measure; even more so to compare different studies' outcomes. Carrell and Wise (1998) distinguish between prior knowledge and topic interest as two entities that often go together, but need not necessarily be correlated.

It could also be assumed that specialised conceptual knowledge should not hinder comprehension of more general, neutral texts of a rather semi-technical nature. Nevertheless, early works on special languages (*e.g.* De Beaugrande, 1984; Ulijn, 1984) precisely showed that such texts could be the most difficult texts to read because much of their language overlaps with general purpose language although meanings differ most times. Polysemy and false friends are some of the “problems” readers are faced with. If we add to this the fact that, in tertiary education at least, students are gradually introduced to disciplinary concepts and terminology while they are learning the foreign language, allotting meaning to words or terms (*i.e.* deciding their level of specialisation) can become a rather arduous task.

In order to establish parallelisms and contrast different studies, there is still a need of standardisation regarding FL reading and background knowledge testing –especially in relation to the conceptual component– and of applying similar criteria for variable identification. The difficulty of controlling all the factors taking place in reading tasks (such as readers' variables and/or text variables) makes it necessary to continue conducting empirical research using different tools, variable combinations and contexts.

II.3. From the language learner as a passive recipient to the autonomous active knowledge manager

For several decades L1 and FL learning theories have kept calling for the need of helping learners reflect on their own beliefs about learning and refine their own knowledge on learning processes or meta-cognition. Fostering motivation and meta-cognition has been the focus of many studies (from Chamot & Kupper, 1989 on). A key factor in the teaching of any skill is raising among students an awareness of their own learning processes as a way for them to become ultimately responsible for their learning, (Salataci & Akyel, 2002; Vygotsky, 1978; Wenden, 1998), taking into account that lifelong learning is a desirable goal.

The notion of self-concept is also a key issue in relation to learning and to reading comprehension in particular. According to the results of Finkbeiner's study (1998), students

who regarded themselves as lacking interest in languages and language learning seemed to have neglected the will to develop strategies to monitor their own learning processes.

Research has shown that strategies are likely to be taught, and this happens in the realm of FL reading too. “Focus on Form” approaches have fostered this type of learning based on the premises that, in formal contexts at least, students will only learn through awareness creation. Following these tenets, approaches such as *Whole Language* link awareness raising to teaching practices based on literature reading, process writing, authenticity or cooperation, to name a few of the main ingredients.

The tendency to consider the strategic factor can be found in all theories, either psycholinguistic or cognitive ones, including those exclusively dealing with FL reading comprehension. For example, among early cognitive approaches to reading, Dole, Duffy and Roehler (1991) consider strategic knowledge as one of the components of background knowledge, together with the aforementioned ones (conceptual and linguistic knowledge), differentiating strategies from skills (*ibid.*: 242-243), mainly through the main attributes of intentionality, higher cognitive sophistication, flexibility and awareness. In cognitive reading models “the reader constructs meaning through the integration of existing and new knowledge and the flexible use of strategies to foster, monitor, regulate, and maintain comprehension.” (*ibid.*: 242).

Recognition of text patterns is one of the formal strategies most frequently studied in relation to reading, since van Dijk and Kinstch’s (1983) early work on text macrostructure and “macro-strategies” (i.e. detection of macrostructure as reflected in idea units likely to be recalled). Both in L1 and FL reading, there was an evolution from text-centred to learner-centred, strategy-based studies that focused, among other things, on text structure recognition, idea unit ranking, summarising and recall procedures (Cooper, 1986; Poggioli, 1991).

Regarding FL and L2 learning, during the last three decades the role of meta-cognition and formal strategies on reading gradually became the focus of research (Carrell, Carson & Zhe 1993; Fitzgerald, 1995; Hosenfeld, 1977; Kitao, Yamamoto, Kitao *et. al.*, 1990; Pearson Casanave, 1988; Salataci & Akyel, 2002). Many studies compared and contrasted the use of reading strategies of non-native English speakers (NNES) in the target language (intra-linguistic studies), while others focused on comparing NNES behaviour in both the FL and their L1 (inter-linguistic studies).

Within the first group it was found that reading ability is evolutionary: it develops as FL linguistic competence develops. As a consequence, competent NNES use processing

strategies that are closer to those of their NES counterparts than to those used by less competent NNEs who tend to transfer them from the L1 system.

Results from inter-linguistic research are contradictory to some extent, but there seems to be support for the thesis that strategy use is likely to be transferred from the L1 to the FL (Kern, 1989) and vice-versa (Salataci & Akyel, 2001). Kern's and similar studies follow the same path as Hudson's short-circuit hypothesis with respect to conceptual knowledge, to the extent that their results show the potential benefit of overt instruction and strategy awareness raising for overcoming linguistic limitations.

Apart from formal, structural knowledge, the influence of context over reading can be systematized through rhetoric or generic schemata. Any task that is carried out, either in formal or informal learning contexts, or even as part of everyday life actions, serves a purpose which has an extra-linguistic, communicative nature. Knowledge of genre conventions is of paramount importance for understanding (Fernández Toledo, 2000), and this understanding often results from applying extra-linguistic, socio-cultural knowledge to interpret sets or specific mappings of linguistic cues working together at different levels. Formal strategies, including rhetorical ones –identifying texts as instances of particular genres – are likely to be transferred from L1 to FL reading (Fernández Toledo, *ibid.*; Levine and Reves, 1994; Raymond, 1993).

III- LITERACY AND TEACHING EFL READING

III.1. Development of the concept of literacy

Postmodernism brought an emphasis on the social dimension in many different disciplinary fields, giving way to notions such as “social constructionism” (Berger & Luckmann, 1966), that have been at least as influential as constructivist theories (Vygotsky, 1978) in the newer views on literacy. Education, information and applied linguistics (AL) theoreticians have coined the term “*literacy*” to call for a presence in the classroom of certain learning goals which aim at going beyond the traditional meaning of the term as “being able to read and write”.

Smith (1995) defines reading maturity as “individual's valuing of reading and engaging in a broad array of literacy practices” (p. 196). Her study in L1 reading showed that engaging in a diversity of reading practices is indicative of reading maturity and appears to have important consequences on literacy abilities regardless of age, thus confirming the results of previous

research. From the former information anyone could logically infer that literacy nowadays involves the use of different reading abilities, for different purposes, and using different formats, channels or supports.

The concept of study skills associated to reading and related tasks has been left behind to enlarge its scope and include meta-cognitive and linguistic knowledge of a more sophisticated, deeper nature (Koda, 2007). Present teaching approaches, partly influenced by genre-based theories, and also (and in relation to this) by an emphasis on the communicative and socio-cultural aspects akin to the teaching-learning processes have lately integrated the notion of reading comprehension into a broader, more comprehensive view which aims at catering for those literacy needs.

The aim of the New Literacy movement, fed by Genre Theory (Freedman & Medway, 1994, Martin & Veel, 1998) was overcoming social differences from primary school, mainly through the acquisition of linguistic tools by engaging in the use of the different academic discourses in wholistic, authentic ways. This was the tenet of the New Rhetoric Approach in North America (Johns, 2001), influenced by Carolyn Miller's seminal work on the social potential of genre (Miller, 1984), or the Sydney School in Australia led by Michael Halliday, within a systemic linguistic perspective (Martin & Veel, 1998; Johns, 2001).

These tenets have also influenced front-line areas such as Information and Knowledge Management, emphasizing the multiple perspectives in scientific and other kind of knowledge domains (Tuominen, Savolainen & Talja, 2005). For these authors reading is mainly seen as a social, shared practice:

Reading may be seen as essentially a shared activity in the sense that it deals with the evaluation of different and often conflicting versions of reality. Groups and communities read and evaluate texts collaboratively. **Interpretation and evaluation in scientific and other knowledge domains is undertaken in specialized “communities of practice,” or “epistemic communities”**. Furthermore, groups and communities read more effectively than isolated individuals [...] as they, for example, have specific interpretative tools for shorthand discussions of information resources [...]. **The capacities for stabilizing knowledge claims and efficiently enacting knowledge in practice are limited in every individual no matter how skilful or information literate he or she might be.** (*ibid.*, p. 337, the emphasis is ours)

Pedagogical approaches from many different disciplinary areas stress flexible and integrative approaches, and the Information Literacy movement, within the Information Science field, again addresses the need of designing critical, but flexible, literacy-based

curricula. The concept of Information Literacy itself has been redefined. In Bawden's view (Bawden, 2001), it is broad enough to include all other literacies that had been coined within this field up to that point— academic, digital, computer literacy, to name just a few. The concept stresses the cognitive side of it, and relates it to the Management of Information (of whatever kind, in whatever support) to address a specific problem and solve it in an effective way.

Tuominen, Savolainen and Talja (*ibid.*: 338) express this view in the following way, following the work of Marcum (2002):

Literacies are connected to historically and contextually defined social values and technologies. Thus, there are authorized literacies as well as resistant or marginalized literacies. The Information Literacy movement has tended to adopt a formal, school-oriented view of what kinds of texts, modes of argumentation, rhetorics, and media formats belong to the arena of serious speech and writing. Authorizing particular ways of reading, writing, and producing knowledge might leave little room for “doing literacy differently” [...]. Literacies also strategically distinguish groups from each other, and different literacies imply different views of acceptable ways of knowing [...]. Various groups create local literary practices [...]

For the authors (*ibid.*) “literacy” essentially means “being able to enact in practice the rules of argumentation and reasoning that an affinity group in a specific knowledge domain considers good or eloquent.” This view places the emphasis on the social role of language, on social conventions and on the context of the discourse community, even though some of these terms are not used. And reading becomes just part of it, with an array of practices and contexts.

The same concern about “other” literacies and realities had led the New London group to issue its Pedagogy of Multiliteracies’ “Manifesto” (The New London Group, 1996). This group of linguists and educationalists, who gathered to discuss crucial education issues, produced a proposal for future pedagogies, based on the following principles or tenets:

- (a) Situated practice (doing): the social context should be the scenario from which to depart when devising tasks, texts and simulations based on them;
- (b) Overt instruction (reflecting): systematic, analytic and conscious introduction of explicit meta-languages (“grammars”) which help students describe and interpret the different ways in which meaning is made.

(c) Critical framing (reflecting): there is an emphasis in linking meaning to the socio-cultural contexts in which it is created, and on the development of a critical distance on ways in which knowledge is structured and used;

(d) Transformed practice (doing): this group of scholars defends the idea of learning through doing (Widdowson, 1983) so that the new knowledge is used to reconstruct texts and knowledge practices in new ways and in different contexts.

General scope educational theories have likewise paved the way, in turn, for pragmatic views on language and language learning, which together with the widespread use of ICT in classroom settings, have reinforced the links between notions such as literacy, collaborative-cooperative learning and dialogic learning and teaching (Bakhtin, 1981; van der Linden & Renshaw, 2004). Let us now take a quick glance at some of these issues in the Foreign Language classroom.

III.2. EFL Reading within the Multi- Literacy Pedagogy

In teaching contexts where the target language was a second or a foreign one, the acquisition of multiple literacies by learners has been one of the main concerns of scholars. Many of these scholars come from AL backgrounds, and many of them belong, more specifically, to the English for Specific Purposes (ESP) or to English for Academic Purposes (EAP) arenas or to both.

Genre-based ESP-EAP approaches examine language as it is used in relation to its context, at a discourse level, keeping a balance between traditional and new sources and genres, by relating these and fostering multiple literacies in students (Bhatia, 2001), with an emphasis on specific communication situation and practices (Swales, 1998). The students' attainment of these literacy goals would help them to cope with either general-purpose or technical language in order to achieve successful communication whatever the scenario – general purposes, work-bound, or academic (Bhatia, 2004). Some of the keywords in their studies, connected to the concept of literacy, are genre or rhetoric awareness, discourse community, discursive competence or communities of practice, to name just a few.

Critical literacy is, again, a related concept having to do with the critical processing of information, being it academic or other. Being able to detach personal interests from objective data language becomes crucial in discourse communities, such as the scientific one, and this

involves being aware of disciplinary language uses (Hyland, 2000), including genre preferences and hierarchies (Swales, 2004) and the disciplinary specific preferences regarding genre variation (Hyland, *ibid.*). Bhatia's notion of socio-critical competence refers to the individual's capability of altering linguistic conventions already established as part of the community generic knowledge, bending them for particular intentions and eventually fostering their development and evolution (Bhatia, 2001).

Within this landscape, reading has turned from being a "psycholinguistic guessing game" (Goodman, 1967) to getting integrated in "meaningful, situated cognitive practice" (Dovey, 2006) with an emphasis on purpose and task, which can be accomplished through different supports or channels (either written or electronic).

The development of multiple literacies among students is for Bhatia (2002) the main educational aim in the realm of specialised languages, with an emphasis again on context and specialised practice. Especially with adult EFL students engaging in either professional or academic specialised learning, reading is envisaged as part of multitask projects addressing the target practices or imitating them as simulation activities in an authentic wholistic fashion. A study by Curado Fuentes (2007), in line with this view, focuses on the reading processes – including strategies– and product within an ESP Engineering project whereby Spanish students had to make use of both printed and digital sources, including academic papers, to fulfil an academic project. Process and product data could be obtained as the task completion processes were recorded and compared by means of a university's interactive web-based system. The results show that "the medium in which the texts were read affects *what* and *how* linguistic items are used within the same topic [...]. Specialized content language is to be used for decoding purposes according to the topic." (*ibid.*: 36, the emphasis is mine). The study essentially shows how reading procedures and pace adapt to the task purpose and to the support used (i.e. printed or electronic). The digital medium seems to favour specially the use of text decoding techniques, and on the long run also favours overall linguistic and academic performance.

This and similar works support the call made by new rhetoricians and multi-literacy defenders to include all possible sorts of literacy into the EFL language classroom which means, among other things, students' making use of all possible sorts of reading tasks and styles in order to approach all possible a broad range of genres, discourse types and practices in relation to specific contexts.

III.3. Overt instruction

As the role of context and metacognition have been gradually emphasized, overt instruction becomes a must, especially if we think of formal language instruction and adult learners. Different works on EFL reading have also shown the benefits of overt teaching of both conceptual and procedural contents over reading comprehension.

There seems to be a positive influence of explicit instruction on the use of background schemata and related strategies, and research results also point to the likelihood that strategic behaviour is transferred or generalised across genres and text types and even across languages. This has specifically been proven in the case of strategies having to do with semantic mapping and recognition of text structure (Carrell, 1985; Carrell, Pharis &Liberto, 1989; Lahuerta 1994; Pappa, Zafiropoulou & Metallidou, 2003; Raymond, 1993) and generic identity (Fernández- Toledo, 2000). A more recent work by Tales Velásquez (2007) even shows the benefit of overtly applying a grammar-based model of analysis for specialised discourse (grammatical-lexical method) over the reading comprehension of this type of discourse in the FL.

L2 learners in the study of Carrell (1985) not only were able to recall the main ideas after overt training on the use rhetorical strategies, but also secondary ones. Raymond (1993) also checks that overt instruction on text rhetorical structure helps comprehension of a foreign language, in this case French. The results show the transference of reading strategies from L1 to L2, although Raymond, as many other authors, points to the complexity of measuring reading comprehension variables, such as rhetorical structure, thematic knowledge or readers' profile, arguing that "It is not the singular effect of a particular strategy, as for example the structural strategy, on second language reading, but the interaction of the strategy with text content, reader interest and background knowledge, and reader perceptions of text difficulty that requires investigation" (Raymond, 1993: 455).

More evidence on the benefit of overt instruction is provided in Lahuerta (1994) and Fernández-Toledo (2000), both conducting research with Spanish-speaking students of EFL. Lahuerta found that it is only when students are aware of the text structure and are able to instantiate it that comprehension is better. If they are not aware, even if they happen to instantiate it, the influence on reading comprehension is not so clear. In Fernández-Toledo (2000) the subjects also transferred strategic knowledge of genre conventions from the FL to their mother tongue. Apart from formal schemata, having to do with the text structuring, readers who apply genre-related strategies (overt recognition of genre type and conventions)

are also better at getting the texts macrostructures through summarising in their own mother tongue (following indications in Bernhardt 1991 on the use of spreadsheet templates to get the text macrostructure with the main idea units). They could also more readily recognize the texts' communicative generic purpose.

A similar work by Bimmel, Van der Bergh and Oostdam (2001) with Dutch students also showed the benefit of overt teaching of strategies, both in the L1 and the FL. Nevertheless, even though this benefit was shown for specific strategies (i.e. finding key information, detecting structural signals, asking questions on the content and use of semantic mapping), the authors did not get clear feedback over a possible transference of skills from the L1 to the FL, English in this case. Maghsudi and Talebi (2008) recommend, based on a recent survey carried out with bilingual students, that learners with a low-proficiency level are taught how to use reading strategies effectively, as showing the benefits of strategy use on its own does not result of much effect.

In order to check the usefulness of overt teaching of reading strategies in FL Reading comprehension, Taylor, Stevens and Asher (2006) applied a quantitative meta-analysis of 23 sample studies on ERST (Explicit Reading Strategy Training). This type of analysis based on experimental studies already carried out is very effective in cases where there are so many variables and so many factors involved. They provide data about the overall reliability and accuracy of certain variables used throughout the surveys. The main result of this meta-analysis reveals the positive effect of metacognitive training over ERST, even though the authors report a considerable heterogeneity across the studies. It is thus necessary to replicate this type of analysis in the future with a greater number of works and a greater control of variables.

Motivation and attitude among students seem to have a significant influence on reading comprehension, at least in part of the surveys included. Bimmel *et. al.* argue that “generally, it seems as though ERST in some way softens the learning curve of L2 readers. Perhaps the key is continual improving and honing of strategy use rather than simply teaching.” (*ibid.*: 239). They also claim for future studies about interest attrition and motivational factors in ERST, something Carrell and Wise (1998) had already done. Even before this, Carrell (1985) had already detected a positive attitude and motivational implication of L2 students towards the use of text-related strategies.

In spite of the fact that the work of Bimmel *et. al.* (*ibid.*) casts some light on the relative importance of certain variables, such as age, use of metacognition and of high quality

tests, or choice and use of texts, Taylor, Stevens and Asher (2006) recognize a need of more research in order to obtain a clearer picture of REFL reading comprehension and the effect of metacognitive training. One of their suggestions is the use of combined tests to provide more reliable data. Levinson and Reeves (1994) made a great attempt in this respect, but their work rather focused on cognition and the relative contribution of background knowledge to reading.

More recent research carried out by Wu and Hu (2007) and Gao (2008) complements these works with the use of different tools, and casts further and newer light on the role of motivation and individual factors. The former research makes use of factor analysis to detect the main factors influencing EFL reading comprehension among Chinese university students of EFL. It comes up again that motivation, together with text schema, vocabulary guessing and vocabulary noticing, are correlated with reading comprehension. The authors previously identified three main components related to EFL reading comprehension: “Schema”, “Vocabulary” and “Motivation and Purpose”. They coincide with Curado (2007) when stressing the motivational factor and suggest that teacher should explicitly link professional success with good reading performance for increasing students’ motivation, as well as provide strategy training on the use of vocabulary.

Gao’s research focuses on the role students’ perception of their own success plays in their learning, especially in FL reading comprehension. The study is based on attribution theory which considers motivational and attitudinal factors regarding learning as potentially determinants of learning success or failure. Some of the results show that different proficiency groups also have different attribution patterns. The researcher calls for a higher sensitivity towards individual differences and toward paying attention to related changes at different stages of learning.

Both works consider individual factors as a field to explore much further, as Taylor, Stevens and Asher (2006) claim. The introduction of ICT has made it even more necessary to conduct research on attitudinal changes as the development of the learning environment as a whole has promoted not only new types of supports, channels, discourses, genres and text types, but also new ways of engaging in the learning tasks and new procedures and attitudes towards them and towards learning in general.

III.4. Teaching, technology and REFL practice and research

Looking at it again from an Information and Knowledge Management angle, literacy would involve Information Literacy, i.e., subjects' adequate processing of information, whatever its origin or support.

Tuominen, Savolainen and Talja (2005: 339) relate this type of literacy to "sociotechnical practice", claiming that:

"It makes no sense to speak about literacies without considering the technologies that embody them [...]

Social practices structure technologies by giving form and meaning to them. Technologies, in turn, afford new ways of performing social practices and often restructure practices through these affordances."

Now, more than ever, the social aspect of learning and reading in particular is intensified by the presence of technologies as the medium, shaping information and language and making genres evolve into new ones. As seen in the previous section, ICTs are influencing not only reading processes, but also the way of measuring them through more sophisticated and reliable tools, such as those used by Taylor, Stevens and Asher (2006) and Wu and Hu (2007).

Kasper (2000) analyses the educational benefits of introducing the Internet in Content-based College ESL instruction. Some of them are:

- 1) It helps increase English Language Literacy (in meaningful learning contexts).
- 2) It encourages the development of critical literacy and academic research skills (increasing the ability to locate and evaluate information).
- 3) It promotes student-centred learning (providing information that meets students' own needs).
- 4) It fosters enhanced meta-cognition (by reflecting on the processes followed to carry out the different tasks).

Alfassi (2000) also shows how it is possible to improve writing and reading by fostering a community of learners that focuses on scientific inquiries utilizing computer technology.

CALL approaches have given way to more sophisticated, integrative ones, such as computer-supported collaborative learning (CSCL). One of the basic tenets of this approach is

that technology serves for group development providing the means for interactive, purposeful learning.

In parallel to this movement, more recent works focus on virtual learning environments for EAP-ESP learning. Many of them show a progression from a concern on the inclusion of IT as an element or tool to more sophisticated curriculum designs which integrate the digital component, not only as the means, but also as the end and the context (Carvalho, Martins & Cotter, 2006; Curado Fuentes 2007) in order to foster multiple literacies –specifically, computer or digital one – among students.

The study by Curado Fuentes (2007) described above shows how the electronic environment affects the way reading is accomplished. It seems that the hypertext medium favours a more dynamic reading style with greater use of skimming and scanning techniques in hypertext links and digital connections. It is specifically noteworthy that good performance was related to this fact. Curado stresses the “natural bonding to be found between academic literacy, technical competence and foreign language command in this scope of ESP case study (*ibid.*: 41)”. Thus, not only procedures change, but also the students’ own attitudes towards their own language learning, and probably their sense of being part of the discourse community.

IV- CONCLUSIONS

Reading is at present something necessary to master. Many manuals have been issued on the importance of knowing how to read, and getting the most of it. The ability to read in the mother tongue has been shown to be essential for citizens to grow in equity. The ability to read in English as a foreign language is necessary at present, in order to be part of the international community and get many types of information.

A broad sense of reading must involve a broad concept of literacy. And even though the mastery of reading means access to a world of culture, information, even work, you cannot force anyone unless they feel the need to do so (even if it is for pleasure).

Language pedagogies need to integrate the teaching of reading in new scenarios, with collaboration and technology as basic ingredients (Warschauer, 2001). As EFL teachers, we need to be aware of reading processes, what they are like, and how to make the most of this knowledge through different kinds of reading tasks. But we also need to help learners use this knowledge for other general learning needs, making them be aware of the benefits, so they

can eventually decide to continue making the most of it for their own needs and situations. Helping students identify the importance of the different ingredients taking part – topic knowledge, formal and rhetoric knowledge, L1 knowledge, vocabulary knowledge and management, motivation, individual attitudes..– will not lead them straight to making a good dish, but the probability of achieving it will be much higher.

REFERENCES

- Alfassi, M. (2000). Using information and communication technology (ICT) to foster literacy and facilitate discourse within the classroom. *Educational Media International* 37: 3, 137 – 148.
- Anderson, J.R. (1983). *The architecture of cognition*. Cambridge (Mass.): Harvard University Press.
- Bakhtin, M. (1981). *The dialogic imagination: Four essays*. Austin: University of Texas Press.
- Bawden, D. (2001). Information and digital literacies. A review of concepts. *Journal of Documentation*, 57, 218-259.
- Beaugrande, E. R. de. (1984). Reading skills for foreign languages: a processing approach. In A.K. Pugh & J.M. Ulijn (Eds.) *Reading for professional purposes*. London: Heinemann, pp. 4-26.
- Berger, P. L. & T. Luckmann (1967). *The social construction of reality: A treatise in the sociology of knowledge*. Garden City, NY: Anchor.
- Bernhardt, E., (1991). *Reading development in a second language. Theoretical, empirical and classroom perspectives*. Norwood (NJ): Ablex Publishing Corporation.
- Bhatia, V. K., (1993). *Analysing genre: Language use in professional settings*. London: Longman.
- Bhatia, V. K. (2001). *Integrating discursive competence, disciplinary culture, and professional practice in LSP*. Paper given at the 11th Spanish- Portuguese Conference on Languages for Specific Purposes. Jaime I University, Castellón, Spain, July.
- Bhatia, Vijay K. (2002). Applied genre analysis: A multiperspective model. *Ibérica* 4, 3-20.
- Bhatia, Vijay K. (2004): *Worlds of written discourse. A genre-based view*. London: Continuum.
- Carrell, P., (1984). The effects of rhetorical organization on ESL readers. *TESOL Quarterly*, 18, 441-469.
- Carrell, P., (1985). Facilitating ESL reading by teaching text structure. *TESOL Quarterly*, 19, 727-745.
- Carrell, P.L., J. Devine & Eskey, D. (Eds.) (1988). *Interactive approaches to second language reading*. Cambridge: C.U.P.

- Carrell, P., Carson, J. & Zhe, D. (1993). First and second language reading strategies: evidence from cloze. *Reading in a Foreign Language*, 10: 1, 953-65.
- Carrell, P., B. Pharis & Liberto, J.C. (1989). Metacognitive strategy training for ESL reading. *TESOL Quarterly*, 23, 647-678.
- Carrell, P. & T. Wise (1998). The relationship between prior knowledge and topic interest in second language reading. *Studies in Second language Acquisition*, 3, 285-309.
- Carvalho, A. S., Martins, H. F. & Cotter, M. J. (2006). *Supporting cognitive processes in ESP online learning: task and environment design*. Paper given at the 5th. AELFE Conference, Zaragoza, Spain, September.
- Chamot, A. U. & Kupper, L.(1989). Learning strategies in Foreign Language instruction. *Foreign Language Annals*, 22: 1, 13-24.
- Chen, Q. & Donin, J. (1997). Discourse processing of first and second language biology texts: effects of language proficiency and domain-specific knowledge. *The Modern Language Journal*, 81: 2, 209-227.
- Codina, V. & Usó, E. (2000) Influencia del conocimiento previo y del nivel de una segunda lengua en la comprensión escrita de textos académicos. In C. Muñoz (Ed.). *Segundas lenguas: adquisición en el aula*, Barcelona: Ariel, pp. 299-311.
- Cooper, M. (1989). Reading for meaning. *ELT Documents 107*, The British Council, 1-16.
- Curado Fuentes, A. (2007). Digital reading strategies in Computer English. *Revista Alicantina de Estudios Ingleses*, 20, 23-43.
- Dovey, T. (2006). What purposes, specifically? Re-thinking purposes and specificity in the context of the 'new vocationalism' *English for Specific Purposes*, 25: 4, 387-402.
- Eskey, D.E. & Grabe, W. (1988). Interactive models for L2 reading. In P. CARRELL, J. Devine & D. Eskey (Eds.), *Interactive approaches to second language reading*. Cambridge: C.U.P., pp. 223-238.
- Finkbeiner, C. (1998.) Are good readers also good strategists? The views of foreign language teachers. *Fremdsprachen Lehren und Lernen*, 27, 180-203.
- Freedman, A. & P. Medway (1994). Locating Genre Studies: Antecedents and Prospects. In A. Freedman & P. Medway (Eds.). *Genre and the new rhetoric*. London: Taylor & Francis, pp. 1-22.
- Gao, S. (2008). Research on the role of attribution in reading comprehension among Chinese EFL learners. *Sino-US English Teaching*, 5: 10, 30-34.
- Goodman, K. (1967). Reading: A psycholinguistic guess game. *Journal of the Reading Specialist*, 6, 126-135.
- Grabe, W. & Stoller, F. L. (2002). *Teaching and researching reading*. Harlow: Pearson.
- Haynes, M. & Baker, I. (1995). American and Chinese readers learning from lexical familiarization in English text. In T. Huckin, M. Haynes and J. Coady (Eds.). *Second Language reading and vocabulary learning*. Norwood (N.J.): Ablex Publishing Corporation, pp. 130-150.
- Hosenfeld, C. (1977). A preliminary investigation of the reading strategies of successful and unsuccessful Second language learners. *System*, 32: 1, 110-123.

- Hyland, K. (2000). *Disciplinary discourses. Social interactions in academic writing*. Harlow: Pearson Education.
- Johns, A. M. (ed.) (1997). *Text, role and context. Developing academic literacies*. Cambridge: C.U.P.
- Kasper, L. F. (2000). The Internet and Content- based College ESL instruction: Reading, writing and research. In L. Kasper, (Ed.). *Content- based College ESL Instruction*. Mahwah: Lawrence Earlbaum, 183-201.
- Kern, R.G. (1989). Second language reading strategy instruction: Its effects on comprehension and word inference ability. *The Modern Language Journal*, 73: 2, 135-149.
- Kitao, K., Yamamoto, M., Kitao, K. *et al.* (1990). Independent reading in English- Use of graded readers in the library English as a Second Language Corner. *Reading in a Foreign Language*, 6: 2, 383-398.
- Koda, K. (1994). Second language reading research: problems and possibilities. *Applied Linguistics*, 15, 1-28.
- Koda, K. (2007). Reading and language learning. *Language Learning*, 57: suppl. 1, 1-44.
- Laufer, B. (1989). A factor difficulty in vocabulary learning: deceptive transparency. *AILA Review*, 6, 10-20.
- Lee, J.F. (1986). On the use of recall task to measure L2 reading comprehension. *Studies on Second language Acquisition*, 8, 201-212.
- Levine, A. & Reves, T. (1994). The four- dimension model: Interaction of schemata in the process of reading comprehension. *TESL Canada Journal*, 71-84.
- MacWhinney, B., & Anderson, J. (1986). The acquisition of grammar. In I. Gopnik, & M.Gopnik (Eds.). *From models to modules*. Norwood, N.J.: Ablex.
- Maghsudi, M. & S.H. Talebi (2008). The impact of Linguality on on Cognitive and Metacognitive Reading Strategies Awareness. *Glossa*, 3: 2. At http://bibliotecavirtualut.suagm.edu/Glossa2/Journal/jun2008/Vol3num2_june2008.htm
- Marcum, J. W. (2002). Rethinking Information Literacy. *Library Quarterly*, 72: 1, 1–26.
- Martin, J. R. & Veel, R. (eds.) (1998). *Reading science. Critical and functional perspectives on discourses of science*. London/New York: Routledge.
- McLaughlin, B., Rossman, T., & McLeod, B. (1983). Second language learning: an information-processing perspective. *Language Learning*, 33, 135-158.
- Meyer, B.J.F. & Grice, E. (1982). The interaction of reader strategies and the organization of text. *Text*, 2: 155-192.
- Nassaji, H. (2007). A Need for alternative perspectives. *Language Learning*, 57: suppl. 1, 79-113.
- Pappa, E., Zafiropoulou, M. & Metallidou, P. (2003). Intervention on strategy use and on motivation of Greek pupils' reading comprehension in English classes. *Perceptual and Motor Skills*, 96, 773-786.
- Paltridge, B. (1995). Working with genre: A pragmatic perspective. *Journal of Pragmatics*, 24, 393-406.

- Pearson Casanave, C. (1988). Comprehension monitoring in ESL reading: A neglected essential. *TESOL Quarterly*, 22: 2, 283-302.
- Poggioli, L. (1991). Investigación en la lectura: antecedentes y tendencias actuales. In Puente, A. (Ed.), *Comprensión de la lectura y acción docente*. Madrid: Pirámide; Salamanca: Fundación Germán Sánchez Ruipérez, pp. 365-396.
- Pulido, D. (2007). The Relationship between text comprehension and second language incidental vocabulary acquisition: A matter of topic familiarity? *Language Learning*, 57: suppl. 1, 155-199.
- Raymond, C. (1993). The effects of structure strategy training on the recall of expository prose for university students reading French as a second language. *The Modern Language Journal*, 77: 4, 445-458.
- Ridgway, A. J. (1994). Reading theory and foreign language reading comprehension. *Reading in a Foreign Language*, 10: 2, 55-76.
- Salager-Meyer, F., (1991a). Reading expository prose at the post-secondary level. The influence of textual variables on L2 reading comprehension (a genre-based approach). *Reading in a Foreign Language*, 8, 645-662.
- Salager-Meyer, Françoise (1991b). *Medical English abstracts: How well are they structured?* *JASIS*, 42: 7, 528-531.
- Salataci, R. & Akyel, A. (2002). Possible effects of strategy Instruction on L1 and L2 reading. *Reading in a Foreign Language*, 14:1 (at <http://nflrc.hawaii.edu/rfl/april2002/salataci/salataci.html>)
- Sarig, G. (1987). High-level reading in the first and foreign language: Some comparative process data. In J. Devine, P. Carrell, & D. Eskey, (Eds.), *Research in reading in English as a second language*. Washington D.C.: TESOL, pp. 105-120.
- Smith, C. (1995). Differences in adults' reading practices and literacy proficiencies. *Reading Research Quarterly*, 31:2, 196-219.
- Stanovich, K.E. (1980). Toward an interactive-compensatory model of individual differences in the development of reading fluency. *Reading Research Quarterly*, 16: 1, 32-71.
- Stanovich, K.E. (1982). Word recognition skill and reading ability. In M. H.SINGER, (Ed.), *Competent reader, disabled reader: Research and application*. London: Lawrence Earlbaum Associates, pp. 81-102.
- Stanovich, K.E.. (1991). Word-recognition: changing perspectives. In K. Barr, M. Kamil and P. Mosenthal. (Eds.), *Handbook of reading research vol.II*, New York: Longman, pp. 418-452.
- Swales, J. M. (1990). *Genre Analysis. English in academic and research settings*. Cambridge: C.U.P.
- Swales, J.M. (2004). *Research genres. Explorations and Applications*. Cambridge: C.U.P.
- Tales Velásquez, N. (2007). *El efecto de la consciencia en el uso de un modelo gramático-léxico para la comprensión del discurso especializado en lengua inglesa*. Paper given at the 25th. AESLA Conference, University of Murcia, Spain, May.
- Taylor, A., Stevens, J.R. & William Asher, J. (2006). The effects of explicit reading strategy training on L2 reading comprehension. In J. M. Norris & L. Ortega (Eds.) *Synthesizing Research on Language Learning and Teaching*. Amsterdam: John Benjamins, pp. 213-245.

- The New London Group (1996). A Pedagogy of Multiliteracies: Designing Social Futures. *Harvard Educational Review*, 66: 1. At http://wwwstatic.kern.org/filer/blogWrite44ManilaWebsite/paul/articles/A_Pedagogy_of_Multiliteracies_Designing_Social_Futures.htm (last visited on 26th May 2009)
- Tuominen, K., Savolainen, J. & Talja, S. (2005). Information Literacy as Sociotechnical practice. *Library Quarterly*, 75: 3, 329–345.
- Ulijn, J.M. (1984). Reading for professional purposes: Psycholinguistic evidence in a cross-linguistic perspective. In A.K. Pugh, & J. M.Ulijn (Eds.), *Reading for professional purposes*. London: Heinemann, pp. 66-81.
- van der Linden, J. L. & Renshaw, P. (2004). *Dialogic learning: shifting perspectives to learning, instruction, and teaching*. Springer.
- van Dijk, T. & Kintsch, W. (1983). *Strategies of discourse comprehension*. New York: Academic Press.
- Vygotsky, L. (1978). *Mind in Society*. London: Harvard University Press.
- Wu, H. & Hu, P. (2007). Major factors influencing reading comprehension: A factor analysis approach. *Sino-US English Teaching*, 4: 9, 14-19.
- Warschauer, M. (2002). Networking into academic discourse. *Journal of English for Academic Purposes*, 1, 45-58.
- Wenden, A. (1998). Metacognitive knowledge and language learning. *Applied Linguistics*, 19: 4, 515-537.
- Widdowson, H. G. (1983). *Learning Purpose and Language Use*. Oxford: O. U. P.
- Xiaolong, L. (1988). Effects of contextual cues on inferring and remembering meanings of new words. *Applied Linguistics*, 9: 4, 402-413.

ACKNOWLEDGEMENTS This research was partially supported by Grant N° CDCHTA-M-976-09-06 from the University of The Andes Research Center.

¹ This can pose problems to FL learners, especially if the weight of linguistic components for a given message has a different distribution in the mother tongue and the foreign language.