Trends in the Conceptualizations of
Second Language Composing Strategies: A Critical Analysis

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ABSTRACT

This paper presents a review of ernpirical studies on second language (L2) composing strategies frorn the perspective of the conceptualizations that guide research in the field. The study of strategies is first contextualized in psychology, in the study of L2 acquisition and in the L2 writing process-oriented research. It is then suggested that definitions of strategies fall into two rnain groups, referred to in the paper as the broad and narrow conceptualizations, respectively. After reviewing and critically assessing the ernpirical studies carried out within these two paradigrns, it is concluded that if research in the field airns at contributing to theory building, it seems advisable to engage in more theoretically-grounded and rnethodologically-principled enquiry into cornposing strategies. Sorne suggestions for a future research agenda are advanced.

KEYWORDS: decision rnaking; heuristics; instruction; mental rnodel; problern solving; strategy; writing behaviors; writing processes.

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I. THE STUDY OF L2 COMPOSING STRATEGIES: AN OVERVIEW

The concept of strategy is central in the fields of learning and educational psychology. In these psychological realms a focus on strategies must be seen as an attempt to understand how people tackle different learning/performance tasks as well as why, and how such behavior can be modified through instruction in order to optimize performance (Jones, Palinscar, Ogle & Carr, 1987a; Nisbet & Schucksmith, 1991; Schmeck, 1988; Weinstein, Goetz & Alexander, 1988). The consensus view among cognitive psychologists is that strategies are deliberate actions or sets of procedures that learners select, implement and control to achieve desired goals and objectives in the completion of leaming or performance tasks. Among the "tasks" that cognitive psychologists have paid attention to are reading and writing in one's native language (L1).

Regarding writing, the study of strategies is part of a wider research movement known as "process writing", which emerged with the aim of gaining insight into the mental processes writers engage in while composing. This involved both theoretical and applied concems. The cognitively-oriented trend within the process tradition views composition writing as a goal-oriented, cognitively-demanding, problem-solving task (Bereiter & Scardamalia, 1987; Flower & Hayes, 1980, 1981a, 1981b; Hayes, 1996; Hayes & Flower, 1980; Scardamalia & Bereiter, 1987; Torrance & Jeffery, 1999). Following this characterization, writing strategies correspond to those actions and procedures employed by the writer to (i) control the on-line management of goals; (ii) compensate for the limited capacity of human beings' cognitive resources; and, generally, (iii) overcome the problems writers pose to themselves.

Research and pedagogic interest in strategies have also characterized the field of second language acquisition (SLA), the second strand of research where the study of writing strategies must be embedded. An enquiry into strategies becomes an issue when the main item on the research agenda is to gain insight into the black box of SLA, i.e. how second and foreign language (L2) learners go about the two basic tasks they face: acquiring knowledge about the L2 and developing the ability to put acquired knowledge to use when producing and interpreting oral and written messages (cf. Chamot, 2001; Chamot & O'Malley, 1994; Cohen, 1998; McDonough, 1995, 1999; O'Malley & Chamot, 1990; Oxford, 1990; Wenden & Rubin, 1987; Willing, 1989). As regards writing, and following trends in the L1 cognitively-oriented writing research mentioned above, scholars have endeavoured, first, to describe the actions L2 writers engage in while they generate, express and refine their ideas, and, second, to discover the writer-internal and writer-external variables influencing their composing behavior. This scientific enquiry has produced an enormous and valuable body of knowledge on the criterial aspects of L2 composing (reviewed in Cumming, 1998, this volume; Krapels, 1990; Krings, 1994; Leki, 1996; Silva. 1993, 1997), while the insights gained have also informed L2 writing pedagogy (for a review, see Grabe & Kaplan, 1996; Johns, 1990; for notable attempts to translate research findings into specific recommendations for classroom procedures, see Amdt & White, 1991; Raimes, 1996).

A major focus of research within this process-oriented trend has been the study of the strategies L2 writers use (for two recent reviews, see Manchón, 1997; McDonough, 1999). This enquiry has brought into view how L2 writers approach the problem-solving task entailed by composing in a non-native language. The general picture that seems to emerge from this research is that L2 writers (both successful and less successful ones) implement a wide range of general and specific strategic actions (i) to control and complete writing tasks (Akyel, 1994; Bosher, 1998; Cohen & Brooks-Carson, 2001; Cumming, 1989; Gaskill, 1986; Hatasa & Soeda, 2000; Hirose & Sasaki, 1994; Jones & Tetroe, 1987; Kobayashi & Rinnert, 1992; Lay, 1982, 1988; Manchón, Roca & Murphy, 2000a; Porte, 1995, 1996, 1997; Qi, 1998; Raimes, 1987; Roca, 1996; Roca, Murphy & Manchón, 1999; Sasaki, 2000; Sasaki & Hirose, 1996; Sengupta, 2000; Smith, 1994; Uzawa & Cumming, 1989; Victori, 1995, 1997, 1999; Whalen, 1993; Whalen & Ménard, 1995; Zimmermann, 2000); and (ii) to meet the imposed or perceived demands of the social context in which they write and learn to write (Leki, 1995; Spack, 1997). It is also an outcome of this research that (i) strategy use is dependent on both learner-internal and learner-external variables (Bosher, 1998; Cumming, 1989; Hatasa & Soeda, 2000; Hirose & Sasaki, 1994; Jones & Tetroe, 1987; Kasper, 1997; Manchón et al., 2000a; Pennington & So, 1993; Porte, 1996, 1997; Raimes, 1987; Roca et al., 1999; Sasaki, 2000; Sasaki & Hirose, 1996; Skibniewski, 1988; Smith, 1994; Victori, 1999; Zamel, 1983; Whalen, 1993; Whalen & Ménard, 1995); (ii) (under certain circumstances) writers are able to transfer their L1 strategic repertoires (Amdt, 1987; Cumming, 1989; Cumming, Rebuffot & Ledwell, 1989; Hatasa & Soeda, 2000; Hirose & Sasaki, 1994; Jones & Tetroe, 1987; Pennington & So, 1993; Smith, 1994; Whalen, 1993 Whalen & Ménard, 1995); and (iii) (part of) a writer's strategic repertoire, at least in the short term, can be modified through instruction and training (Sasaki, 2000; Sengupta, 2000).

These research findings have greatly contributed to advancing our understanding of both the distinct nature of L2 composing and the interplay between writer-intemal and writer-external factors in the decisions writers take and the actions they engage in while composing. From a wider angle. these findings have helped us to gain further insight into more general issues such as (i) the similarities and differences between writing in one's native and second/foreign language; (ii) the long-standing enquiry into the nature of the phenomenon of transfer of knowledge and skills in language-in-contact situations; and (iii) the debate in the field of SLA as to whether or not strategy instruction makes a difference.

A different question is whether this rich body of data allows us to make strong inferences for theory building, especially regarding the role played by strategies in the testable model of L2 writing that should eventually be built. Such extrapolation in terms of model building would depend on our having a comprehensive and well-specified theoretical framework of composing strategies guiding research in the field, a framework in which strategies are clearly differentiated from other writing phenomena. This does not seem to be the case given that as research on L2 writing strategies has expanded, so have the conceptualizations of composing strategies scholars

adhere to. The recognition of this fact led me (Manchón,1997:95) to conclude that "the term strategy, in its application to L2 writing, has become inoperative due to its generality. Strategies have been equated with processes, methods, actions and means implemented/used both to approach and complete writing tasks. In other words, virtually any observed writing behavior has been considered a strategy".

In this state of affairs, a critical reassessment of research to date seems to be in order. As a first step in this direction, in this paper I offer a systematization and a critical analysis of the assumptions driving conceptualizations of L2 composing strategies. The analysis is based on a number of empirical studies which, according to the authors themselves (either in the titles of their papers or in claims made throughout the text), delve into composing strategies. This critical evaluation of the foundations of existing research will lead me to suggest a number of implications for future studies in the field.

II. TRENDS IN THE CONCEPTUALIZATIONS OF COMPOSING STRATEGIES GUIDING EMPIRICAL RESEARCH

Researchers have conceptualized L2 cornposing strategies in either a *broad* or a *narrow* sense. In the first case, strategies have explicitly or implicitly been equated with how L2 writers go about composing, i.e. with any action applied to the act of writing. In contrast, the narrow conceptualization applies to studies where strategies are distinguished from other writing phenomena (such as macro-writing processes or aspects of the task attended to), the term being reserved for specific actions the writer engages in while composing, which range from control mechanisms of one's writing behavior, to problem-solving devices. A further difference between the broad and the narrow conceptualizations is that only the latter is clearly embedded in a specific theoretical frarnework (the problem-solving paradigm in cognitive psychology) as we shall see in a later section.

These two conceptualizations inform studies which vary in terms of the generality or specificity of the research aims pursued, and whether or not the research design includes different independent variables whose effect on qualitative and quantitative use of strategies is measured. From the first perspective, it is possible to group these investigations into different categories according to whether they present a global picture of L2 writers' strategic repertoires (see Section III below) or they focus on specific strategies, such as use of the L1 (Akyel, 1994; Cohen & Brooks-Carson, 2001; Kobayashi & Rinnert, 1992; Lay, 1982, 1988; Qi, 1998), backtracking (Manchon et al. 2000a, 2000b) or restructuring (Roca et al., 1999).

Concerning the interplay of variables, some investigations describe in more or less detail the participants' qualitative and quantitative use of strategies in L2 (and L1) writing (cf. Raimes, 1987; Whalen, 1993), whereas others delve into the influence that certain variables pertaining

to the writer and to the task at hand exert on the writer's strategic performance (cf. Cumming, 1989; Hatasa & Soeda, 2000; Hirose & Sasaki, 1994; Manchón et al., 2000a; Porte, 1995, 1996; Raimes, 1985; Roca et al., 1999; Sasaki, 2000; Sasaki & Hirose, 1994; Sengupta, 2000; Victori, 1995, 1997; Whalen, 1993; Whalen & Ménard, 1995). In most studies an effort is made to correlate strategy use with characteristics of the written text produced.

In terms of research design, these empirical studies have made use of direct/indirect and simultaneous/successive elicitation procedures (Janssen, van Waes & van den Bergh, 1996; Manchón, 1999) commonly employed in process-oriented writing research. The participants were mainly young adults in academic settings, including both second and foreign language acquisitional contexts. The tasks participants were asked to perform were for the most part within the range of those that involve "composing" (Grabe & Kaplan, 1996), a methodological issue that casts doubt on the possible generalizability of findings.

III. THE BROAD CHARACTERIZATION OF COMPOSING STRATEGIES

Two trends can be distinguished in the research guided by a broad conceptualization of strategies. On the one hand, a number of scholars have aimed at providing holistic descriptions of L2 writers' composing behavior (such behavior being equated with strategies), either (i) globally, when planning, formulating and revising their texts (cf. Hatasa & Soeda, 2000; Hirose & Sasaki, 1994; Khaldieh, 2000; Raimes, 1987; Sasaki, 2000; Sasaki & Hirose, 1996; Smith, 1994; Victori, 1995,1997; Whalen, 1993; Whalen & Ménard, 1995; Zamel, 1983); or (ii) with reference to just one macro-writing process, be it planning (Akyel, 1994; Jones & Tetroe, 1987), formulation (Roca, 1996) or revision (Gaskill, 1986; Hall, 1990; Porte, 1995, 1996, 1997; Sengupta, 2000). On the other hand, bearing in mind that the act of composing "necessarily entails discourse interactions within a socio-cultural context" (Cumming, 1998:61), some of the strategies reported in the literature (Leki, 1995, Spack, 1997) correspond to actions employed by L2 writers to respond to the demands encountered in the discourse community where they write and learn to write.

III.1. Composing Strategies Equated with Any Action Applied to the Act of Writing

All the empirical investigations to be reviewed in this section explicitly or implicitly spring from a conceptualization of strategies where these are equated with any action applied to the act of writing. Some representative definitions of this trend are those by Whalen —"a process or operation applied to the task of writing" (1993:607)— or, more recently, by Khaldieh —"techniques and procedures used to perform the writing task" (2000:522). Accordingly, these investigations, as can be seen in Figure 1[1], have produced a catalogue of strategies which can be categorized at different levels of generality.

Raimes, 1987	Victori, 1997
I Planning strueture or slrategy II. Rehearsing III. Reseanning IV. Reading the assigned topic V. Revising	I. Planning slrategies: (i) Planning overall content and ideas (ii) Planning procedures (iii) Planning organizalion. (iv) Planning linguistie text. II Monitoring sirategies: (i) Task-monitoring strategies (ii) Self-monitoring strategies
Whalen, 1993 I. Monitor II. Idea generation III. Memory probe IV.Transcription V. Translation VI. Planning VII. Evaluation VIII. Revision IX. Other (metastrategies. temporal constraints, material constraints, strategy jumpstarts)	III. Evaluating strategies: (i) Evaluaiing strategies (ii) Reviewing strategies (iii) Revising strategies (iv) Editing stralegies IV. Resourcing strategies: V. Repeating stralegies VI. Keduciion strategies VII Use of the LI
Hirose **and Sasaki**, 1994 I. Planning: (i) Planning content (ii) Planning organization II. Writing: (i) Use of the LI (ii) Pausing (iii) Paying attention to overall organization. (iv) Paying attention to grammar, spelling, content and vocabulary choice. III. Revising: (i) Rereading (ii) Revising	**Sasaki, 2000** I. Planning: (i) Global planning (ii) Thematic planning (iii) Local planning (iv) Organizing (v) Conclusion planning II. Retrieving: (i) Plan retrieving (ii) Information retrieving III. Generating ideas: (i) Naturally generated (ii) Description generated IV. Verbalizing: (i) Verbalizing a proposiiion (ii) Rhetorical relining (iii) Meclianical refining (iv) Sense of readers V. Translating VI Rereading VII. Evaluating: (i) L2 proficiency evaluaiion (ii) Local text evaluation (iii) General text evaluation VIII. Others: (i) Kesting (ii) Questioning (iii) Impossible to categorize.

Figure 1: Taxonomies of L2 writing strategies guided by the broad conceptualization.

At the more general level, some of the phenomena identified as strategies actually refer to what others would call macro writing processes, i.e. planning, formulation —or transcription— and revision. In contrast, other taxonomic approaches organize strategies in subgroups, some of which correspond to macro writing processes. The strategies listed in each group include (i) specific actions engaged in while planning (e.g. organizing), formulating (e.g. rehearsing, pausing or translating) or revising (e.g. rereading, evaluating or editing); and (ii) goals set for a given macro-process or aspects of the task attended to, especially in reference to planning (e.g. planning contentl organization/ linguistic textlprocedures, global planning, local planning, conclusion planning) and formulation (e.g. paying attention to overall organization or to linguistic matters).

Apart from macro-writing processes, other general categories organize these taxonomies in part or totally. Thus, the tripartite distinction among metacognitive strategies (planning, monitoring and evaluation) guides part of Victori's (1997) classification. The categories of "monitoring" and "evaluation" are also present in other classifications (Hatasa & Soeda, 2000; Sasaki, 2000; Whalen, 1993). Similarly, Khaldieh (2000) makes use of part of a well known taxonomic approach in the SLA field (Oxford, 1990), and distinguishes between metacognitive, cognitive, compensatory, social and affective composing strategies.

Given the all-encompassing characterization of strategies that guide this research, the classifications necessarily also include, in an almost list-like fashion, a whole array of writers' behaviors identified in the data: reading the assigned topic, resourcing strategies, repeating strategies, reduction strategies, use of the L1 or rehearsing. This is understandable up to a point, but perhaps one could question whether it is legitimate to go as far as equating some of the participants' verbalizations or comments with strategies (for instance, considering that resting or expressing frustrationínegative attitudes are strategies) or accepting that act of writing itself is a strategy (when writing is the only non-optional activity the writer must engage in while coniposing). It is important to remember at this point that a basic research tenet is that constructs and variables have to be operationally defined. Establishing analytical categories and ensuring reliability in the data analysis is necessary but not sufficient. In addition, a whole array of strict methodological decisions (ideally framed in a given theoretical paradigm) must guide both the drawing up of the coding scheme and its actual application in the data analysis.

It must be acknowledged, nevertheless, that this line of research has undoubtedly served to build a composite picture of the actions writers engage in while attempting to produce a text in a non-native language. Echoing Silva's words (1997:216), the insights gained represent "a modest step toward a viable model of the differences between ESL and NES writing, a model that, in tum, could serve as a central element in a comprehensive theory of second-language writing". It is equally fair to acknowledge that the wide-ranging aims of some of these investigations can perhaps explain why more importance has been accorded by researchers to (i) documenting L2 writer's composing behavior; (ii) answering questions about the influence of

different writer-interna1 and writer-external variables on strategy use; or (iii) analyzing the correlation between strategy use and written products, than to the actual concept of strategy used or the theoretical framework guiding such conceptualization.

111.2. Strategies to Meet the Demands of the Discourse Community

This is a more socially-oriented line of research in which researchers have investigated L2 composing strategies from the point of view of the mechanisms used by the L2 writer to respond to the demands encountered in the socio-cultural context where they write and learn to write. Two notable attempts in this line of thinking are Leki's (1995) and Spack's (1997) case studies of college writers in second language contexts learning and performing academic disciplinary writing.

Through the variety of data sources characteristic of case study research, both investigations shed light on the "constellation of strategies" (Leki, 1995:241) that the participants (5 in Leki's study and 1 in Spack's) brought with them and elaborated in the course of the time the investigation lasted (a semester in Leki's study and three years in Spack's).

Leki (1995) equates strategies with the "methods these participants used to approach and complete the writing tasks assigned". The list of strategies identified in the data include (i) those used to conceptualize and fulfil writing tasks (clarifying and focusing strategies); (ii) the ones that involve making use of previous knowledge and experience (relying on past writing experience, using past ESL training, taking advantage of first language and culture); (iii) strategies that make the most of the social context (using current experience or feedback, looking for models, using current ESL writing training); (iv) taking a stance towards teachers' demands (either accommodating or resisting such demands); and, finally, (v) finding ways of managing and regulating the demands (in terms of time and effort required) of their courses and assignments.

Spack talks about "strategies for success" and she offers a lucid and detailed discussion of how the participant in the study, Yuko, gradually became a better academic learner because, through the guided practice she engaged in, and also through a process of self-reflection on her own learning, she changed the mental model that guided the way she approached and completed the assigned reading and writing tasks. Yuko's self reflection was in part an outcome of the research itself: researcher and participant engaged in an interactive dialogue that served a metacognitive training function. This metacognitive awareness contributed to Yuko's success, a result that further supports another well established finding in writing studies (cf. Kasper, 1997; Victori, 1999) and in the strategy literature at large: "explicit metacognitive knowledge about task characteristics and appropriate strategies for task solution is a major determiner of language learning effectiveness" (Chamot & O'Malley, 1994:282). In fact, Yuko not only developed new strategies, but also adjusted her strategies to achieve comprehension and production of a variety

of texts. In other words, this writer became adept at matching strategies to text demands, a finding also present in Leki's (1995) study, where the participants "displayed the flexibility needed to shift among strategies as needed" (p.241). In this case, the process came about through the writers' reflection on the feedback obtained both on their own writing and on the work of other students.

In effect what these two studies show is that when coping with the demands of academia, the participants were able to develop the three knowledge dimensions that strategy users have to acquire (Jones et al., 1987b: 41): declarative knowledge (knowing what the strategy is), procedural knowledge (knowing how to apply a certain strategy) and conditional knowledge (knowing when and where to use the strategy). The acquisition of these knowledge dimensions contributed to the writers' success, thus supporting Chamot and O'Malley's (1994) claim that "an important requirement for viewing oneself as a successful learner is self-control over strategy use" (p. 383), an idea also emphasized by Whalen (1993: 607): "a writing strategy necessarily becomes more powerful and consequential when the writer becomes conscious of how he manipulates and applies the strategy to a specific writing task".

In short, the writers in these studies were greatly helped in their successful acquisition and use of strategies by both (i) the social context itself, and (ii) their own reflection on their academic experience, a finding that would indicate the interplay between a social and a cognitive dimension in the development of the L2 writer's strategic competence and, therefore, of learning to write in a non-native language (an issue further discussed in Roca & Murphy, this volume).

IV. THE NARROW CONCEPTUALIZATION OF COMPOSING STRATEGIES

As previously mentioned, the narrow conceptualization of strategies is informed by the problem-solving framework in cognitive psychology. In the problem-solving literature (Baron & Sternberg, 1988; Chipman, Segal & Glaser, 1985; Hayes, 1989; Newell, 1980; Newell & Simon, 1972; Nickerson, Perkins & Smith, 1985; Segal, Chipman & Glaser, 1985) a problem exists when (i) an information processing system experiences a gap between a self-imposed or other-imposed initial state and an intended goal state; and (ii) the gap cannot be bridged without a search process. The problem-solving process is the thinking process one uses to get from the initial to the goal state and is defined by Anderson (1980) as a "goal directed sequence of cognitive operations" (p. 258). This sequence of operations constitutes a solution to a problem, and the intermediate states that result from it are said to lie on a solution path.

The line of research guided by the narrow conceptualization was initiated by Cumming (1989) with his study of 23 young adult Francophone Canadians studying in a university English/French bilingual program, who represented three levels of L1 writing expertise and two levels of L2 proficiency. In this study Cumming uses the word "strategy" in two different senses.

First, strategies are equated with control mechanisms one uses in regulating cognitive activity while writing. In order words, strategies here correspond to the writers' conscious regulation of their problem-solving behavior. The second meaning of strategies is that of heuristics used when one engages in actual problem-solving.
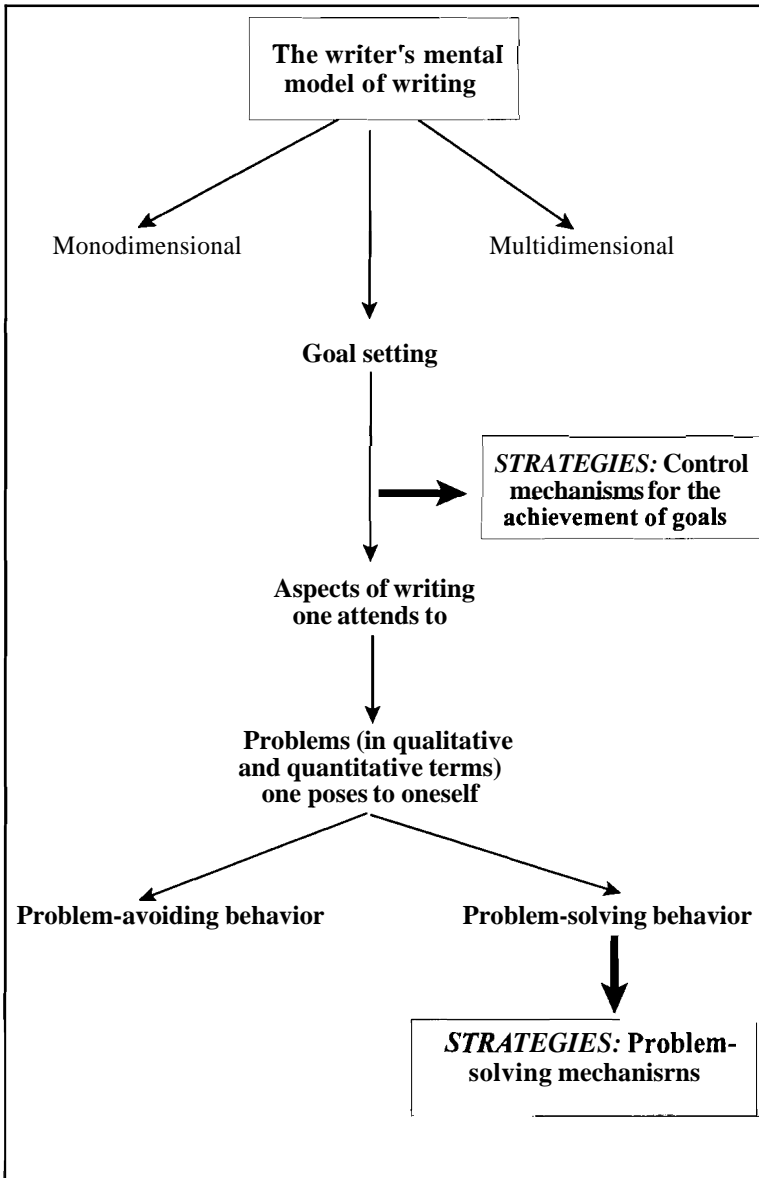

Figure 2: A framework for understanding the narrow conceptualization of composing strategies.

These two conceptualizations can be interpreted in the light of findings within the L2 writing process-oriented literature. As can be seen in Figure 2[2], there is empirical evidence to suggest that writing behavior is guided by the mental model of writing the writer holds (cf. Cumming, 1989; Spack, 1997; Victory, 1999). This model corresponds to what others call metacognitive knowledge (Devine, Raley & Boshoff, 1993; Kasper, 1997; Wenden, 2001). Whether one holds a "multidimensional" or a "monodimensional" mental model of writing (Devine et al., 1993) will, in turn, determine the goals set and, thus, the aspects of writing one pays attention to. The first meaning of the construct strategy (i.e. control mechanisms) comes in between these last two dimensions. Thus, some of the writers in Cumming's (1989) study were able to monitor and regulate their own behavior towards the achievement of the goals set, whereas others lacked such control and self-regulation.

As depicted in Figure 2, the decisions taken up to here will exert a strong influence on the problems (in qualitative and quantitative terms) writers pose to themselves. The writer will then engage in problem-avoiding or problem-solving behavior, the latter requiring the implementation of different problem-solving mechanisms, which are also called *strategies*.

IV.1. Strategies as Control Mechanisms of the Writing Process

As stated above, Cumming (1989) observed two tendencies in his data. On the one hand, more expert writers deployed control strategies for goal setting and for the on-line management of goals. Their writing behavior was a self-regulatory process where they took calculated decisions as to what to do and how to go about doing it. These writers engaged in a decision-making process conceming the gist and organization of their compositions, as well as the linguistic expression of their intentions. In contrast, less expert writers lacked appropriate control strategies they could apply to their writing, which resulted in "unmonitored production of writing" (p. 113) and in their display of a *what next strategy* guiding their writing (see Pennington & So, 1993, for similar findings).

Those writers in possession of control strategies and self-regulatory procedures took two distinct approaches to organizing their gist and discourse: ***advanced planning*** and *emergent planning.* Advanced planners thought out the content of their compositions in advance, and later "proceeded to execute their plans in writing, following (and if necessary adjusting) the planned elements as a kind of script" (p. 115). Emergent planners, in contrast, discovered what they wanted to express as the composition process went along. They were guided from the outset by a ***knowledge transforming*** strategy (in contrast to the advance planners, who applied knowledge transforming strategies mainly while thinking out and organizing the content of their compositions). They further engaged in a continuous look-back and look-ahead process, frequently rereading and reviewing previous text, as well as figuring out how to proceed in view of their current decisions.

General control strategies guiding writing behavior are also reported by Uzawa and Cumming (1989). This is a study of the writing strategies deployed by Anglophone learners of Japanese as a foreign language when faced with the essence of the problem-solving nature of composing, i.e. solving the mental dialectic between content concerns (what to say) and rhetorical concems (how to say it). Part of the investigation consisted of a case study of four writers composing in their L1 and L2. Think-aloud protocols and retrospective interviews were used as data sources.

Results indicated that these writers employed strategies to manage two tendencies labelled *keep up the standard* and *lower the standard.* In the former case, the writer's behavior aimed to approxirnate the standard usually attained in L1 writing, which required the implementation of a number of strategies such as the use of their L1, a decision to take extra time to compose, seeking assistance in solving linguistic problems and engaging in extensive revision of their texts. In contrast, when guided by the "lower the standard" strategic approach, the writer opts for anumber of compensatory strategies to meet the time and task demand constraints. The strategies the authors mention in this group are use of the L1 for a variety of purposes, together with a simplification of ideational, linguistic and pragmatic goals.

Uzawa and Cumming's distinction is reminiscent of the one used in studies of communication strategies between "achievement" and "reduction" strategies (cf. Corder, 1983; Faerch & Kasper, 1983). In the first case, the language user would try to achieve the original aims set (like "keep up the standard" strategies), whereas reduction strategies would entail different degrees of simplification of the goals pursued (as is the case with the "lower the standard" approach).

Bearing in mind the problem-solving nature of composing, the findings in Uzawa and Cumming's study can equally well be interpreted within this paradigm. Within this framework, the strategies implemented within the "keep up the standard" approach to writing could be equated with a solution path where the writer engages in a number of actions aimed at reaching the original intended goal state. In contrast, "lower the standard" strategies would entail problem solving of adifferent nature: here the problem solver strategically decides to set a less distant end state to the problem than the one originally envisaged, hence the simplification of goals at ideational, linguistic and pragmatic levels identified in Uzawa and Cumming's data.

IV.2. Strategies as Problem-solving Mechanisms

Four main studies (Bosher, 1998; Cumming, 1989; Cumming, Rebuffot & Ledwell, 1989; Roca, 1996) represent a further attempt to offer an analysis of composing strategies embedded in the problem-solving paradigm. The concept of strategy guiding this research corresponds to the last dimension identified in Figure 2. It was mentioned above that Cumming's (1989) pioneering study served to open up this research avenue and established the general framework and the

analytic categories to be used in the data analysis.

In contrast to some of the studies reviewed in section III, Cumming's enquiry was guided by a clear-cut distinction between aspects of the writing attended to (language use, discourse organization, gist, intentions and procedures) and problem-solving behavior the writer engages in when attempting to solve the problems encountered at any of these levels. The analytic categories further distinguish between problem-solving behavior and problem-solving mechanisms, the latter being heuristic search strategies in Cumming's terminology.

The author explains that the categories established for analyzing problem-solving behavior are those "used to describe problem solving in mother-tongue writing [...] as well as in other domains" (p.94). These include (i) knowledge telling (statements where there is no indication of thinking entailing problem solving; writers just describe what they are doing or tell their knowledge about a topic); (ii) problem identification with no attempt to solve it and no resolution reached; (iii) problems identified and automatically solved; (iv) problems identified, search process engaged in, but no resolution achieved; and finally (v) problem identified, search process present and resolution reached. The author acknowledges that it is in the last two cases where writers actually engage in problem solving proper and, consequently, where they make use of heuristic search strategies. Thus, this coding scheme is fully embedded in the problem-solving paradigm. Recall that problem solving entails a search process through a problem space, and that this search involves a sequence of cognitive operations. Those implemented by the participants in the study were: (i) engaging a search routine; (ii) translation or code switching; (iii) generating and assessing alternatives; (iv) assessing in relation to a criterion, standard, explanation or rule, (v) relating parts to a whole: and (vi) setting or adhering to a goal.

Exactly the same theoretical and methodological framework was applied in a later study by Cumming, Rebuffot and Ledwell (1989) and in Roca's (1996) analysis of formulation strategies in EFL writing. Cumming et al.'s (1989) findings confirmed those of Cumming's (1989): (i) the close relationship between writing expertise and use of heuristic search strategies; and (ii) the consistency in the use of these strategies in L1 and L2. Roca (1996) provides further evidence of the heuristic search strategies reported in Cumming's investigation, this time with a different population (10 Spanish EFL learners with an intermediate level of L2 proficiency) and in relation to the subprocess of formulation, a research focus which the author convincingly justifies (1996:192). In addition, Roca analyzes the strategic value of two further writing strategies: repetitions and rereadings. The former serves a facilitative function to compensate for the limited capacity of short term memory. Rereadings (and backtranslations) serve both retrospective (leading to revision) and projective functions (leading to planning or transcription), a finding further confirmed in other studies (see the review in Manchón, 1997, and Manchón et al. 2000b detailed study on the strategic value of backtracking).

Although based on Cumming's (1989) coding scheme, Bosher's (1998) analysis of the writing strategies enacted by the participants in the study (3 Southeast Asian students in an

academic language bridge program at the University of Minnesota) presents a number of problems in relation to the categories established for the data analysis. The author defines strategies as those actions used by the participants "to generate a solution to a perceived problem" (p. 214). However, this operationalization does not seem to correspond fully to the phenomena identified in the data (transcriptions of stimulated recall protocols) as instances of strategy use. The term strategy (as Tables 3 and 6 in the study show) encompasses both (i) Cumming's categories for problem-solving behavior (with the exception of the knowledge telling category, absent in Bosher's data), and (ii) Cumming's taxonomy of actual problem-solving strategies (with the exception of translation/code-switching and relating parts to a whole). What is more, the author further classifies problem-solving strategies (cf. Table 7, p. 220) into three groups: (i) successful strategies (including problem solving with search —which involves 4 out of the 6 search strategies included in Cumming's coding, plus one extra category named "directed questions"); (ii) automatic solutions to problems; and (iii) unresolved problems (encompassing cases of search and no search without resolution).

From a problem-solving perspective, there are a number of difficulties with this tripartite classification. First, apart from the questionable decision to equate "problems" with "strategies", automatic solutions to problems are considered strategies (recall that the author defined the latter as actions taken to generate a solution to a perceived problem). Strictly speaking, this equation is debatable given that problem-solving behavior necessarily involves bridging a gap through a search process. Second, one and the same category (unresolved problems) encompasses two distinct cases: problem-avoiding behavior (where there is no search and no resolution) and problem-solving behavior (cases where there is search but no resolution).

In spite of the caveats presented, the merits of this study must be acknowledged. First, the results obtained further confirm Cumming's findings with a different population and in different experimental conditions. Second, the data elicitation procedure represents an attempt to study writing processes using a less disruptive method than the think-aloud methodology, and this methodological decision has been influential in later studies (cf. Sasaki, 2000). In fact, one of the aims of the study was to determine whether the methodology used was valid and reliable. Finally, the study is innovative in that it analyzes the influence of one dimension of the writer's educational background on strategy use, an issue that had not been previously investigated.

V. CONCLUSION AND IMPLICATIONS FOR FUTURE RESEARCH

The wealth of available studies on L2 composing strategies give us little reason to lament that "SL writing research has not endeavored to identify and describe the presence of writing strategies specific to second language writing" (Whalen, 1993:608). As the analysis presented in the previous sections shows, we have available a large body of data on the general and specific

strategies that L2 writers resort to when attempting to produce a text in a non-native language.

A different question is whether it is possible to form conclusive generalizations from this enquiry in view of the whole array of theoretical positions that researchers have adopted. Up to now, writing strategies have been equated with a variety of phenomena some of which correspond to the dimensions established in Figure 2: (i) goals sets, in general or in relation to planning, formulation or revision; (ii) control mechanisms for the achievement of goals; (iii) aspects of the task one attends to; (iv) problems one faces; (v) problem-avoiding and problem-solving behavior one engages in; and (vi) heuristics used in the resolution of problems. It is true that, as one of the reviewers of this paper pointed out. there is nothing to stop future researchers from using the concept of strategy at any of these levels. The risk we run, however, is that maintaining this plethora of definitions (which unfortunately is characteristic of the strategy research at large) would make it difficult for research in the field to have a strong impact on theory building given that (i) comparisons across studies would be difficult to make; and (ii) the precise role of strategies in a model of L2 writing might be hard to ascertain since they might not always be distinguishable from other process-oriented writing phenomena.

Scholars in the field may decide to keep up the academic exercise of further documenting L2 writing behaviors generally referred to as strategies, or set up new studies that account for other variables from those so far investigated as well as replicating studies in new instructional settings or under slightly different experimental conditions. Alternatively, they may decide to explore new avenues that would eventually lead to generalizations to be used for theory building. In this second case it would be essential to take principled decisions about the conceptualization of strategies guiding empirical research (as done in some of the studies reviewed in the preceding sections). Having such a theoretical framework would, for instance, put research in a better position to contribute to key areas of debate in the writing literature. One would be the long-standing enquiry into the (differential) role played by expertise and language proficiency in the act of composing. In my view, the higher we place strategies in Figure 2, the easier it is to explain the position holding that writing expertise does transfer across languages. Similarly, the lower we locate strategies, the more difficult it becomes to discern the differential contribution of the two variables.

Another area where we could shed light refers to the crucial theoretical and applied question of whether strategies are *an aid* to learning and performing writing, or *ihe* result of such learning and practice (see McDonough, 1999, for the same issue in the strategy research at large). The lower we situate strategies in Figure 2, the more we would agree that strategies are "aids". In contrast, strategies can only be the result of learning and performing writing if we accept that previous writing experience influences one's mental model of composing, which, in turn, would determine the goals set and, thus, the remaining levels identified in Figure 2.

Future progress in the field also depends on how we design and carry out our enquiry. Given some of the problems mentioned in previous sections, future investigations must obey

basic principles in empirical research. A crucial one is that the construct "composing strategies" should always be operationally defined. This operationalization will, in turn, entail that strict methodological decisions guide both the drawing up of the coding scheme and its actual application to the data analysis.

In other respects, it must be acknowledged that the research on L2 writing strategies has gradually extended its interest to new and more diverse populations. Thus, from an early almost exclusive concern with *secondlanguage* writers whose L1 and L2 were genetically related (e.g. Cumming, 1989, 1990; Cumming et al., 1989; Raimes, 1987; Whalen, 1993), considerable empirical enquiry has gradually focused on the *foreign language* context, both in cases of typologically related languages (e.g. Cohen & Brooks-Carson. 2001; Manchón et al., 2000a, 2000b; Porte, 1995,1996,1997; Roca, 1996,1999; Roca et al., 1999; Smith, 1994; Victori, 1995, 1997, 1999; Zimmermann, 2000), and also of more distant languages (e.g. Akyel, 1994; Bosher, 1998; Hatasa & Soeda, 2000; Hirose & Sasaki, 1994; Khaldieh, 2000; Sasaki, 2000; Sasaki & Hirose, 1996; Uzawa, 1996; Uzawa & Cumming, 1989). It is equally fair to acknowledge that this research has endeavoured to refine its methodological tools, especially with regard to data sources: (i) from almost total reliance on the think-aloud method as the main elicitation procedure, researchers have gradually made use of less disruptive ways of gaining access to the participants' mental processing (cf. Bosher, 1998; Sasaki 2000); and (ii) an effort has been made to triangulate qualitative and quantitative data by using a combination of different elicitation procedures.

Yet, empirical research on L2 composing strategies is limited in important ways. One problem is the small sample sizes (Cumming, 1989, and Roca, 1999, stand out as exceptions), with investigations at times being case studies of 3 or 4 writers. In spite of the richness of the analyses offered in this type of research, the limitation in subject populations has not been particularly useful in forming conclusive generalizations.

In addition, subject populations are mainly composed of young adults in academic settings whose proficiency in the language is above an intermediate level. The existing studies should thus be extended to younger and less proficient writers (cf. Cumming et al., 1989; and as recently done in Manchón et al., 2000a, 2000b; Roca, 1999; Sasaki, 2000).

A further problem is that findings mainly derive from cross-sectional studies (but see Leki, 1995; Sasaki, 2000; Sengupta, 2000; Spack, 1997, for examples of longitudinal data). We should recall here McDonough's (1999) warning that "work on strategies is hampered by the lack of a coherent theory of how strategies [...] are selected, invented and discarded in favour of better ones" (McDonough, 1999:14), and Sasaki's (2000) claim that a developmental perspective on strategy use "is crucial for building a more comprehensive and dynamic model of L2 writing processes".

In the final analysis, still acknowledging the progress made in the field, it seems clear to me that we now need to go one step further and engage in more theoretically-grounded and

methodologically-principled enquiry into composing strategies. Our ultimate aim must be to contribute to the development of a comprehensive and explanatory theory of second language writing.

NOTES:

1. These classifications have been chosen because (i) they are representative of empirical investigations presenting a holistic description of L2 writers' total strategic repertoire; (ii) they offer data on second and foreign language contexts.

2. This figure is not meant to represent a linear view of writing. It is simply intended as a summary of some research findings relevant to the discussion at hand.

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