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METACOGNITION AND FOREIGN LANGUAGE READING: FOSTERING AWARENESS OF LINGUISTIC FORM AND COGNITIVE PROCESS IN THE TEACHING OF LANGUAGE THROUGH TEXT

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The result of our teaching practice in Brazil during the 1980's led us to perceive the risk of not taking into consideration the peculiarities of the local context in the application of imported teaching methodologies. Contrary to what "natural approaches" predict, the teaching of reading of a foreign language in a non-immersion situation demands some kind of teacher intervention. The present paper aims to reflect on the notion of metacognition as a path for intervention and suggests that written material has great potential for fostering language awareness and learning within our particular situation.

1. INTRODUCTION

The application of imported theories, so prevalent in developing countries, always runs the risk of not taking into consideration the peculiarities of the local context. It should not be a surprise, therefore, that teaching proposals proven successful in certain situations are sometimes discovered to be inadequate in others (Carrell 1991). For instance, the tendency in language teaching during the past decade has been highly influenced by second language acquisition proposals which are, in general, linked to first language models. Researchers in developing countries have made great efforts to apply these theories, elaborated in immersion contexts, to their own non-immersion classroom practices.

The issues pointed out above may be illustrated by the influence that acquisition theories such as that of Krashen (1982) and reading theories such as that of Goodman (1967, 1970) have had on language teaching proposals generated by Brazilian researchers. We can say that the theoretical orientations underlying such proposals have much in common. All seem to stress the same major points: natural and 'authentic' input; student and reader centeredness; decentralization of the teacher's role; an emphasis on meaning, with language knowledge relegated to secondary status.

This orientation can be linked to the liberal educational approach (Rigg 1991) and many times is presented as *the* progressive option for language

teaching. It is our position, however, that radical and critical theories of education have already indicated problems within liberal proposals. Historically, the liberal humanistic tradition in education appears as a counter-reaction to the conservative model of pedagogy, in which the role of the learner is nullified (Dewey 1966). In educational terms this approach has the merit of recovering the role of human agency. However, as the radical literature well points out, liberal educators lack awareness of socio-structural constraints (Bowles and Gintis 1976, Bordieu 1977). Critical theoreticians also support this line of criticism. Authors such as Gramsci (1971), Giroux (1983), and Aronowitz and Giroux (1986), while stressing the importance of human agency, insist that such agency can only be meaningful within the context of socio-cultural constraints.

By discussing these broader educational trends, we aim to highlight their influence on reading theories. The conservative approach to text conceived reading as a decodification process in which meaning could be recovered through the adequate observance of linguistic constraints. Meaning was understood as crystalized in the text, and thus recuperable through the precise perception and identification of all textual elements (Gough 1972). The liberal proposal, while shifting focus to the agency of the reader, led to very extreme positions which failed to consider the importance and role of linguistic constraints on the interpretation of texts. The importance of such constraints became evident in the socio-ideological approach to language (Kress 1985), which made it clear that text interpretation was constrained by the social norms that underlie any language use. Kress suggests a parallel between social norms and the rules that structure language and its use. In an effort to apply the critical framework to classroom practice (Busnardo and Braga 1987) we have come to a similar conclusion: in the same way that it is not possible to conceive individual action outside the social structure, it is unproductive in the extreme to focus on meaning at the expense of form: linguistic knowledge is integral to meaning.

At the beginning of our teaching practice, in the early 1980's, we tried to convince our students that it was possible to interact with foreign language texts with very limited language skills. Through the application of pre-reading knowledge activities, during the beginning of the semester, we were able to convince them that reading was an active and exciting 'guessing game' (Goodman 1967). However, as the semester progressed, many students, especially the ones with poor linguistic knowledge, lost motivation. They frequently perceived it to be impossible to go from vague notions and understanding the 'gist' to precise comprehension without some guidance or language instruction. Due to our own theoretical blindness, we tended to label the students' reaction as a mere psychological barrier to the methodology. We now realize that the students were quite correct in their feelings regarding the shortcomings of the then pervasive approach to foreign language reading.

During the 1980's the teaching of foreign language reading in Brazil was highly influenced by a national project developed in conjunction with The British Council. Many interesting theoretical reflections and practical proposals, most of them published in the Brazilian journal *The ESPecialist*, resulted from this project of 'Inglês Instrumental' (Instrumental English). To be fair, one should point out

that most of these proposals presupposed an intermediate level of English. However, it was never made clear what the minimum linguistic threshold would be for the optimum application of the methodology. Furthermore, the usefulness of reading for the acquisition of language skills itself was never made an issue.

Unfortunately, as practice has shown us, the reader with poor language knowledge does not progress "naturally" in the direction of language proficiency through exposure to input alone. We believe that such a "natural" approach is inadequate in restricted language-contact environments, as is the case in nonimmersion classroom foreign language teaching. The peculiarities of the formal non-immersion situation demand some kind of teacher intervention in order to accelerate and advance the learning process. The present paper proposes that, for adult foreign language readers, the fostering of metacognitive and metalinguistic knowledge is a profitable framework for intervention.

To make our stance clear, we will initially delineate the theoretical trends that led to and influenced foreign language reading models in the 1980's. Secondly, we will reflect on the notion of metacognition, pointing out the limitation of the concept as applied to current theories of foreign language reading. Thirdly, we will indicate a model which we believe more suitable as the basis for the teaching of reading in a foreign language context. Finally, we will return to the importance of linguistic knowledge in the foreign language classroom, going on to suggest that written material has great potential for fostering language awareness and learning within a non-immersion context.

2. The neglect of linguistic knowledge in recent proposals of second/foreign language reading

The neglect of linguistic knowledge in recent proposals of second/foreign language reading can be attributed to several interacting factors. One central factor has to do with the rejection of structuralist teaching methodologies. The exclusive stress of such methodologies on linguistic form, i.e., grammar and vocabulary isolated from context, did not, in practice, prove to be a sufficient condition for efficient communication in the foreign language. Furthermore, the conservative approach to education and the behaviorist model of learning which underlay structuralist teaching soon came under fierce attack.

As a reaction to the *status quo* in foreign language teaching, the need for more learner-centered and meaning-centered approaches became evident. The stress on learner agency, central to liberal proposals, was reinforced by cognitive models such as the one proposed by Piaget (1929, 1951, 1954). Educators in general became more open to the idea that the learner was not a passive "empty vessel" to be filled with textual information (Freire 1970, 1976). Therefore, methodology which emphasized the learner's past experience and his active participation in the construction of knowledge attained great popularity among progressive teachers.

The classic 'top-down' reading models (Goodman 1967, Smith 1971) seem to be in line with this more general tendency in education, which may in general explain their dramatic impact on reading theories. The so-called 'psycholinguistic models' propose that reading is a selective process which involves a complex interaction between the reader's previous background knowledge and language. The importance of reader knowledge was also highlighted and supported by emergent schemata theory (Rumelhart and Ortony 1977, Adams and Collins 1979, Rumelhart 1980).

Although original schema-theoretic models of reading did not ignore the role of language in reading comprehension (Rumelhart 1977), their emphasis on previous background knowledge lent support to the more radical reader-centered proposals. Among these proposals, we could mention the Whole Language Movement¹. Originally, this movement was concerned basically with mothertongue reading, and could certainly afford to presuppose a proficient knowledge of the linguistic code, and thus concentrate on 'the construction of meaning'. However, mother-tongue proposals have gradually exerted more and more influence on second language classroom practice, which has tended to focus on meaning and learner knowledge and deemphasize the explicit teaching of the linguistic code. This tendency is also in line with the general tenets of the communicative language teaching approach and second language acquisition theories such as that of Krashen (1982).

Recently, second language theoreticians have begun to question the neglect of linguistic knowledge characteristic of many reading proposals. As far back as 1984, Alderson showed that researchers were divided as far as the importance of linguistic knowledge to second language reading is concerned. Since then, the relative importance of 'top-down' or 'bottom-up' processing has been a central issue for second language reading researchers. This division of opinion among scholars in the field may be illustrated by the pendular movement observable in the scientific output of prominent researchers such as Patricia Carrell and David Eskey. We believe that their work is illustrative of the different theoretical beliefs which have underlain the bottom-up/top-down polemic in the area.

The early work developed by Carrell (1983, 1984a, 1984b, 1984c, 1985) indicates a great stress on the role of major schemata, i.e., content knowledge, text structure knowledge, and knowledge of rhetorical organization, on second language reading comprehension. Initially, basic linguistic knowledge was taken for granted in the work of the author, who strove to highlight the previously

¹ The Whole Language Movement was influenced by and is currently defended by the followers of Goodman. Claiming for itself the status of the only remaining stronghold of liberalism in language education (Rigg 1991), it considers the explicit teaching of language form to be a "fragmentation" of language. This methodology is normally based on the utilization of literary texts in the classroom; each student is seen to "construct" his own meaning of the text through interaction -student-text interaction, student-student interaction, and student-text-teacher interaction. Rigg, long a defender of the Goodman miscue analysis technique as a basis for reading theory applicable also to second language reading, has advocated its use especially for immersion contexts in the teaching of literacy to minority groups in the United States. It is fair to point out that, although there have been many attempts to apply Goodman's ideas to non-mother-tongue reading in general, those directly linked to Goodman have not advocated this methodology for *foreign* language contexts.

ignored importance of top-down processing. Carrell's more recent reflections (1988), however, indicate that overreliance on knowledge-based processing could produce deleterious effects on comprehension, and, therefore, efficient reading should also be anchored in bottom-up processing.

David Eskey (1973) was one of the first to point out that even advanced learners of the English language were often unable to deal with written discourse on a global level. However, this same author was also among the first to warn, in 1986, that the top-down reaction to structuralism which subsequently ensued was ignoring the bottom-up processing which interactive schema-theoretic models (such as Rumelhart 1977, and Adams and Collins 1979) always presupposed. In an important theoretical contribution to the debate, Eskey (1988) advocates more "holding in the bottom" in second language reading, affirming that "good reading is a more language structured affair than the guessing-game metaphor seems to imply" (p. 94).

The two examples above illustrate how, even among those responsible for the development of second language reading theory in immersion contexts, a certain reconsideration of bottom-up processing has taken place. It is obvious to us that a true theory of foreign language reading has yet to be developed. In Brazil, theories emphasizing reading strategies and background knowledge characterized the 1980's and are still prevalent today (see, for example, Celani 1983, Kleiman and Terzi 1981). These theories represent a definite advance and have sharpened our understanding of the reading process in general. However, the deemphasis on the teaching of language, which has filtered down to secondary school teaching (Alves and Silveira 1991), has rendered the task of putting theory into practice even more arduous than it was ten years ago. Much is now known about the importance of top-down strategies to reading. Research has shown that strategies based on broader schemata may sometimes compensate for the lack of linguistic knowledge. However, as Stanovich (1980) pointed out long ago, compensatory reading strategies are often more characteristic of poor readers, who compensate for reduced verbal efficiency (Perfetti 1985) through such strategies. Good readers seem to process language more efficiently, and thus have more time for higher cognitive processes. We believe that what is now necessary to discuss is language acquisition for and through reading, agreeing with Eskey that this line has been sorely missing from theory. In order to teach foreign language for and through reading, especially in formal contexts, effective intervention theories and techniques are needed. Following a Vygotskyan line of reflection, we are seeking classroom procedures for intervention which foster both metacognitive and metalinguistic knowledge.

3. The notion of metacognition: its origin and application to reading

Although the term 'metacognition' (literally, cognition of cognition) is relatively new, the concept is not. It may be traced back to the theoretical interpretation, offered by Vygotsky (1962), of the fact observed in developmental studies that young children go through a phase in which they talk to themselves. Disagreeing with the Piagetian position, which explained this type of talk as a lack of socialized thinking, Vygotsky proposed that this 'egocentric speech'² emerges when a child transfers collaborative forms of behavior to inner-personal psychic functions.

In line with other Soviet psychologists -Luria and Leont'ev- the author advocated that, in order to explain the highly complex form of human consciousness, one must go beyond biological explanations. Higher psychological functions, characteristic of human beings, first appear at the socio (interpsychological) level, and only later at the individual (intra-psychological) level. In other words, initially, a child, unable to carry out actions on his/her own, is capable of doing so under the guidance of or in collaboration with a more capable peer. Later on, the collaborative forms of behavior, usually mediated by language, are transferred to the sphere of individual psychological functioning, giving origin to conscious plans of action. Therefore, whenever a child is in a demanding situation, where planning of action is necessary, the child uses overt forms of speech -characteristic of verbal interaction- to organize his/her action. This line of reasoning, adopted by Vygotsky to explain 'egocentric speech', implies two theoretical axioms that were later incorporated in studies and methodological proposals which dealt with the concept of metacognition: (a) that it is possible, at the inter-psychological level, to influence learning by guidance, i.e., by making explicit the structure of an action to a learner; (b) that it is possible for the individual to evaluate and control the use of his/her own cognitive resources, and thus consciously plan actions.

In the early 1970's, metacognition became an explicit topic of scholarly interest in psychology. John Flavell was one of the first researchers to use the term consistently (Flavell 1971). Since that time there has been an enormous amount of discussion and empirical research in the area, as well as a host of theoretical propositions relating metacognition to specific domains of inquiry. Ann Brown was one of the pioneers to use the concept and term in relation to reading (Brown and Smiley 1977, Brown 1980). The early work of the author was mainly concerned with the training of native-tongue readers in the use of written text for study. It highlighted two general classes of problems that influence effective studying: inefficient application of rules and strategies, and impoverished background knowledge (Brown et al. 1981, Brown and Day 1983, Brown et al. 1983, Brown et al. 1984, Brown et al. 1986). As Brown dealt solely with native

² It has been observed in developmental studies that young children go through a phase in which they talk to themselves. Piaget has labeled this talk 'egocentric speech' and explained it in terms of a lack of socialized thinking. The author conceives of egocentric speech as the link between autistic thought and logic-directed thought. Autistic thought is the original form of thought not adapted to external reality. Logic-directed thought is a conscious and social thought, which develops influenced by the laws of logical and proper experience and can be communicated through language. Egocentric speech indicates that the child thinks egocentrically, even when he/she is in society with others. Vygotsky predicts an inverse line of development and proposes that the egocentric speech is a transitional stage in the evolution from vocal to inner speech. It emerges when a child transfers social collaborative forms of behavior –i.e., the regulative aspects of speech – to inner psychic functions. Inner speech is more condensed than normal speech, obeys a different grammar principle, and no longer requires the overt form of a communicative context.

speakers, basic linguistic skills were naturally presumed. Consequently, most of her discussion concentrates on general reading strategies, i.e., on the fostering of awareness of text structure, use of previous background knowledge and knowledge about the nature of the task, as a path to comprehension monitoring. The notion of metacognition as basically linked to comprehension monitoring was incorporated into second language reading research.

In second language reading studies, it has become fashionable to discuss general reading strategies within a metacognitive framework. The research in the area seems to support some of the results found in mother tongue studies, i.e., good readers adopt and are aware of more global strategies, while poorer readers tend to focus more on the surface structure of the text (Carrell 1989, Barnett 1988). These results seem to imply that the focus on word and sentence-structure levels is the cause of unsuccessful reading. Consequently, to improve reading in a second language, many have advocated the explicit teaching of global strategies, which emphasize the importance of background knowledge, text structure, or text organizers such as cohesive elements, that is, reference and connectives (Carrell 1984c, 1985, Kern 1989). Basic linguistic competence, i.e., knowledge of vocabulary and grammar, tends not to be contemplated in the literature. At the most, researchers have considered as more 'local' strategies the analyses involving cognate recognition and word formation at the world level, and cohesive and logical relationships at the sentence level (Kern 1989). Few studies, such as that of San Martín (1988), explicitly include a linguistic threshold in their models of strategy use or, as in that of Horsella (1985), contribute to solutions through experiments which pose the problem of linguistic thresholds for schema instantiation. Two explanations may be offered for this phenomenon: first of all, most of the empirical research has dealt with readers at an intermediate stage of linguistic competence; secondly, implicit in most discussion is the belief in the ability of reading strategies to compensate for the lack of linguistic knowledge.

However, the reduced importance given to language itself led us to raise certain questions. First of all, the application of the empirical results to classroom practice tends to be difficult, due to the fact that, although the studies specify that they are not dealing with beginners, the nature of the linguistic threshold for strategy training is never made clear. It is also arguable that the so-called 'wordboundedness' of poor second/foreign language readers is not a consequence of their failure to transfer reading strategies from their mother tongue correctly, but a direct effect of a lack of the necessary language knowledge for rapid decodification.

The concern with readers at more advanced proficiency stages explains why the literature has not explored ways in which metacognitive strategies could assist beginners to effectively control and direct their natural tendency to focus on language in order to *learn* language through reading. Another point to be made is that the strong belief in the ability of broader reading strategies to compensate for language limitations contributed to the masking of the necessity of more sophisticated language instruction. Kern (1989), for example, in discussing the implications of his findings for further research, illustrates the bias of compensatory models when he affirms: by providing L2 readers with a set of specific strategies designed to help them process L2 text at the word, sentence and discourse levels, lower level processing skills may become automatized to a greater degree (i.e.,may require less conscious attention),... explicit instruction and practice in using reading strategies can override the effect of language proficiency limitation on reader's use of effective reading strategies (op. cit., p. 144).

Such proposals are certainly attractive to scholars and teachers who struggle to find a more productive way to solve language acquisition problems. However, the attempts to apply this orientation to readers with poor language skills reveal, we believe, an unrealistic faith in the power of general reading strategies.

In the beginning of the 1980's, as the work of Brazilian researchers in 'Inglês Instrumental' such as that of Souza (1983) well illustrates, there was much support for the teaching of reading to students of little linguistic knowledge. Reading was singled out as the only English language skill really necessary to Brazilian university students –an essential instrument for academic purposes. In an attempt to reach reading proficiency in a short time (two or three semesters) beginning students were trained to deal with authentic English-language texts using cognates, word formation knowledge, cohesive devices, typographic resources and recourse to previous background knowledge in the central process of lexical inference. Pre-reading activities to provide background knowledge were advocated, as well as skimming and scanning activities to recuperate 'textual gist', and assist in the discernment of main ideas and details.

Although the orthodox approach to 'Inglês Instrumental', described above, was productive in the sense of motivating students and leading them, under the guidance of the teacher, to interact with authentic material, the end-result for those of poor linguistic ability frequently was frustration: inability to read independently and little language acquisition. The compensatory models resulting from theoretical orientations prevalent in the 1980's ignored the complexity inherent in any reading task. Comprehension of written material is both a language problem and a reading problem.

In an adaptation of Braga (1991), we assume that reading involves different sub-processes, each being anchored in different types of background knowledge: apprehension of referential content; apprehension of linguistically-determined presuppositions and inferences; apprehension of unsaid propositions; and selective focus (see Table 1). Apprehension of referential content is anchored in the knowledge of vocabulary and grammar (at the sentence level), and cohesive elements (at the textual level). Apprehension of linguistically-determined presuppositions and inferences depends on the knowledge of semantic norms and rules of logic. Both sub-processes are thus directly linked to linguistic knowledge. Apprehension of unsaid propositions, i.e., propositions that the author assumes to be known by his intended audience, presupposes world knowledge on the part of the reader. The same is true for the reader's evaluation of the author's position. Selective focus -the attribution of more weight to certain propositions in the text- is determined by the reader's knowledge of social uses of literacy, which is reflected either in the reader's knowledge of text structure or of the nature of the social demands that underlie different reading tasks. These last two subprocesses are basically linked to reading knowledge. Table 1, below, summarizes

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13°47	Sub-processes	Type of knowledge required	Type of strategy suggested by orthodox models
(1)	apprehension of referential content	sentence level (vocabulary/grammar) text level (cohesive elements)	vocabulary (cognates, word formation) sentence/text level (reference, connectives)
(2)	apprehension of linguistically determined presuppositions and inferences	semantic norms and rules	arrests fut o <u>the linnie</u> strell (198 – 1994), son rockets i stell norsinim strees
(3)	apprehension of unsaid propositions	world knowledge	pre-reading activities lexical inference in context
(4)	selective focus	social uses of information (task structure/text structure)	text structure text gist (skimming, summary) text details (scanning)

Table 1 EXPLANATION OF SUB-PROCESSES BY ORTHODOX MODELS OF SECOND/FOREIGN LANGUAGE READING

these four different sub-processes and indicates how they have been explored by orthodox models of second/foreign language reading.

As Table 1 indicates, the orthodox models failed to consider all the complexity involved in reading. At level (1), for instance, little is said about grammar instruction, i.e., the teaching of semantic and syntactic constraints, and vocabulary building is limited to lexical inference from context. It is understandable that the models did not have much to say regarding level (2) as, it seems to us, it follows from level (1) and is easily transferable from mother tongue experience. However, at level (3), the fact that vocabulary knowledge is essential for the instantiation of broader schemata is inexplicably ignored. Considering level (4), the orthodox models failed to consider that in order to evaluate the relative weight of textual propositions –i.e., to discriminate between central and peripheral information– the reader must understand these propositions at levels (1) and (2).

The distinction made here between language knowledge versus reading knowledge is useful in the understanding of why the literature on mother-tongue reading was mainly concerned with the development of levels (3) and (4). As previously mentioned, it presupposed knowledge at levels (1) and (2). In fact, if we consider the miscue analysis research –which led to Goodman's 'psycholinguistic model of reading' – we observe that reader expectations revealed by the 'miscues' (subjects' errors when reading aloud) were due to syntactic and semantic predictions (level 1) on one hand, and world knowledge (level 3) on the other. However, when this model was utilized to explain second/foreign language reading processes, researchers expected readers to be able to make 'guesses' even with very poor resources at level (1) for prediction. Furthermore it was also

assumed that through the comprehension of text, level (1) elements would be naturally acquired. However, it is questionable if reading for meaning, so important in mother-tongue research, can lead to *basic* language acquisition. In fact, as has been pointed out by Sharwood-Smith (1986), the processing of language for comprehension and for basic acquisition may be understood as two different phenomena.

It seems to us that it is not tenable to conceive the teaching of reading in a non-native language without paying the necessary attention to the issue of language acquisition. Effective ways of acquiring level (1) knowledge, if important in second-language situations, is even more fundamental in foreign-language contexts due to the limited contact that readers have with target language input. Carrell (1989, 1991), considering the performance of foreign readers in both immersion and non-immersion contexts, speculates that, in foreign language contexts, top-down approaches to reading may not produce good results. One explanation that could be given for such results is that the foreign language situation is essentially an 'acquisition-poor environment' (Sorace 1985).

Given the importance of language knowledge to foreign-language reading, we would like to raise an issue that has been avoided since the structuralist approach, i.e., the relevance of metalinguistic knowledge for foreign language acquisition in general. If metacognitive tasks involve a conscious control over the structure of an action, considering reading within a metacognitive framework also implies considering metalinguistic knowledge, i.e., the conscious control over the structure of the language, which is constitutive of texts.

Sorace, discussing production in foreign language, points out that in foreign language learning –as opposed to second language learning– metalinguistic knowledge is essential. Contesting the position of Krashen and his followers, she affirms:

along with the progressive specialization of internalized knowledge, a significant development of procedural knowledge takes place... it is hard to justify the growing interaction between the subjects' metalinguistic knowledge and their productive use of the FL, if one is not prepared to admit that formal knowledge can be applied in production, or that it has at least a more central function than limited monitoring (op. cit., p. 252).

We believe that this position is also applicable to foreign language reception. Therefore, what is now needed is a model of *foreign*-language reading which incorporates both acquisition strategies and comprehension strategies. In order to elaborate such a model, a more profound reflection on the role of metalinguistic knowledge in the acquisition of language through reading is called for.

4. A metacognitive framework for foreign language reading: the role of analyzed knowledge in written language reception

The research on metacognition, when applied to reading, has given great emphasis to cognitive control. Since the initial reflections developed by Ann

Brown indicating how reading instruction could benefit from the exploration of the executive control procedures involved in reading, researchers have produced a series of empirical studies investigating the nature and the effect of procedures such as the use of background knowledge, the knowlegde of task and text structure, and the processes of comprehension monitoring. However, it should be noted that the more general term 'metacognition' initially referred to the conscious mental representation of knowledge (Flavell and Wellman 1977). In proposing a metacognitive framework for the acquisition of first and second language skills, Bialystok and Ryan (1985) bring together the two basic components of metacognition -analyzed knowledge and cognitive controlindicating how they could be useful in explaining the development of language proficiency across different language use domains: conversational use, literacy use and metalinguistic tasks. In the present study, discussion of the Bialystok/Ryan proposal will be restricted to its implications for reading and for the acquisition of language through written texts. We believe their framework offers valuable insights into the shortcomings of the orthodox models for foreign language reading, as it makes explicit the essential relationship between analyzed (metalinguistic) knowledge of language and language deployment or use.

In the framework proposed, the first skill considered is analyzed knowledge. The authors predict that knowledge of a language varies along the dimension or degree to which it is analyzed. Ordinary cognitive activities normally do not require analyzed knowledge. It is possible for a language user, for example, to understand the grammatical structure of his/her own native tongue without being "aware" of its rules. Whenever a linguistic norm is processed as a routine or pattern, it tends to be restricted to specific contexts of use and thus is difficult to apply in new contexts or for different purposes. In contrast, complex cognitive activities tend to require analyzed representation of knowledge. Analyzed knowledge may be used creatively, i.e., the awareness of form/meaning relationships allows the deliberate retrieval of a language structure permits linguistic knowledge to be used in different contexts³.

The second skill considered by the Bialystok/Ryan framework is control. Control processes are required to retrieve any knowledge whether analyzed or not. Cognitive control represents the executive function that is responsible for language deployment or use. It is a complex function which involves the monitoring of diverse cognitive sub-functions, i.e., the selection, coordination and integration of the required information, which must be performed within given time constraints. It is possible that the nature of the information to be processed may cause an overload on one of the sub-functions, thus affecting the

⁸ It is important to stress that Bialystok/Ryan, by making this distinction between analyzed and unanalyzed knowledge, are considering values along a dimension, rather than dichotomous categories. At the beginning of this continuum, for example, a language user can make judgements of acceptability, and at an extreme degree of analyzed knowledge he/she can verbalize the rules governing this form/ meaning relationship. general efficiency of processing. For instance, "if the relevant information is not obvious, then selection becomes difficult; if a variety of sources must be consulted, then coordination becomes difficult; if a number of processes are inter-dependently involved, then speed or fluency becomes difficult" (op. cit., p. 213).

In any use of language, control is responsible for coordinating linguistic aspects with each other and integrating them with context and world knowledge. In order to succeed, control must monitor attention in order to select the required information relevant for the task at hand. Deficits in control may be counter-balanced by strategic adjustments, that is, the language user may adjust the strategies being used in order to compensate for deficits in either control or analyzed knowledge. Compensation calls for the deliberate manipulation of task demands. All such adjustments presuppose cognitive flexibility, which allows the user to ignore salient attributes of the input in order to direct the attention elsewhere and consider the multiple cues for problem-solving purposes (op. cit., p. 214). As the authors point out, this concept is in line with the Piagetian notion of 'decentering'. An example of decentering is reflected in the child's early experiences with literacy. Initially, the child's experience with language is restricted to its communicative function and thus meaning appears as the most salient aspect of the linguistic input. In dealing with written language, a child may face language problems which demand decentering: an intentional focus on form in order to reach meaning. Cognitive control is also directly affected by the degree of automaticity with which knowledge can be retrieved. In the processing of language, if the retrieval of linguistic meaning is not fluent, as is the case for second/foreign language learners, the amount of control necessary for success is increased. Automaticity in the execution of basic operations leaves more cognitive space for higher level processing.

The above discussion presents a brief outline of the Bialystok/Ryan model for all language-use domains. Considering specifically reading in a second language, the authors predict that, if adequate control may be assumed, reading would only require the learner to establish adequate analyzed knowledge of the language structure. Furthermore, as mentioned, the lack of automaticity in second language reading may introduce problems in control and may revert the reader to an earlier stage of reading processing, in which reading is limited to attending to printed features and relating these to linguistic features in an attempt to interpret them. The language problem may be so overwhelming that decodification becomes the central focus of attention. Due to the very general nature of the Bialystok/Ryan framework -which attempts to cover all language modalities- the explicit suggestions regarding second language reading are limited. However, their model provides us with insights which allow us to re-evaluate the orthodox proposals of second/foreign language reading, and contemplate the role of metalinguistic knowledge in reading comprehension in general and language acquisition in particular.

In line with the Bialystock/Ryan framework, the orthodox models for second language reading also predict that it is possible to transfer abilities from the mother tongue to a second language. However, orthodox models take into

consideration neither the role of language automaticity nor the impact of analyzed knowledge on reading and language acquisition. They restrict their proposal basically to the natural transfer of broader control strategies anchored in context and world knowledge. In an attempt to facilitate this transfer, two procedures are adopted: either texts are supposedly selected to coincide with the world knowledge of intended readers, or pre-reading activities are designed to supplement and bring to the fore the knowledge required for the apprehension of text gist. As in first language research, these models advocate a decentering from a focus on language to a focus on meaning. They presuppose that a reader can grasp the meaning of a text at different levels of precision –i.e., from general gist to a more precise comprehension of details– and that the target language is naturally acquired in this process of 'reading for meaning'.

We would like to raise some questions concerning the general prediction made by these models. First of all, they consider control strategies to be easily transferable, a prediction also made in the Bialystok/Ryan proposal. However, in first language reading an advanced stage in language automaticity allows the reader to compensate for gaps in either control or language knowledge in order to meet task requirements. Therefore, in mother tongue reading situations the knowledge of the language makes conscious knowledge of control strategies unnecessary; in other words, being unaware of the processes of making sense of text, the native reader may find it extremely difficult to transfer such processes "naturally" to a second/foreign language situation. Furthermore, orthodox models also predict that general linguistic knowledge can be transferred to second/foreign language reading. But again, the knowledge of the mother tongue is automatic and, as Bialystok/Ryan predict, automatic knowledge cannot be easily transferred to new contexts of use. Moreover, the school-based knowledge of the mother tongue which readers bring to the second/foreign language learning situation -so far as our Brazilian experience indicates- is superficial and lacks the functional orientation which we believe essential to perceive the similarities and differences between two language systems.

Another question to be raised concerns the use of context and previous background knowledge as a short-cut to textual meaning. In fact, as Bialystok/ Ryan predict, if the context is evident or redundant, there is less need to extract meaning directly from language (op. cit., p. 212). Experimental results with prereading activities support this prediction. However, for our particular pedagogical situation, this top-down approach is not suitable. Given the central objective of the courses –to prepare students to read English texts for the purpose of studying– it is unrealistic to expect top-down strategies to furnish the abilities needed to deal with new concepts when reading texts unaided. Furthermore, it should be pointed out that, in addition to the problems just mentioned, there are serious theoretical drawbacks to be considered.

The axiom that context and world knowledge are able to compensate for the lack of linguistic proficiency overlooks the fact that in reading, context is linguistically constructed and background-knowledge schemata instantiation is highly dependent on language knowledge. A reader with poor linguistic knowledge can neither instantiate schemata nor check the hypotheses he/she builds while reading. Thus the basic reading processes proposed by many socalled psycholinguistic and schema-theoretic models are essentially blocked in initial stages of foreign language reading. As Bialystok/Ryan observe, there is a correlation between the amount of context given with a problem and the need for analyzed knowledge (op. cit., p. 212). In the foreign-language situation, context may not be clear to the reader due to his/her lack of linguistic knowledge. Thus language proficiency limitations "blur" the transparency of textual context, which, in turn, produces an increased dependency on analyzed knowledge as a route to meaning. It is precisely this focus on language which orthodox models tend to criticize most.

As previously mentioned, the orthodox models, following the general orientation of mother-tongue research, attempt to overcome the 'wordboundedness' of poor readers by resorting to strategies which decentralize attention from a focus on language to a focus on meaning. As a result of strategic training, meaning is brought to the foreground and language knowledge assumes a secondary importance. The natural consequence of such procedures is the retention of abstract semantic representations unlinked to the linguistic forms in which they appear in the superficial string of the text. This is certainly a normal and desirable procedure for mother-tongue reading, since there is little preoccupation with language acquisition in such contexts. However, the same is not true for foreign language reading, which demands more focus on language in order to trigger acquisition.

Our main point here, then, is the following: although the explicitation of control strategies would be an important part of any foreign-language reading model, the fostering of linguistic awareness must be seen as a fundamental component which is missing from most current models. As we have pointed out in the two initial sections of the present study, current models of second/foreign language reading reflect the influence of several theoretical positions which can be seen as reactions against structuralist methodology in language teaching. In fact, by concentrating on the drilling of sentence patterns out of context, neither the cognitive control nor the linguistic knowledge necessary for language acquisition and use was developed. Written text creates an ideal situation for the development of both control and analyzed knowledge within the foreign language context. We believe that the important task now at hand is to concentrate on the fostering of the metalinguistic knowledge necessary to complement the top-down orientation of many current models, and explore ways in which reading in the foreign language context can lead to language acquisition. While in oral communication the language user is under the pressure of time constraints, in written language, since the interlocutor is absent, the linguistic interchange is not under such pressure; this makes reading particularly interesting for language learning. The absence of time constraints allows the language learner to direct attention to linguistic form, coordinating linguistic analysis with a meaning goal. In text, as distinct from isolated sentences, there is always a meaning pressure; that is, language items are directly linked to general discourse constraints. At the discourse level, if the reader is brought into contact

with richer contextual information, the functional links between form/meaning are strengthened.

Through the analysis of linguistic knowledge with the students using exercises and 'training texts' –which may be written especially for this purpose– the nature of linguistic constraints is highlighted. Training texts may be useful in the reinforcement of a specific linguistic constraint. However, it is in situations of reading for meaning that it is possible for the learner to evaluate to what extent he/she has really begun to internalize the linguistic knowledge. Furthermore, by seeing the same constraint in different texts, the reader can also perceive how it can be affected by the interaction with other linguistic constraints, i.e., the extent of its variation in context. This is fundamental knowledge for the creative use of language.

Finally, we would like to end this discussion by indicating how we understand reading and analyzed knowledge as possible short-cuts to language automaticity. In foreign language contexts, where access to the target language is difficult, written material can provide an excellent source of input. In other words, since exposure to the language is fundamental, reading can be viewed as one of the main resources for acquisition in foreign language situations -a resource which allows the learner the freedom of practicing the language outside institutional contexts. The role of the institution, as we see it within a Vygotskyan framework, is to provide the learner with the necessary tools to perform the reading act. That is, in Vygotskyan terms, the teacher is seen as the 'expert peer' who must make the structure of the action explicit to the learner so that it is possible for the individual to evaluate and control the use of his/her own cognitive resources and thus consciously plan actions. In the case of reading, the teacher must lead the students to a metalinguistic awareness of the target language, thus enabling the students to gain conscious control over the structure of the language which is constitutive of texts.

The limitation of language teaching to control strategies creates a situation in which the reader lacks the necessary resources to solve inevitable linguistic problems; this creates an overload on the cognitive system which, in turn, hinders the efficiency of the control strategies themselves. Explicit work on language provides the reader with extra resources, which facilitate the processes of making predictions and checking hypotheses. In this way interaction with a text becomes more viable. But the main advantage of the incorporation of metalinguistic knowledge into foreign language reading frameworks is that whenever the analyzed knowledge of the language is used as a way of solving linguistic problems in context during reading, conscious attention to form is given -in other words, linguistic form becomes salient. Accepting the experimental results provided by studies on memory, we believe that salience facilitates acquisition, i.e., more salient information is more easily internalized and later on recognized and retrieved. It is thus possible to speculate that analyzed knowledge may contribute to the development of language automaticity, which, as Bialystok/Ryan predict, is fundamental for efficient language processing.

5. The development of metalinguistic awareness for the teaching of language through text

In this section we would like to discuss some of the possibilities of developing metalinguistic awareness in classroom situations. In the short space here available, it will only be possible to relate selected examples of practice used to achieve this end, and offer suggestions for further research. It is important to emphasize that such metalinguistic training is only one of the two basic components of the framework proposed; control strategies complement, and also are dependent upon, this metalinguistic knowledge in the interactive approach we are seeking to formulate.

We believe that metalinguistic knowledge of a foreign language can benefit immensely from an awareness of what is done in one's own mother tongue, and from an emphasis on consciousness-raising at various levels of linguistic processing, from concept formation to the linguistic components of reading strategies⁴.

In our ealier work during the 1980's we strove to build the self-confidence of our students by leading them to believe that reading in a foreign language was not as awesome an undertaking as they thought. Classroom procedures were essentially aimed at facilitating the student's interaction with the text, thus masking the complexity of the reading act. Re-evaluating this position, we now perceive the tremendous burden placed on the shoulders of the students, and the resulting damage to the self-confidence of those who realized that they were unable to accomplish on their own tasks that were easily carried out in the classroom situation. Our present position is just the reverse: we believe that it is important to make the complexity of the reading act clear to the students from the beginning of the course and explore with them ways of dealing with it.

In order to make the complexity of reading in a foreign language clear to the students, we have found the development of exercises in 'task awareness' useful. For instance, one of these exercises makes use of specially written texts which consist almost entirely of cognates (El-Dash and Busnardo 1993a). Preliminary work on the word level is meant to verify the ability of the students to deal with cognates. However, while reading the text, the students with poor linguistic knowledge are brought to realize that their reading problems are not limited to vocabulary alone. In this way they are made aware of the importance of syntax in reading use of both Latin and Germanic based words. In this way students are led to perceive the so-called 'dual origin' of the English language (El-Dash and Busnardo 1993b) and its implication for the task at hand. First of all, the students

⁴ Work along this line is being developed by a group of researchers engaged in the investigation of the linguistic aspects involved in foreign language reading at the Universidade Estadual de Campinas, São Paulo, Brazil. At the current stage the research involves the development of specific theoretical reflections, classroom procedures and selection/creation of specific materials for implementing theory in practice. Much of this work is still in mimeo form, as it is being collected for a more extensive future publication.

perceive that they have a resource for reaching meaning, which are the Latinate words similar to Portuguese. Secondly, they notice that, as far as vocabulary is concerned, they also have a problem, which is the learning of non-cognate words. They are also made aware that it is possible to infer unknown words with the aid of the transparent, Latinate cognates. This exercise has a dual purpose: as in the traditional models, it is meant to show the students that certain types of lexical inference can be triggered by cognates; on the other hand, it aims to show situations in which such inferences are not possible and why.

As far as language awareness is concerned, one of the major problems of learners is to perceive the conventional nature of the linguistic representation. In mother-tongue acquisition, concepts are normally acquired through language use (Vygotsky 1962, 1978); it is therefore difficult for the learner to separate form and meaning, and even more difficult to grasp that different cultures may represent different semantic frameworks through language, i.e., different conventional ways of understanding and representing reality. Such awareness is fundamental to the perception of problems that may arise in the foreign-language learning process when two different semantic frameworks are compared.

Visual resources can be a useful pedagogical tool to demonstrate, in a very concrete way, the nature of concept formation (El-Dash 1988a, 1988b). For instance, the development of artificial concepts through the use of geometric visuals helps students to become conscious of their own process of concept formation, i.e., how they are able to abstract the critical traits of the geometric figures presented to them and synthesize them into a concept, and then reanalyze them to form a "translation". This exercise is also useful for highlighting the fact that linguistic terms encompass very specific semantic features and are thus subject to semantic constraints. This consciousness-raising at the word level aims to offer some resources for the learner to deal with foreign concepts that do not have a representation in his/her own native tongue. However, experience shows that this problem becomes more evident to the learner when he/she has to face real situations of reading. In such situations, when a misinterpretation occurs, contrastive analysis between native and target languages is certainly necessary to bring into focus the source of difficulty that the reader is facing to reach the intended meaning in the foreign language. It seems that the differences between languages tend to be particularly complex for the learner in a situation in which literal translations are apparently possible but do not correspond to the target language meaning. Such is the case of the 'present perfect tense' in English for speakers of Portuguese. The apparently possible Portuguese translation 'ter feito' does not encompass the meaning of a 'present result of a past action' implicit in the present perfect tense. Exercises have been conducted to bring students to a mother tongue awareness of the usage and function of the Portuguese verb tense in order to allow semantic comparisons with the target language. Eventually, students are given texts in English in which the present perfect appears. Questions specifically elaborated to explore the function of the target verb tense verify in a real situation of use to what extent the reader has perceived the functional differences. Misunderstandings are explored to illustrate why the literal translation is not adequate (El-Dash and Busnardo 1993c).

In promoting language awareness it was also found productive to lead learners to work out for themselves the differences between language norms. An exercise elaborated in this line focused on nominal phrases, which tend to be difficult for Portuguese native speakers to process due to the fact that in English the nucleus is at the end of the nominal phrase, whereas in Portuguese it is generally the initial element. Students are asked to read a newspaper article in Portuguese in which very complex nominal phrases are found. Following the reading, they receive a list with the translation of all the nominal phrases and are asked to verify in which way the norms in the two languages differ. They are then required to check the explanatory power of their own rules through the reading of texts in English.

Some of the examples given above stress the usefulness of awareness of the mother tongue as a base for metalinguistic analyses and perception of differences between languages. However, it is important to stress that the main advantage of mother tongue awareness is to allow general linguistic knowledge to be effectively transferred to foreign language reading. As mentioned earlier, the main problem faced by a reader in transferring his linguistic intuitions from mother tongue to the target language is that being an intuition it is unanalyzed and thus difficult to transfer to new contexts of use. Another type of exercise we have given to the students aims at making them aware of all the clues they use to extract meaning from text. For this purpose we have used a humorous short story in Portuguese in which the author, playing with language, uses some Portuguese words with nonconventional meanings. Students are asked to identify all the words used in a nonconventional way and to indicate their meaning in context. The students have no problem in doing this part of the exercise. However, the same is not true when they are asked to explain how they inferred the meaning of each word. In attempting to explain to themselves how they guided their own inferencing process, they write a list of clues which tend to reflect not just knowledge of the topic and graphic conventions, but also knowledge of semantic and syntactic constraints. With this procedure, they become aware of the role that language plays in the expectations created while reading. Their own intuitions are then tested in the process of recovering the meaning -in Portuguese- of words deleted from an English text. Later on, they repeat the same exercise in interaction with an authentic English text (Braga 1992, El-Dash 1987). It is interesting to point out that when the students consider the linguistic intuitions born of the interaction with text, they generally tend to adopt a functional orientation, a type of orientation that seems to be lacking in their school-based knowledge of Portuguese. They also begin to understand and appreciate the usefulness of a metalanguage in dealing with linguistic analysis.

The above discussion illustrates just some of the classroom procedures we are testing that aim at the fostering of awareness of cognitive processes and metalinguistic knowledge. It is obvious to us, however, that the achievement of language proficiency requires other types of procedures as well. The grave problem of vocabulary learning and its central role in reading and language acquisition, for example, has just begun to be investigated (Scaramucci 1992, 1993). Beyond the orthodox methodology of inference in context, we have

worked with semantic fields, and are seeking new ideas for systematization. Having affirmed this, we would like to stress our position that awareness training in general, and metalinguistic awareness in particular, should be a basic part of any foreign language reading model, one that should receive more attention than it has previously merited.

In conclusion, we would like to make some suggestions for further research in the area. One of the central problems to be investigated is the nature of vocabulary learning for and through reading. The possibility of the existence of a core vocabulary for expository prose would seem to be a fruitful line of research, as would the role of the interaction of vocabulary/syntax in reading comprehension. In our particular case, more serious contrastive studies of English and Portuguese on various levels –grammatical, semantic and textual– are sorely needed. In the same way, research on proficiency and threshold levels for various stages of reading are important. For those who wish to create their own materials, more investigation is necessary in relation to the problems involved in writing "training texts"; furthermore, the concept of simplification in general must be better theorized.

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