

A Proposal for a Taxonomy of ESL Writing Strategies

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Writing strategies are usually considered to separate successful from less successful writers (Arndt, 1987; Beare, 2000; Raimes, 1985; Victori, 1995; Zamel, 1982). However, the recognition and classification of English as Second Language (ESL) writing strategies are found to be vague and confusing in the field of ESL writing research. Invoking the theories of contrastive rhetoric, cognitive development, communication and social constructionism, this paper proposes five categories used to code extensive ESL writing strategies. A taxonomy of ESL writing strategies is established based on synthesizing the previous studies on ESL writing strategies. The significance and limitations of the taxonomy have been discussed in the paper.

■ Introduction

The development of English as second language (ESL) writing is influenced by many factors. Angelova (1999) has illustrated such factors affecting the process and product of ESL writing as language proficiency, first language (L1) writing competence, use of cohesive devices, metacognitive knowledge about the writing task, writing strategies and writers' personal characteristics. In these factors, writing strategies seem particularly important because many researchers (Arndt, 1987; Beare, 2000; Raimes, 1985; Victori, 1995; Zamel, 1982) claim that it is the writing strategies that primarily separate successful from less successful writers. Moreover, according to Hsiao and Oxford (2002), strategies can "pave the way toward greater proficiency, learner autonomy, and self-regulation" (p.372). However, as Hsiao and Oxford (2002) noted, "exactly how many strategies are available to learners to assist them in second language (L2) learning and how these strategies should be classified are open to debate" (p.368). Victori (1995) found a myriad of classifications of writing strategies and processes which were termed with different labels. These rambling terms usually confuse both ESL writing teachers and learners. In addition, most of the studies concerning ESL writing strategies are data-driven and few of them have discussed the classification of ESL writing strategies from a theoretical perspective (Wenden, 1991). Therefore, the current study is used to fill in the gap to establish a theoretical framework for the classification of ESL writing strategies. Writing strategies are defined in this study as methods the writer consciously uses to generate ideas, plan, draft, organise, revise and reduce anxiety in the whole process of writing. In this paper, I first review theories related to ESL writing instruction approaches so as to provide a theoretical foundation for the classification

of ESL writing strategies. I then review five prior studies on ESL writing strategies and synthesise them into a taxonomy of ESL writing strategies.

■ Theories related to ESL writing instruction approaches

Four theories including *communication theory*, *contrastive rhetoric theory*, *cognitive development theory*, and *social constructionist theory* are reviewed in this section because they are directly associated with the four important ESL writing instruction approaches. In an overview of ESL writing instruction history, Silva (1990) roughly divided ESL writing instruction into four stages marked by the four most influential approaches: *the controlled approach*, *the current-traditional rhetoric approach*, *the process approach* and *the social approach*. The first stage was dominated by *the controlled or guided approach* which was influenced by structural linguistics and behaviourist psychology. This approach saw learning to write as an exercise in habit formation. Students were trained to practice sentence patterns and vocabulary by means of writing. The major approach in the second stage of ESL writing instruction was *the current-traditional rhetoric approach* with the influence of Kaplan's (1966) theory of contrastive rhetoric. It regarded learning to write as identifying and internalising organisational patterns. The major approach in the third stage of ESL writing teaching was *the process approach*. According to this approach, learning to write was developing efficient and effective writing strategies. *The social approach* in the fourth stage viewed learning to write as part of becoming socialised to the discourse community—finding out what is expected and trying to approximate it.

The four teaching approaches in these four stages of

ESL writing instruction are supported by the four important theories related to ESL writing: *communication theory*, *contrastive rhetoric theory*, *cognitive development theory*, and *social constructionist theory*. It could be identified that *communication theory*, *contrastive rhetoric theory*, *cognitive development theory* and *social constructionist theory* correspond with *the controlled approach*, *the current rhetoric approach*, *the process approach* and *the social approach* of ESL writing instruction respectively. As these four theories are closely associated with the four approaches of ESL composition instruction and they could provide a theoretical framework for the classification of ESL writing strategies, the following sections focus on reviewing these theories and relating them to ESL writing strategies.

Communication theory

Communication theory understands human communicative behaviour to be part of a system of social structures (Kennedy, 1998). With regard to language learning, the core idea of communication theory is language learners' communicative competence. Halliday (1970) described seven basic functions of language performance: 1) the instrumental function: using language to get things; 2) the regulatory function: using language to control their behavior; 3) the interactional function: using language to create interaction with others; 4) the personal function: using language to express personal feelings and meanings; 5) the heuristic function: using language to learn and to discover; 6) the imaginative function: using language to create a world of the imagination; 7) the representational function: using language to communicate information. He discussed communication theory from a social functional perspective. Communication theory is in accordance with the controlled approach in ESL writing teaching because both of them regard writing as a behaviour. In ESL writing instruction, students are guided to practise sentences repeatedly and teachers correct errors made by the students in their writing. However, it is found that students' writing behaviour is very complicated (Connor, 1996). Such factors as transfer of native language, knowledge about the target language, the learner's communicative strategies and the instructional situation influence the students' acquisition of the target language. According to Stern (1983), communicative strategies are techniques of coping with difficulties in communicating in an imperfectly known second language. Cohen (1998) defines communicative strategies as means writers use to express their ideas in a most effective way. He further divided communicative strategies into intralingual strategies such as that of overgeneralising a grammar rule or vocabulary meaning from one context to another where it does not apply, and interlingual strategies such as that of negative transfer (i.e. applying the patterns for the native or another language in the target language where those patterns do not apply), topic avoidance or abandonment, message reduction, code switching, and paraphrasing (i.e. using synonymous words or phrases, or using circumlocution).

Contrastive rhetoric theory

Contrastive rhetoric theory was proposed by Kaplan (1966) in his seminal article "Cultural thought patterns in intercultural communication." Research in contrastive rhetoric has examined the formal differences between texts written by native and non-native speakers of English, and these textual differences have been related to cultural differences in rhetorical expectations and conventions. Connor (2002) has reviewed the studies of contrastive rhetoric during the past 30 years and identified four domains of investigation. These areas are:

- (1) *contrastive text linguistic studies: examine, compare, and contrast how texts are formed and interpreted in different languages and cultures using methods of written discourse analysis;*
- (2) *studies of writing as cultural and educational activity: investigate literacy development on L1 language and culture and examine effects on the development of L2 literacy;*
- (3) *classroom-based contrastive studies: examine cross-cultural patterns in process writing, collaborative revisions, and student-teacher conferences;*
- (4) *genre-specific investigations: are applied to academic and professional writing. (p.498)*

However, since its emergence, contrastive rhetoric theory has met serious criticism for its reductionist, deterministic, prescriptive, and essentialist orientation (Leki, 1997). Even with so many criticisms for a number of years, contrastive rhetoric has played a very important role in ESL writing classroom (Silva, 1990). In particular, in the 1990s the field experienced a paradigm shift in that a "broader definition that considers cognitive and sociocultural variables of writing... has been substituted for a purely linguistic framework" (Connor, 1996, p.18). As Silva (1990) noted, the elements of paragraphs such as topic sentences, supporting sentences, concluding sentences, and transitions as well as various choices for its development such as illustration, exemplification, comparison, contrast, partition, classification, definition, and causal analysis are attended to in contrastive rhetoric theory. Therefore, rhetorical strategies are identified as means ESL writers use to organise and present their ideas in writing conventions that are acceptable to native speakers of English.

Kubota and Lehner (2004) establish critical contrastive rhetoric by incorporating poststructuralist, post-colonial, and post-modern critiques of language and culture. They reconceptualise cultural differences in rhetoric from such perspectives as relations of power, discursive construction of knowledge, colonial construction of cultural dichotomies, and rhetorical plurality brought about by diaspora and cultural hybridity. This broadens the paradigm of contrastive rhetoric theory. Cultural differences are no longer regarded as the interfering cause for the problems in ESL students' writing and a more holistic view has been taken to look into ESL writing strategies since then.

Cognitive development theory

Cognitive development theory, which emerged in Europe in the eighteenth century, was concerned with the nature of knowledge and with the structures and processes by which it is acquired. Perhaps the most obvious contribution of cognitive-processing theory is the research direction leading to study of writing as process—close observations of writers in the act of composing making the choices and decisions that move text forward (Kennedy, 1998). In English composition studies, Flower and Hayes's model (1981) and Bereiter and Scardamalia's model (1987) are worth mentioning because they directly influence ESL writing research.

Flower and Hayes (1981) presented English writing as a recursive process in which planning, generating, translating, and editing need to be "juggled". However, this model has been criticised by Bereiter and Scardamalia (1987) with regard to its methodology and assumption. Methodologically it has been found to be rather limited in its reliance only on inferred invariance in protocol data. Flower and Hayes' model assumes there is a single writing process for all writers. According to this model, skilled writers do the same things as less proficient writers. Thus, this model has not been able to account for the differences between good and poor writers.

Bereiter and Scardamalia (1987) propose two models of writing: a knowledge telling model for novice writers and a knowledge transformation model for expert writers. The knowledge-telling model is a task-execution model and does not involve any complex problem-solving activities. In contrast, the knowledge-transforming model is a problem-solving model that requires the writers to engage in constant reflective processes between the content problem space and the rhetorical problem space. They found that novice writers who employed the knowledge-telling model of writing usually revised at a local level while mature writers did global revisions that involved transformations of information. However, this theory also has some limitations. One problem that has been pointed out by Flower (1994) is that the theory does not seem to consider the influence of context on writing. That is, the Bereiter and Scardamalia model is purely cognitive in nature and does not give credit to the social factors involved in writing. Another problem is that it is not clear whether and when a writer can develop the more advanced knowledge transforming process of writing.

The influence of the process theory on ESL writing remains strong as Grabe and Kaplan (1996) state, "[M]uch current research on writing in an L2 is based directly on theoretical and instructional trends in writing-as-a-process theory" (p.84). Atkinson (2003) proposed the notion of "post-process" as an appropriate basis on which to investigate the complex activity of ESL writing in its full range of sociocognitive situatedness, dynamism, diversity, and implications. In the process approach of ESL writing instruction supported by cognitive development theory, metacognitive and cognitive strategies are attended to. In particular, the exploration of writers' metacognitive and cognitive knowledge is far

from exhaustive. According to Carson and Longhini (2002), metacognitive strategies are defined as strategies that writers use to control writing process consciously and cognitive strategies are those that writers use to implement actual writing actions.

Social constructionist theory

Social constructionist theory is an educational approach that is derived from social constructivism. Social constructionists believe that we do not find or discover concepts, models, and knowledge as much as we construct or make them. Social constructionist theory has been used extensively in the area of writing and composition (Cazden, 1996). The perspective is global, and the concept of discourse communities rather than individual agency figures largely in such discussion. Social constructionist discussions of writing are preoccupied with discourse as socially constructed in academic or discourse communities. The focus is on how such a community defines writers and writing; how texts represent that community; how the community, its discourse, and disciplinary knowledge are constituted and reconstituted; and how participants in discursive practices form and are formed by these practices and the disciplinary and professional formations in which they participate (Kennedy, 1998).

From the perspective of writing instruction, both a process approach and some aspects of a product approach to teaching writing are considered (Zimmerman, 1993). From a product-approach perspective, writers use the writing products of others to help them construct meanings, and from a process-approach perspective, writers collaborate and converse with others to exchange and construct their texts. Social/affective strategies are defined as strategies that writers use to interact with the target discourse community for the support and to regulate their emotions, motivation, and attitude in the process of writing (Carson & Longhini, 2002). For example, ESL writers need to learn how to search for sources in the library and how to cooperate with their supervisors.

In sum, this section has mainly discussed the theories of communication, contrastive rhetoric, cognitive development, and social constructionist and their applications in ESL writing studies. Table 1 shows the relationship between theories, writing instruction approaches and ESL writing strategies.

Table 1 indicates the congruence between ESL writing instruction approaches and the theories that supported those approaches. Five categories of writing strategies have been identified as closely connected to those theories and related writing instruction approaches: *communicative strategies*, *rhetorical strategies*, *metacognitive strategies*, *cognitive strategies*, and *social/affective strategies*. These categories are used to construct the framework for ESL writing strategies. In the next section, I review five previous studies on ESL writing strategies and synthesise the classifications of ESL writing strategies into a taxonomy in the fourth section.

Table 1 Theories, writing instruction approaches and writing strategies

Theories	Writing instruction approaches	Categories of writing strategies
Communication theory	The controlled approach	Communicative strategies
Contrastive rhetoric theory	The current-traditional rhetoric approach	Rhetorical strategies
Cognitive development theory	The process approach	Metacognitive and cognitive strategies
Social constructionist theory	The social approach	Social/affective strategies

Table 2 Arndt's categories of ESL writing strategies

Category of strategies	Definition
Planning	Finding a focus, deciding what to write about
Global planning	Deciding how to organise the text as a whole
Rehearsing	Trying out ideas and the language in which to express them
Repeating	Of key words and phrases—an activity which often seemed to provide impetus to continue composing;
Re-reading	Of what had already been written down
Questioning	As a means of classifying ideas, or evaluating what had been written
Revising	Making changes to the written text in order to clarify meaning
Editing	Making changes to the written text in order to correct the syntax or spelling,

Table 3 Cognitive and metacognitive strategies in writing proposed by Wenden (1991)

Metacognitive strategies	Cognitive strategies
	<i>Clarification</i> Self-questioning Hypothesizing Defining terms Comparing
	<i>Retrieval</i> Rereading aloud or silently what had been written Writing in a lead-in word or expression Rereading the assigned question
<i>Planning</i>	
<i>Evaluation</i>	Self-questioning Writing till the idea would come
<i>Monitoring</i>	Summarizing what had just been written (in terms of content or of rhetoric) Thinking in one's native language
	<i>Resourcing</i> Asking researcher Referring to dictionary
	<i>Deferral</i>
	<i>Avoidance</i>
	<i>Verification</i>

■ Previous classifications of ESL writing strategies

This section reviews five previous studies on ESL writing strategies. The five studies are selected because they represent the most influential studies on ESL writing strategies since the 1980s. To my knowledge, one of the earliest studies on ESL writing strategies is Arndt's (1987) investigation of the composing activities of six Chinese postgraduate ESL students as they produced academic written texts in both their first and foreign languages. She adopted eight categories to code the strategies the students used in their writing (see Table 2). In her analysis, for example, Chinese students revised for word-choice more in the ESL task than in the L1 task, but rehearsed for word-choice more in L1 than in ESL. Arndt (1987) attributed this to the students' reduced ability to

try out alternatives and less satisfaction with their decisions in ESL as compared with their L1, not only because they had more limited resources to draw on, but also because they felt less secure about whether they had chosen appropriately.

Wenden (1991) investigated eight ESL students, requiring them to write a composition at the computer and to introspect as they wrote. She studied how the students used metacognitive strategies in their writing and discussed what task knowledge they searched for before and while writing. The cognitive and metacognitive strategies Wenden discussed in her article are summarized in Table 3.

According to Wenden (1991), metacognitive strategies are mental operations or procedures that learners use to regulate their learning. These include three

main types: planning, evaluating and monitoring. These are directly responsible for the execution of a writing task. In contrast to the metacognitive strategies, the cognitive strategies are narrower in scope. Cognitive strategies are mental operations or steps used by learners to learn new information and apply it to specific learning tasks. Used to deal with the obstacles encountered along the way, cognitive strategies are auxiliary strategies that aid in the implementation of the metacognitive strategies.

Victori (1995) has identified seven types of writing strategies based on data collected through interviews and a think-aloud protocol with 200 English philology students. According to Victori (1995), *planning strategies* are strategies by which the writer plans and talks out what ideas will come next, and explicitly states his or her objectives for organisation and procedures. *Monitoring strategies* are strategies the writers use when checking and verifying their process in the composing process and when identifying oncoming problems. *Evaluating strategies* are strategies undertaken when reconsidering the written text, previous goals, planned thoughts, as well as changes made to the text. *Resourcing strategies* are strategies using available external reference sources of information about the target language, such as consulting a dictionary to look up or confirm doubts (lexicon, grammatical, semantic or spelling doubts), or to look for alternatives (synonyms). *Repeating strategies* are strategies repeating chunks of language in the course of composing, either when reviewing the text or when transcribing new ideas. *Reduction strategies* are strategies to do away with a problem, either by removing it from the text, giving up any attempts to solve it, or paraphrasing with the aim of avoiding a problem. *Use of L1 strategies* are strategies using the mother tongue with different purposes: to generate new ideas, to evaluate and make sense of the ideas written in the L2 or to transcribe the right idea/word in the L1.

Riazi (1997) studied four Iranian doctoral students of education focusing on accounting for the learners' conceptualisations of their writing tasks, their strategies for composing, key aspects of the academic courses they were participating in as the immediate context of their writing and their personal perceptions of their own learning. He summarised their composing strategies following distinctions made in previous studies of second-language learning in academic settings between cognitive, metacognitive, and social strategies (e.g., Chamot & Kupper, 1989; O'Malley & Chamot, 1996) in addition to a fourth category, "search strategies," he discerned (p.122) (see Table 4).

According to Riazi (1997), participants' cognitive strategies led them to work with, think about, and manipulate materials required for task completion. They included such specific strategies as note taking, inference, and elaboration; use of mother tongue knowledge and skill transfer across their two languages; and revising and editing multiple drafts of their papers. In particular, Riazi found participants in the study conceived of the relationship between their L1 and ESL in their learning to write in the specific context of their graduate studies. They did not put their previous experiences aside and did not start all over again in their ESL, but in a dynamic and interactive process they were using their previous knowledge, skills and strategies. The meta-cognitive strategies—such as self-regulatory strategies—helped the participants exercise control over their performance of the writing tasks, thus reducing their anxiety over not knowing what to do. Social strategies included those practices and activities in which participants interacted with their professors and other members of their academic community to clarify a task, consult on a problem related to a task, or to discuss comments they had received about their learning to write in their discipline.

Table 4 Composing strategies (Adapted from Riazi, 1997)

Composing strategies	Constituents	Phase of composing process
<p><i>Cognitive strategies</i></p> <p>Interacting with the materials to be used in writing by manipulating them mentally or physically</p>	<p>Note-taking Elaboration Use of mother tongue knowledge and skill transfer from L1 Inference Drafting (revising & editing)</p>	<p>Reading & writing Reading & writing Reading & writing Reading Writing</p>
<p><i>Metacognitive strategies</i></p> <p>Executive processes used to plan, monitor, and evaluate a writing task</p>	<p>Assigning goals Planning (making & changing outlines) Rationalizing appropriate formats Monitoring & evaluation</p>	<p>Task representation & reading Writing Reading & writing Reading/writing/task representation</p>
<p><i>Social strategies</i></p> <p>Interacting with other persons to assist in performing the task or to gain affective control</p>	<p>Appealing for clarifications Getting feedback from professors & peers</p>	<p>Task representation Writing</p>
<p><i>Search strategies</i></p> <p>Searching and using supporting sources</p>	<p>Searching and using libraries (books, journal, Eric, microfiche) Using guidelines Using others' writing as model</p>	<p>Reading & writing</p>

Table 5 Japanese ESL students' writing strategies (Adapted from Sasaki, 2000)

Writing strategies	Definition
Planning 1. Global planning 2. Thematic planning 3. Local planning 4. Organizing 5. Conclusion planning	Detailed planning of overall organization Less detailed planning of overall organization Planning what to write next Organizing the generated ideas Planning of the conclusion
Retrieving 1. Plan retrieving 2. Information retrieving	Retrieving the already constructed plan Retrieving appropriate information from long-term memory
Generating ideas 1. Naturally generated 2. Description generated	Generating an idea without any stimulus Generating an idea related to the previous description
Verbalizing 1. Verbalizing a proposition 2. Rhetorical refining 3. Mechanical refining 4. Sense of readers	Verbalizing the content the writer intends to write Refining the rhetorical aspect(s) of an expression Refining the mechanical or (L1/ESL) grammatical aspect(s) of an expression Adjusting expression(s) to the readers
Translating	Translating the generated idea into ESL
Rereading	Rereading the already produced sentence
Evaluating 1. ESL proficiency evaluation 2. Local text evaluation 3. General text evaluation	Evaluating one's own ESL proficiency Evaluating part of the generated text Evaluating the generated text in general
Others 1. Resting 2. Questioning 3. Impossible to categorize	Resting Asking the researcher a question Impossible to categorize

Sasaki (2000) compared three paired groups of Japanese ESL writers (experts vs. novices, more- vs. less-skilled student writers, novices before and after 6 months of instruction) and identified dozens of writing strategies (see Table 5).

This study found that (a) before starting to write, the experts spent a longer time planning a detailed overall organisation, whereas the novices spent a shorter time, making a less global plan; (b) once the experts had made their global plan, they did not stop and think as frequently as the novices; (c) ESL proficiency appeared to explain part of the difference in strategy use between the experts and novices; and (d) after 6 months of instruction, novices had begun to use some of the expert writers' strategies. The categories Sasaki proposed are interesting because it gives a detailed description of strategies ESL writers use in their writing process.

Almost all the categories of writing strategies in the above-mentioned studies are used to categorise the writing process. Of the studies mentioned, only Wenden (1991) and Riazi (1997) classified the writing strategies from a theoretical stance. Unfortunately, the taxonomies of writing strategies proposed by Wenden and Riazi are incomplete because they do not take rhetorical and communicative strategies into account. To map this missing aspect of ESL writing research, I construct a taxonomy of ESL writing strategies to contribute to both theoretical and practical study of ESL writing.

■ The taxonomy of ESL writing strategies

This section aims at constructing a taxonomy of ESL writing strategies, subsuming the writing strategies mentioned in the five previous ESL writing studies into five categories of writing strategies (*communicative strategies, rhetorical strategies, metacognitive strategies, cognitive strategies, and social/affective strategies*). From the review of the previous studies on ESL writing strategies, it appears that the summaries or classifications of ESL writing strategies are rather confusing. For example, Arndt (1987) put planning and global planning together as individual strategies while Victori (1995) and Sasaki (2000) subdivided planning into planning overall content and idea or global planning, thematic planning and local planning. Should planning and global planning be regarded as categories in a similar level or is global planning one of the subcategories of planning? Moreover, some researchers (e.g., Arndt, 1987) distinguish revising from editing while others (e.g., Riazi, 1997) do not. Wenden (1991) does not even include revising strategies in her taxonomy. In addition, most of the above classifications of ESL writing strategies lack theoretical foundations. They are data-driven rather than theoretically motivated. To enhance their generalisation and reliability in the practice of ESL writing, it is necessary to explore them from a theoretical stance. Therefore, in what follows, I first synthesise the aforementioned studies on ESL writing strategies and list all writing strategies they identified in Table 6. Then, I adopt the five categories of

communicative strategies, rhetorical strategies, metacognitive strategies, cognitive strategies, and social/affective strategies to categorise all these strategies into a taxonomy of ESL writing strategies.

In the process of synthesising the previous studies on ESL writing strategies, I avoid multiple levels of categories because different researchers have different standards to classify those strategies and it is easy for these various levels of categorisations to puzzle readers. To simplify the complicated classifications, I utilised three ways to cope with the various terms of strategies. First, this taxonomy prioritises general rather than specific strategies. For instance, planning is a very important strategy going through the whole writing process (Victori, 1995). Some researchers (e.g., Sasaki, 2000; Victori, 1995) list subcategories such as global planning, local planning, and thematic planning. In the synthesis, I list the general strategy of planning so as to avoid the contradiction of classifications between Arndt (1987) and Sasaki (2000).

Second, some strategies that appear as sub-categories are listed as individual strategies in this taxonomy because they do not belong completely under or within a larger category. For example, Wenden (1991) puts summarising under the category of retrieval strategies. It is not wrong to say that writers use summarising to

retrieve previous knowledge; however, the role summarising plays in ESL writing is much more than this. It is observed that some participants use summarising as a very important strategy to complete their writing task. Thus, I list summarising separately.

Third, some researchers mention variables such as cohesion and coherence and organisation (e.g., Victori, 1995) or they attribute organising to the category of planning (e.g., Sasaki, 2000). In the current study, I categorise the organising strategy individually because of its important role in ESL writing. I do not list cohesion and coherence as individual strategies because organising strategies have included them. Table 6 lists the ESL writing strategies from the five studies detailed here, in order of the frequency of occurrence in those studies.

Table 6 shows 30 ESL writing strategies in total. I categorise these strategies into communicative strategies, rhetorical strategies, metacognitive strategies, cognitive strategies, and social/affective strategies derived from understandings of theories related to ESL writing instruction (see Table 7).

Under *communicative strategies*, I list “avoidance”, “reduction”, and “sense of readers” because these are strategies writers may use to express ideas in a more effective way. With strategies of “avoidance” and

Table 6 Synthesis of previous studies on ESL writing strategies

Order No.	Strategies	Proposers
1	Planning	Arndt (1987), Wenden (1991), Victori (1995), Riazi (1997), Sasaki (2000)
2	Evaluating	Wenden (1991), Victori (1995), Riazi (1997), Sasaki (2000)
3	Use of L1	Wenden (1991), Victori (1995), Riazi (1997), Sasaki (2000)
4	Monitoring	Wenden (1991), Victori (1995), Riazi (1997)
5	Re-reading	Arndt (1987), Wenden (1991), Sasaki (2000)
6	Questioning	Arndt (1987), Wenden (1991), Sasaki (2000)
7	Repeating	Arndt (1987), Victori (1995)
8	Revising	Arndt (1987), Riazi (1997),
9	Resourcing	Wenden (1991), Riazi (1997)
10	Clarification	Wenden (1991), Riazi (1997)
11	Retrieval	Wenden (1991), Sasaki (2000)
12	Rest/deferral	Wenden (1991), Sasaki (2000)
13	Organising	Victori (1995), Sasaki (2000)
14	Hypothesising	Wenden (1991)
15	Rehearsing	Arndt (1987)
16	Comparing	Wenden (1991)
17	Summarising	Wenden (1991)
18	Defining terms	Wenden (1991)
19	Lead-in	Wenden (1991)
20	Avoidance	Wenden (1991)
21	Reduction	Victori (1995)
22	Note-taking	Riazi (1997)
23	Elaborating	Riazi (1997)
24	Assigning goals	Riazi (1997)
25	Rationalising format	Riazi (1997)
26	Getting feedback	Riazi (1997)
27	Modelling	Riazi (1997)
28	Inference	Riazi (1997)
29	Sense of readers	Sasaki (2000)
30	Generating ideas	Sasaki (2000)

Table 7 The taxonomy of ESL writing strategies

Writing strategies	Sub-strategies	Speculation
<i>Communicative strategies</i>	Avoidance Reduction Sense of readers	Avoiding some problem Giving up some difficulties Anticipating readers' response
<i>Rhetorical strategies</i>	Organisation Use of L1 Formatting/Modelling Comparing	Beginning/development/ending/cohesion/coherence Translate generated idea into ESL Genre consideration Different rhetorical conventions
<i>Meta-cognitive strategies</i>	Planning Monitoring Evaluating	Finding focus Checking and identifying problems Reconsidering written text, goals
<i>Cognitive strategies</i>	Generating ideas Revising Elaborating Clarification Retrieval Rehearsing Summarising	Repeating, lead-in, inference, etc. Making changes in plan, written text Extending the contents of writing Disposing of confusions Getting information from memory Trying out ideas or language Synthesising what has read
<i>Social/affective strategies</i>	Resourcing Getting feedback Assigning goals Rest/deferral	Referring to libraries, dictionaries Getting support from professor, peers Dissolving the load of the task Reducing anxiety

"reduction", writers may either remove a problem from the text or paraphrase with the aim of avoiding a problem. One important difference between speech and writing is that the writing must be complete enough to stand alone in the absence of the writer to expand or answer questions (Hartnett, 1997). Therefore, "sense of readers" in writing should be part of effective communicative strategies.

I subsume "planning", "monitoring" and "evaluating" under *metacognitive strategies* because both Wenden (1991) and Riazi (1997) have done this and Victori (1995) also claims "planning", "monitoring" and "evaluating" are "threefold general classification of metacognitive strategies" (p.123). Since *rhetorical strategies* are ones that writers use to organise and to present their ideas in writing conventions that are acceptable to native speakers of English, I classify "organising", "use of L1", "rationalising format", "modelling" and "comparing" into the category of *rhetorical strategies*. "Organising strategies" involve the organisation of the beginning, development and conclusion of an essay. For example, Chinese students use the strategy of opening the door and seeing the mountain (*kai men jian shan*) to start a passage, which is equivalent to the strategy of coming to the topic directly in English writing. Both of them are strategies for rhetorical organisation. ESL writers may use L1 or L1 knowledge to plan the paragraph and sentences. It is natural for them to bring L1 writing conventions into ESL writing (Scollon, 1991). Both "rationalising format" and "modelling" are strategies that ESL writers use to look for appropriate genre for writing. "Comparing" is regarded as one of the rhetorical strategies because ESL writers use it to compare L1 writing conventions with ESL conventions so as to adapt to the target discourse community.

According to the definition of *social/affective strategies*, the strategies writers use to interact with other people, to adjust emotion, and to gain access to the available resources such as library, journal and dictionary can be classified under this category. Thus, I put "resourcing", "getting feedback from professors or peers", "assigning goals", and "rest/deferral" into this category. Through "assigning goals" i.e. cutting a big task into small ones, writers can reduce the pressure from a burden of tasks. "Resourcing" and "getting feedback from professors and peers" are strategies ESL writers use to gain support for communicating with others. Writers may take a "rest or break" to lower fatigue from hard work.

This leaves 13 strategies: "repeating", "questioning", "hypothesising", "generating ideas", "revising", "clarification", "retrieval", "rehearsing", "inference", "defining terms", "lead-in", "note-taking" and "elaborating". I subsume them all under cognitive strategies according to Wenden (1991) and Riazi (1997). However, some of these strategies are quite similar and can be represented by one label. For instance, "hypothesising", "summarising", "defining terms", "lead-in" and "note-taking" are all used to generate new ideas. Thus, these strategies can be represented by the strategy of "generating ideas". In addition, "questioning" and "clarification" are the same strategy according to Wenden (1991). Therefore, there are seven strategies listed as *cognitive strategies* including "generating ideas", "revising", "elaborating", "clarification", "retrieval", "rehearsing", and "summarising".

Discussion and conclusion

Though this taxonomy looks more explicit and accessible than the previous classifications I reviewed in the prior section, it inevitably has its limitations. First, it is impossible to frame a taxonomy of ESL writing strategies accepted by all researchers because different researchers have different standards for classification (Hsiao & Oxford, 2002). Furthermore, some terms in ESL writing strategies are rather ambiguous. For example, is “revising” a strategy similar to “editing” or they are different? Arndt (1987) distinguishes them but Wenden (1991) does not. Central to the taxonomy I propose is the connection to the four important theories related to ESL writing instruction. In other words, the current study discussed ESL writing strategies from a theoretical stance and established a theoretical framework for ESL writing strategies.

Another limitation is that this taxonomy is established on the analysis and synthesis of previous

classifications of ESL writing strategies. Some researchers (e.g., Arndt, 1987; Victori, 1995) generated ESL writing strategies from think-aloud protocols while others (e.g., Riazi, 1997) summarised the strategies mainly from interviews. That is, they acquire the categories of ESL writing strategies through different methods. In addition, their subjects are different. For example, the participants in Riazi’s study are four Iranian doctoral students and in Arndt’s study are six Chinese graduate students. Since the strategies are based on individuals and individual reports, they are sometimes completely different. This may lead to inaccurate classifications and incompleteness in the categories listed. Finally, it is impossible to include all strategies in such a taxonomy owing to their flexibility and variation in meaning and use among individual writers. Thus, this taxonomy is not exhaustive. However, it might serve as a heuristic for later studies on the classifications of ESL writing strategies.

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