

A proposal for research on self-correction: Opportunities for studying the role of negative evidence in second language writing*

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【摘要】

本文將提出一個有關兒童書寫發展的方法論：自我糾錯與校訂的策略。對於初學者讀寫能力技巧的研究可以幫助我們更了解後設語言覺知在讀寫能力發展所扮演的角色。在第二語言書寫中，學者們同時有額外的機會檢驗後設語言覺知如何介入第二語言學習者文法知識的發展。相關問題包括：糾錯反饋的效果和語法教學。本研究提及的分析類型有：「試圖校訂的正本水平」和「試圖效益」，在跨語言讀寫能力的研究與對比書寫系統上尤其重要(例如字母順序和音節文字)。

【Abstract】

This paper will propose a methodological approach for the study of an aspect of writing development in children that is especially important for academic literacy: strategies of self-correction and revision. The study of these literacy skills in beginning writers should also help us better understand the role of metalinguistic awareness in all aspects of literacy development. In second language (L2) writing, researchers are presented with the additional opportunity to examine how metalinguistic awareness intervenes in the development of L2 learners' grammatical knowledge. Related issues are: the effects of corrective feedback (and, more generally, the role of negative evidence) and form-focused instruction. The proposed categories of analysis in the present study, "text-level of correction attempt" and "effectivity of attempt," might be especially useful in studies of literacy cross-linguistically that in addition involve contrasting writing systems (e.g. alphabetic and morpho-syllabic).

【Key Words】

literacy, self-correction, metalinguistic awareness , corrective feedback,
form-focused instruction

* This paper is the complete version of a presentation given at the: Tamkang International Conference on Second Language Writing, December 1-2, 2006. The author expresses his appreciation for the comments and observations that helped to clarify a number of important points.

Chapters 5 and 6 are about learners receiving feedback on errors and about reflecting on their own performance in language learning tasks. The term *negative evidence* refers to information that learners receive about an aspect of their developing language competence or about a still incompletely mastered skill that needs improvement or correction. So despite what it sounds like, negative evidence is a very *good* thing (not to be confused with “negative feedback” – an informal, non-scientific, expression that in fact does have a negative connotation). Negative evidence is a broad category; it can be feedback provided by a more advanced learner, a teacher, or an interactive computer program, or evidence of partial or incorrect knowledge that learners discover on their own (e.g., noticing and reflecting on language patterns that contain errors). For example, teachers can design writing activities that facilitate or encourage more effective reflection and monitoring by L2 students of their own written production.

This chapter will propose an approach for studying an aspect of writing development that is especially important for academic literacy: self-correction and revision. In fact, the ability to revise and self-correct should be considered as one of the basic foundations of writing proficiency; and making it the focus of research should help us better understand all aspects of written expression. Self-correction and revision inherently involve the deployment of metalinguistic abilities, a focus of renewed interest among researchers. Thus, the study of these literacy skills in beginning writers should also help us better understand the role of metalinguistic awareness in all aspects of literacy development. In second language writing, researchers are presented with the additional opportunity to examine how metalinguistic awareness intervenes in the development of L2 learners' grammatical knowledge.

Research in this area has attracted increasing attention in recent years; but we have barely scratched the surface of the many interesting questions still to be explored. In fact, a focus on correction and self-correction offers investigators of literacy and second language learning with a number of very attractive opportunities from a methodological point of view, opportunities in assessment that we have only begun to take advantage of. As an important literacy skill in its own right, integrally tied to both writing and reading ability applied to authentic texts (i.e., reading one's own written work in a reflective manner), validity is virtually ensured. In both open-ended and closed-ended tests, reliability is highly favored because points of assessment can be designed to be as specific and well defined as is necessary.

In line with the theme introduced in the previous chapter, the categories of analysis that will be proposed, *text-level of correction attempt* and *effectivity of attempt*, could be useful in studies of literacy cross-linguistically. They might be particularly useful in comparisons between alphabetic and morphosyllabic systems. Recall that this was one of the main themes of the previous chapter. Questions to be explored include:

- which types of error are most prevalent at the earliest stages of written expression and how might these change developmentally,
- which error types are most salient and noticeable in tasks of self-correction,
- which types tend to be self-corrected spontaneously and with high levels of accuracy, and
- which may be more difficult to notice and more difficult to correct, requiring focused attention and systematic instruction?

Language teachers need to consider the usefulness of different kinds of negative evidence, as well as positive evidence. Which are actually effective for a given language or literacy learning objective, in the sense that students receive feedback on their writing that they can use? In the case of self-correction, how can learners maximize opportunities to reflect on their writing in ways that actually help them improve their language skills? Comparisons in each of the above categories across writing systems should also contribute to the ongoing discussion on which aspects of literacy learning are writing system-specific and which aspects are writing system-independent or universal. For example, is a specific literacy skill learned through practice in the L1 applicable to and accessible during literacy tasks in the student's L2 (and vice versa)?

5.1 Historical antecedents in second language writing

Among the reasons why research on second language writing is important is that historically it has always been one of the primary learning objectives of academic literacy. Today, it might be safe to say that, world-wide, most students, at all levels including primary school, are required to learn how to read and write in a second language, or soon will be. In the country where our primary research project is located, Mexico, second language writing has a long history and a growing importance today. During the first years of the colonial period in the 16th Century, the greater part of writing for academic purposes was probably not in the first language of most writers. Religious education, evangelization, and in particular the extensive publishing of Christian texts would typically be in Nahuatl. As the language of the former Aztec empire, it became the widely recognized lingua franca of the early colonial period.

Newly arriving missionaries from Spain would have to demonstrate proficiency in Nahuatl, and together with Latin it was a language of higher education, scholarship and academic literacy. Native speakers of the language, mainly former Aztec nobles and their children, enrolled in large numbers in the newly established centers of advanced learning in New Spain. In fact, it was among these first layers of post-Conquest Nahuatl intellectuals that a new generation of indigenous writers emerged. For many years following the European conquest, official documents such as land titles were often written in Nahuatl. History eventually turned the tables on the major indigenous languages of the Americas, resulting over time in a near total dominance of Spanish in schools that serve communities where they are still spoken (Hidalgo, 2001). Today, English is a required subject for school children after 6th grade; and learning Spanish in school also implies L2 literacy for many indigenous language speakers.

For a longer historical period, in Europe and East Asia, great lingua francas spread far beyond their countries of origin to become the languages of learning and high culture. For centuries, in Europe, the publishing of books and the discourse of university teaching were in Arabic and Latin. Interestingly, spanning approximately the same time period, in Korea, Japan and other countries of the region, Chinese was the primary writing system used by poets and scholars in the artistic and academic disciplines. This peculiar second language literacy tradition had established such deep roots that until modern times, long after the national languages had emerged as dominant in their respective countries, much literature and scholarship was still written in Chinese. Similarly in Europe, Latin continued to be studied for this purpose long after the national/vernacular languages had become the normal and expected medium of literacy. Bilingual literacy, in its different variants, then, could be considered to be the typical or normal circumstance of reading and writing. We could also say and that literacy and bilingualism have always been closely linked.

5.2 A study comparing self-correction in two alphabetic orthographies

This chapter will report on a descriptive study of second language and bilingual writing development, with an eye on the broader discussion in the field of second language learning on the role of metalinguistic awareness and negative evidence. One of the proposals that will be presented for consideration is that metalinguistic awareness in particular is a central component of advanced literacy ability; see Buckwalter and Lo (2002), Li et al. (2002) and Packard (2002) for discussion. A current proposal in the research on literacy learning is that shifting greater emphasis toward systematic reflection and awareness of language patterns might favor a stronger development of

academic language proficiency, especially in the domain of written expression. The examination of self-correction strategies in second language (L2) writing, the subject of this study, allows for a special opportunity to explore this question.

Participants were bilingual elementary school students from Central Mexico who completed first-draft compositions based on a narrative theme, and were then asked to re-read typed transcriptions of their stories for the purpose of making corrections and revisions for a finished version of their work. Standard self-correction and revision options were demonstrated (substitution, deletion, insertion, and transposition), after which students were instructed to make all corrections and revisions that in their estimation would improve their first draft in some way. Among the forty-five participants (15 second graders, 15 fourth graders and 15 sixth graders) were L2 learners of Spanish, Spanish-speaking L2 learners of Nahuatl, and balanced (early-simultaneous) bilinguals for whom both languages were primary mother tongues.

The composition and correction task was part of a larger investigation of bilingual literacy and school-related language abilities. Even though the Nahuatl language was rarely used for academic purposes in school, teachers always conferred upon it respect and recognition. This positive valorization of students' bilingualism prompted us to evaluate their academic language abilities in both languages: the official language in which literacy skills were taught and practiced and the indigenous language which children knew. Results from tests of reading, writing and oral expression confirmed a model of bilingual proficiency that proposes common representations for concepts, knowledge structures, and processing skills that are not language-specific. These representations appear to be "shared" between L1 and L2 and therefore are independent to a large extent of linguistic competence in each language. The confirmation of this model was suggested by comparable performance in Nahuatl on literacy and literacy-related language tasks (recall that children rarely practiced the relevant skills in their indigenous language). Predictably, performance in Spanish was superior on all tasks. However, the consistent finding of significantly improving performance in Nahuatl across the grade levels through grade 6 suggested that children were able to access advanced literacy-related abilities even though these abilities were learned through the official medium of instruction – Spanish (Francis, 2012).

The examination of the correction/revision skills was the final and culminating assessment of a larger investigation. As a more advanced literacy skill, requiring children to focus close attention on language forms, it was thought that performance on this writing task in particular would reveal indices of higher-order abilities tied to metalinguistic awareness. The composition-correction task was administered, in parallel

fashion, in both languages. Indices of *text-level of the correction/revision* and *effectivity of attempt at correction/revision* were calculated for each response:

- at what level of text was the correction/revision attempted (orthographic, grammar at the sentence-level, or intersentential discourse-level), and
- to what degree was each attempt effective?

5.2.1 A proposed conceptual framework

Among the important questions related to the development of metalinguistic awareness and the use of negative evidence in second language writing that future studies will be able to resolve are:

- What is the role of different kinds of feedback in L2 literacy and in L2 learning more broadly?
- What other kinds of learning task actively promote awareness of language patterns and focused reflection by L2 students?
- How should researchers distinguish between “implicit” linguistic knowledge and “explicit” knowledge associated with literacy-related language ability?
- Which aspects of writing ability, including metacognitive strategies and metalinguistic abilities, are language-specific and which are shared across languages and writing systems?
- How should the concept of “transfer” be properly understood?

Before examining the procedures and results of our assessment of correction/revision, let us briefly survey these theoretical and practical questions. The debate on the effects of Form-focused instruction and the provision of negative evidence in L2 writing (Bitchener et al., 2005; Diab, 2010; Ferris, 2010; Lee, 2004; Truscott and Hsu, 2008) is familiar to most educators in the field of second language learning. This is not the place to assess the different claims and counter claims; and the findings from the studies that I will report on do not offer direct support to any of the current hypotheses in contention. But as a way to help shed some new light on the discussion, the following proposals might be useful in helping us design future studies. For the benefit of better understanding both points of view, the first which generally favors providing systematic negative evidence and the second which does not, we could clarify or summarize the opposing claims. They could perhaps be formulated more clearly, confronting two opposing approaches to the problem:

- (1) One approach proposes that providing some variety of negative evidence hastens the developing mastery of grammatical features and discourse ability in

L2 writing. Learning becomes more systematic and higher levels of ultimate attainment are more likely. That exclusively communicative immersion-without-grammar-teaching and (uncorrected) practice in writing result in some measurable advances in L2 writing is not denied. But position #1 argues that Form-focused instruction (FFI) and negative evidence make learning more effective and efficient. At the same time, it should be uncontroversial among educators who favor access to negative evidence and FFI that only some kinds will actually be helpful to learners.

(2) The opposing view would claim that there is no measurable effect, no facilitation in the development of any aspect of L2 writing ability as a result of corrective feedback or focused attention on errors. No variety of systematic provision of negative evidence favors higher levels of achievement in writing ability.

While it appears that hypothesis #1 is formulated more defensively, this way of proceeding, I believe, should help strip away unnecessary disputes on some secondary issues.

Another way to clarify the questions in contention could be to consider all types and categories of Form-focused instruction and negative evidence in L2 learning, and then apply them, tentatively, to L2 writing. Teacher or peer corrective feedback (Miao et al. 2006; Min, 2006; Rollinson, 2005; Yang et al., 2006) is one way that negative evidence may be provided, but there are others. For example, in the study summarized in this chapter, beginning L2 writers who have developed robust and efficient *self*-monitoring strategies would receive, and benefit from (hypothetically), negative evidence. In this case, the evidence regarding what aspects of their interlanguage knowledge are not part of the target language system is not provided by a teacher or more advanced learner, but rather from reflection and systematic focus on language patterns as an integral part of the composing process itself. The writer is “positioned as an active agent in text creation” (Kasule and Lunga, 2010, p. 108). See Ruan (2004) and Xiang (2004) for a further discussion of metacognition and self-monitoring in bilingual writers.

One thing to keep in mind is that in L2 writing, the general problems of writing development apply in addition to, or “on top of,” the special circumstances of interlanguage development. For example, in the case of initial literacy learning for non-literate children who are also monolingual speakers of their L1, the circumstances are special in ways that are very different from L2 literacy scenarios involving older, L1 literate, intermediate level L2 speakers. The more advanced learner in the second case

can draw on significant resources in both language and literacy skill that the beginning learner does not possess.

Returning to the question of the wide range of different kinds of negative evidence, there are two sets of considerations in the research today that are pertinent to the problem at hand:

(1) The more fundamental question asks whether negative evidence in some shape or form, and some aspect of metalinguistic awareness might facilitate higher levels of ultimate attainment in L2 linguistic knowledge and discourse-level text organizing ability. The question is important and interesting because, according to some views of child language development at least, neither negative evidence or metalinguistic awareness play any necessary role in the ultimate attainment of L1 core linguistic competence. Discourse-level text organizing ability is an entirely different matter, depending, as it does, on skills that are largely independent of language competence. Where these skills do involve grammar knowledge, specific to L1 or L2, it's likely that much of *this* knowledge of language is above and beyond "core linguistic competence." On a related note, readers should consult Doughty's (2003) discussion of the research on implicit and explicit learning that offers an interesting account of the widely observed difference between L1 acquisition and L2 learning. How do second language learners overcome, or compensate for, the effects of the "filter of the linguistic organization of their first language" (p. 290)?

(2) A separate question involves the day-to-day use of different types and categories of negative evidence in actual L2 teaching situations. All variety of practical considerations and pedagogical constraints come into play that result in one or another approach to appear effective, workable, ineffective, counterproductive or neutral. Comparative studies that seek to marshal support for one or another contrasting method are invariably plagued by these external factors, often impossible to control. From this point of view, issues of learner disposition, motivation and other affective variables, limitations of time and resources, etc. are all entirely secondary. If negative evidence, in principle, can be shown to be necessary for higher levels of attainment in one or more domains of L2 learning, then strong versions of input-based language teaching that rely solely on positive evidence and uncorrected practice cannot be correct. Specific feedback paradigms, for example, will always vary widely in effectiveness from one learning context to another: highly motivated child second language learners, adult "high-stakes" L2 learners with advanced L1 literacy skills, English for specific purposes learners with limited instrumental motivation, American college foreign language students, and so forth. It would suffice to demonstrate the effectiveness of providing

negative evidence for any one of these learner populations to settle the question, in principle.

Thus, perhaps we should step back from some of the particulars of the ongoing debate, the underlying concepts then helping us to start again with more basic questions: To what domains of knowledge and processing do the different metalinguistic abilities belong? If they are not deployed in any necessary way in the acquisition of core L1 grammatical competence, then it's likely that these domains are independent of core linguistic knowledge acquired in the L1. As such, can this type of explicit knowledge interface in any way with implicit knowledge of language? And for a specific ability, like L2 writing, might the use of metalinguistic ability favor higher levels of ultimate attainment?

5.2.2 Application of the bilingual self-correction evaluation

Two categories of analysis were of interest in the evaluation of children's writing ability. This study focused on a specific writing skill, self-correction/revision and editing: (1) along the dimensions of *text-level* and *effectivity*, how did beginning writers differ from more advanced writers, and (2) given that in school, literacy skills are normally only practiced in Spanish, the national language of instruction, what differences might be discerned in performance between Spanish and Nahuatl on the same task?

Given the descriptive and exploratory nature of the assessments, we are not able to provide confirming or disconfirming evidence for any of the proposals for further research in the previous section. Rather, the study should be taken as a kind of base-line description of tendencies and correlations: for example, what developmental trends should we expect to see across the elementary grades? As such, it might serve to help formulate testable hypotheses and experimental designs with the potential of directly addressing the central questions concerning metalinguistic awareness and negative evidence in second language learning. Thus, the following outline of the self-correction study is offered as a proposal for replication and for designing a series of more focused studies, focused on specific written language patterns. A more discrete-point type assessment could then pick up where we left off.

5.2.3 Components of writing ability: Assessment procedures

Students composed narratives based on a model that was read aloud to each class followed by a discussion and examination of visual graphics that accompanied each story. This method helps establish uniformity of conditions for what is typically a

cognitively demanding literacy exercise for elementary school children. Providing a single discursive and thematic framework in a structured writing task of this type facilitates comparison as it provides all participants with access to relevant background knowledge and a purpose for writing. Completed first drafts were collected and students were asked during the following week to make corrections and revisions to typewritten transcriptions of their own stories as described earlier.

To review, analysis of the writing samples consisted of two categories of rating: (1) text-level of the correction/revision and (2) effectivity of correction/revision. Under the first category, all attempts at correction or revision (regardless of the degree of effectiveness) were coded for text-level as follows.

(1) Orthographic correction:

- (i) general grapheme/phoneme correspondence
- (ii) word segmentation
- (iii) accent placement

vus

- (i) Jue a duea r nu venada

The student changes “ducar” to “vusar.” The original sequence (with the reversal of “b” - should be “buscar” [to look for]) - is a non-word in Spanish. The change, although spelling is still not correct, results in a complete and comprehensible sentence [He went to look for a deer].

ya nomas le

ba a estar

- (ii) Hanomasle ponemos la carne y en un momento bastar listo

Substitution of correct segmentation in both cases, although spelling is still not completely correct [all we have to do is put (in) the meat and in a moment it will be ready].

- (iii) como pajáros

A missing accent is inserted, however placement should be over the first syllable (“pájaros” [birds]).

(2) Morphosyntactic or semantic pattern at the sentence-level:

no lo oyo
lo desperto so esposa pero ~~elo~~-~~oye~~ so esposa

Corrected version: [his wife woke him up but she didn't hear him (instead of: "or hear him") his wife].

Insertion of punctuation/capitalization could be considered as a combined or intermediate level requiring attention to either or both sentence-level grammar and discourse-level coherence:

su . el joven
El joven ya se iba para ~~sø~~ casa se iba muy triste porque no lo mato ^ El venado
y estaba cansado y tenia anbre

A period is inserted after "mato" presumably because "porque no lo mato El venado" [because he didn't kill it the deer] contains a redundant element; should be either "lo" [it] or "El venado" [The deer], but not both. Having eliminated the unnecessary redundancy ("El venado") the writer reiterates "el joven" [the young man] to clarify that it was he, and not the deer, that was tired and hungry, in the process omitting "y" [and].

(3) Discourse-level revisions that involve a potential change of meaning across sentence boundaries or that affect discourse-level coherence in some way:

vengan aqui les volla explicar cuando se echo a correr cuando ya lo
denme
voy a dar ~~deme~~ tortilla.

The singular form "deme" is changed to "denme" (2nd person plural imperative [give me]) to mark the cohesive tie with "vengan" (2nd person plural imperative [come]) and a series of 3rd person plural verb forms in previous text to indicate that the speaker is still addressing a group of ladies, and not just one.

The following examples of substitutions of Spanish loan words and borrowings, could also be categorized as a kind of discourse-level revision. The original versions that included the borrowed Spanish word did not introduce a grammatical error, and

their substitution by a Nahuatl word did not affect sentence-level meaning or grammar. As such, we could argue that such cross-linguistic revisions represent an attempt to make the text more “coherent” or more “consistent,” from a pragmatic point of view:

coyotli
okalkaya itek ~~trampa~~ guan ok quirtiquen

Revised version: “he was inside a trap and they got him out” (Spanish “trampa” [trap] is changed to Nahuatl “coyotli” [hole]).

uan
guan oktaquien se tekuani guan quistuan ~~pero~~ quiernen se tekuien
tatsitsiuan nanatsin
kin noxasquier nochtin y no ~~papan~~ guan ni ~~mamas~~

Revised version: “and they saw a lion and they said and how can a lion come with two children and they said to call all the fathers and mothers” (Spanish “pero” [but] changed to Nahuatl “uan” [and]; Spanish “papan” [fathers] changed to Nahuatl “tatsitsiuan” [fathers]; Spanish “mamas” [mothers] changed to Nahuatl “nanatsin” [mothers]).

Under category #2, all attempts were coded for the resulting effectiveness of the revision or correction, independently of text-level.

Two types of effective attempts:

Correct --> Correct or Correct (+)

An original sequence that contains no errors is revised; the revised version contains no errors, or represents an improvement of some kind over the original.

Error --> Corrected or Improved

An original sequence that contains error(s) is significantly improved in some way, sometimes resulting in a conventional form, or correct grammatical sequence.

Four types of non-effective attempts:

No Change

Original sequence is substituted by the exact same sequence of letters or words.

Correct --> Correct (-)

No orthographic or grammatical errors are introduced into the revised version; however, the revised version is now unclear, results in a loss of coherence, etc.

Correct --> Error

An error-free sequence is changed, the revision results in an error.

Error --> Error or Error (-)

An original sequence that contains an error is changed; the resulting sequence is either equally or more difficult to understand, equally ungrammatical or ungrammatical to a greater degree, or results in an orthographic pattern that departs from the conventional form equally or to a greater degree in comparison to the original alphabetic pattern.

5.2.4 Performance in the two languages compared

1. In regard to the category *text-level of correction/revision* (#1), we noted a tendency for 4th and 6th graders to attempt more often, and to be more successful, at the higher levels. For example, while among the 15 second graders only 5 successfully attempted a punctuation/capitalization or discourse correction/revision in Spanish and only 1 in Nahuatl, the number of students who successfully attempted at this level increases in sixth grade to 8 and 5 respectively.
2. Comparing corrections/revisions across the grades (2nd - 6th), while the number of total attempts, per word, does not vary appreciably, older students' attempts are effective at a significantly higher percentage in both languages, advancing, in Spanish from 54.2% in 2nd grade to 82.6% in 6th grade, in Nahuatl, from 32.2% to 70.6%. This finding corresponds to category #2 of the analysis.
3. Related to this tendency is the number of successful attempts that involve a language switch from Spanish to Nahuatl in the Nahuatl writing task (see examples of the substitution of "Spanish borrowings" above). Only 6th graders were able to (or chose to) make this type of revision. Although few in number (only 11 revisions in all), this result coincides with other indices of metalinguistic awareness that require the respondent to attend to aspects of codeswitching, borrowing, language choice and language identification (e.g., correctly distinguishing between the languages in literacy tasks). See the discussion of the interesting related question of "language-switching" in L2 writing in Wang (2003) and Woodall (2002).
4. Despite the fact that writing skills in school are only practiced in Spanish, performance on the correction/revision task in Nahuatl also shows a statistically significant advance across the grades, indicating that the relevant literacy skills involved are accessible in performance through the medium of either language. As expected, the overall rate of effectivity is higher for Spanish, but clearly the upward tendencies in the assessments are parallel. That is, advances in this specific literacy skill across the grades

were statistically significant in both languages, a result that might help us better understand what is referred to in the literature as L1-L2 “transfer.”

5. Overall, the high level of task acceptance on the part of all participants and the seemingly consistent response rates suggest that the procedures described above can be useful in future investigations of cross-language and bilingual literacy, research that could go beyond the descriptive and exploratory design of the present study. The proposed categories described above appear to provide for reliable results, and could serve as a viable alternative method for studying L2 learners' writing development in a series of more controlled experiments. Even young children find learning activities focused on language patterns interesting when these activities are presented in an engaging and motivating fashion (Bouffard and Sarkar, 2008).

5.3 Possible directions for cross-language research

An interesting possibility for future research on monitoring and self-correction could utilize our two categories of *text-level* and *degree of effectivity* to explore the strategies learners deploy in contrasting writing systems. The comparison between Spanish and Nahuatl involved two shallow orthographies. Due to the historical origins of the indigenous language alphabetic script, patterned, as it was, closely on Spanish phoneme-grapheme correspondences, the two systems, in fact, are shallow to the same degree and are highly congruent. We could point to this high degree of congruence, in fact, as an interesting limitation of the study. The two scripts were simply too similar one to the other; and we could speculate that students experienced little or no difficulty in applying writing skills learned in one language (Spanish) to a test in the other language that they speak. Students could do this successfully even though they rarely (if ever in the case of most) use the other language (Nahuatl) for literacy.

On the other hand, cross-language and cross-writing system comparisons involving sharply contrasting systems should allow us to examine the development of specific literacy skills, such as self-correction, from a broader, more general, perspective. Which aspects of skill in self-correction, for example, are more language/writing system specific? Do morphosyllabic and alphabetic systems each impose highly contrasting error patterns and self-correction strategies in all domains of written expression, or are there common underlying knowledge structures and processing mechanisms that might be revealed below the surface, so to speak? One example of a common development of processing skill might be the tendency, evidenced in both writing systems, toward feature-clustering in reading, a more direct

(and more rapid) processing of characters and alphabetic words as children advance in literacy learning (Su and Samuels, 2010)

Another interesting example of a universal processing feature might be the study of Hu and Catts (1998) who made the observation from their review of the research that deficits in phonological processing might affect learning to read in Chinese. To make effective use of word constituents in decoding unfamiliar words in context, the reader needs to maintain a phonological representation in working memory until a word boundary is identified. Since Chinese does not specify word boundaries in print, it might be difficult for the beginning reader to determine whether a character stands for a word or a bound morpheme. Unskilled readers have been shown to have difficulty in segmentation. For example, which juxtaposed characters form separate words and which do not? Do young children, when learning to write, incorrectly separate the radicals of compound characters, for example?

Beginning writers in alphabetic scripts also pass through a stage in which they segment words inappropriately – e.g., by syllable, separating out bound morphemes, combining words that conventionally do not form compounds, and vice versa (Julbe-Delgado, 2010). So, an interesting comparison might be between morphosyllabic Chinese and alphabetic Spanish or English in how children develop orthographic knowledge of segmentation. Which constituents (e.g., within and across alphabetic words and within and across characters) do children perceive as bound and which are perceived to be separable or free? In a self-correction task, which errors do children notice, and successfully correct, at different stages of development? Hypothetically, we might see writing system-specific and language-specific differences in this domain of orthographic development because of the difference in the way that English and Chinese mark word boundaries. On the other hand, both kinds of segmentation error (within word/character and across word/character) might be shown to be equally prevalent at the early stages and be corrected by beginning writers on comparable developmental timetables. How might this developing ability correlate with indices of phonological processing and phonological and morphological awareness? Many of the error patterns and self-corrections will be the same for beginning child writers and beginning adult writers. Then some will be different; older students have at their disposal more advanced analytic capabilities, which can be brought to bear on complex literacy tasks.

Another potentially fruitful avenue of research could involve comparisons of error pattern between native speakers and L2 learners, in both writing and reading; see Ferguson et al. (2003) for a study comparing reading miscues in L1 and L2. Hatta et al.

(1997) analyzed kanji error types in writing samples of L1 Japanese students and English-speaking L2 learners. Predictably, the predominate type among L2 learners was the “mis-construction of a kanji segment,” one of the least frequent error types among L1 writers. An interesting introductory note by the authors was a reference to the perceived difficulty on the part of Japanese college students, overall, in mastering the kanji system, an observation that appears to have prompted interest in their project. An analogous L1-L2/cross-writing system issue was alluded to between the use of the kanji and kana systems, the latter serving, according to the authors, as a kind of alternative that writers can fall back on to compensate for gaps in kanji orthographic knowledge.

Second language literacy learning in Chinese was investigated by Wang et al. (2004), who were interested as well in an issue related to our study: the relationship between implicit learning and explicit instruction. To what extent would L2 learners (literate in an alphabetic script) acquire knowledge of the component structure of Chinese characters implicitly by exposure through reading and typical foreign language instruction? Since research has shown that native speakers of Chinese utilize, analytically, both the semantic radical and the phonetic component of characters in literacy learning (Tzeng, 2002), the authors asked whether L2 learners would develop a sensitivity to the internal orthographic structure of characters in a similar way. Results suggested that even in the absence of direct instruction and explicit attention to the structural features of characters on the part of the students' teachers, the L2 learners did in fact acquire at least partial knowledge of the structure of their L2 orthography. In their concluding discussion, a review of similar investigations plus findings from their own follow-up study led the authors to propose further work on the question of whether explicit instruction might facilitate the ability to decompose newly encountered complex characters. This approach, hypothetically, would apply to both L1 and L2 Chinese literacy learning.

The related question of the role of morphological awareness in bilingual literacy was explored in an investigation of fifth grade, Chinese-speaking, L2 learners of English – 168 students from a large elementary school in Tianjin (Zhang et al., 2010). Would focused teaching on patterns of how compound words are formed in English improve awareness of compounding in Chinese, and vice versa? The positive finding in this study, *in both directions* (morphological awareness in alphabetic English writing predicts morphological awareness for characters, and vice versa) is especially noteworthy because of the contrast between the two writing systems. This result, similar to findings in Wang et al. (2009), then, could be taken as an example of a literacy skill that is shared, so to speak, between abilities in different writing systems. This study

addressed the question of what is referred to in the research literature as “transfer” (between L1 and L2). Development of morphological awareness appears to be especially amenable to direct instruction resulting in usable skills for both L1 and L2 literacy learners (Hayashi and Murphy, 2011).

5.3.1. A proposal for evaluating writing in a morphosyllabic orthography

In a follow-up pilot test of the bilingual writing and self-correction assessment from Mexico, a similar assessment was given to a L2 learner of Chinese. The subject first read a familiar traditional story and the following day wrote as much as she could remember from the first episode (Figure 5.1). As in the Mexican bilingual writing assessment, the subject was then asked to make any necessary corrections. Figure 5.2 shows self-correction attempts and an informal analysis of the effectivity of correction. An additional measure, not contemplated in the original study, is indicated as a proposal for future investigation: a comparison between attempted corrections and missed opportunities (errors that the subject did not attempt to correct). Comparing in this way effective attempts and non-effective attempts (see Section 5.2.3), and then factoring in missed opportunities to self-correct could add an interesting dimension to the analysis.

On first impression, the scoring rubric for effectivity appears to apply satisfactorily. The interesting question concerns the distribution of errors and self-correction attempts, comparing alphabetic and morphosyllabic beginning writers. Under the sub-categories, (word/character-level) orthographic, (sentence-level) morphology, syntax or semantic, and (text-level) discourse self-corrections, which developmental tendencies might be writing system- and language-specific and which might be common? Do independent measures of metalinguistic awareness predict successful performance in this literacy skill in both cases? Potentially, results can provide useful information for educators: which components of writing ability are early-developing, responding perhaps to simple-immersion in literacy-rich learning environments, and which might require direct and focused instruction? Would these tendencies be the same for L1 writers and L2 writers?

A more discrete-point type assessment, for example, could present children or L2 learners with a series of texts containing mal-formed characters (introduced into the passage systematically to test for the ability to notice different categories of error). Then, perhaps in a separate evaluation, among the errors that learners correctly notice, how successful are they in producing the well-formed character or sequence of characters?

Figure 5.1
Second language writing by L2 learner of Chinese
(L1 – Thai, other L2 – English)

有一個老鴉
渴得很。
看見屋子前院
水壺。想著喝
那水。

Figure 5.2
Attempted self-corrections

有一個老鴉。
渴得很。頭
看見屋子前~~可兒~~首
水壺。想賣喝
那水。

1, 2, 3 & 5 Missed opportunity to correct an ill-formed character

4 Effective self-correction

6 Partially effective self-correction

A variant of this procedure could present learners with a multiple-choice format. For a given mal-formed character, which choice among three or four is the well-formed alternative? Distractors could systematically include incorrect components or stroke patterns hypothesized to correspond to L2 learners' or beginners' immature conceptions.

5.3.2 Other cross-language and cross-writing system comparisons

Perhaps some of the most far-reaching investigations on cross-language and cross-orthography literacy come from the study of dysgraphia. The different types of impairment to the underlying knowledge structures and information processing modules reveal how the components of a complex ability, such as writing, interact. Reich et al. (2003) compared the results from their assessment of a patient affected by a writing impairment with confirming findings from Law and Or (2001). In the latter case study, the patient showed more skill in writing to dictation in Chinese than written picture naming. This finding was taken as evidence that even with non-alphabetic writing systems there is a direct route between orthography and phonology; that in Chinese reading and writing there is no exclusive access to meaning that circumvents the activation of phonology. Reich and associates studied the impaired writing ability of a patient who consistently activated the orthographic form of higher-frequency homophones even when disambiguating semantic information corresponding to a lower-frequency target word was presented. That is, meaning clues compatible only with the lower-frequency target word did not prompt the patient to supplant the higher-frequency character. According to the authors, direct activation of orthographic representations by phonology in Chinese was confirmed by their findings. How might this type of writing error, related to high and low frequency homophones compare between morphosyllabic and alphabetic systems, among both impaired and non-impaired writers? What would the frequency of this error type be among child literacy learners in each system? To what extent might it be resistant to corrective feedback and how easily would it be noticed in tasks of self-correction?

Here we have an example of how evidence from a non-alphabetic writing system helps shed light on discussions in the field of literacy learning that have primarily revolved around research findings from alphabetic systems. What role does phonological processing play in all aspects of literacy development, and how might this differ from one writing system to another? The alphabetic/non-alphabetic writing system contrast is often assumed to correlate with processing differences that must be contrasting in fundamental ways (e.g., in word identification, phonologically mediated

versus direct semantic access, respectively). Recent research appears to be taking a different starting point: which aspects of literacy development and literacy performance are writing system-specific and which aspects are common to all writing systems? From this point of view, the “direct access to meaning/phonology by-pass” hypothesis for Chinese would seem, tentatively, to be the least plausible. If it turns out to be incorrect for literacy in Chinese, that might settle the question for literacy in all alphabetic orthographies, “shallow” and “deep,” and for writing systems universally.

Cross-language comparisons of the descriptive and naturalistic kind (as in the present study) help us get a better idea about what L2 literacy learners attend to most readily and most frequently in situations of spontaneous self-correction. Also, how these categories shift with grade level and overall proficiency can also be gauged across different writing systems, cross-linguistically, and in L1 and L2. Knowing which error patterns are more “resistant” to noticing and self-correction and which tend to be more transparent should be useful for teachers. More controlled studies could go on to evaluate responses to specific task conditions and instructions, focused on categories of error that may be important to understand, for instance, error patterns purportedly related to so-called L1-L2 transfer.

An approach that could overcome some of the limitations of the open-ended method of studying cross-writing system comparisons presented in this chapter would be to present learners with closed-ended tasks. For example, as suggested in the previous section, selected error types can be inserted into otherwise well-formed text for identification and correction. This type of assessment has the advantage of allowing investigators to pin point specific categories of grammatical and orthographic pattern, for example in regard to the different kinds of compounding within and between characters and the different aspects of difficulty that character learning presents to young children and older second language learners: phonological regularity versus irregularity, transparency of information provided by the semantic radical, frequency, etc. In L2 English for example, closed-ended items could focus on categories of hypothesized L1 interference, phonological awareness in spelling (regular and irregular), morphological knowledge, and segmentation. Another alternative to the open-ended assessment scheme is to identify all errors of each major type committed in student writing, and then calculate the self-correction success rate for each one, as was done by Kubota (2005) in a study of kanji self-correction among L2 learners of Japanese.

The bigger questions regarding the precise relationship between the different aspects of metalinguistic awareness and literacy learning will also require more

exacting experimental methods. But the comparative study of error patterns (e.g., which errors beginning writers notice) should help us get a better understanding of which aspects of literacy development are language and writing system-specific and which aspects could be universal. In all this we should keep in mind that there are different points of view on the efficacy of providing negative evidence in second language learning and on the role of metalinguistic awareness. To reiterate, the results of our descriptive and exploratory study of self-correction only provide suggestions for future investigation on the role of these factors. But, the development of skill in self-correction and revision in writing is an essential literacy learning objective in its own right. Few experts in writing instruction would deny that this skill is of central importance, especially for the learning objectives of formal writing in school.

This last assertion, however, might be controversial in some respects for advocates of strong versions “whole-language,” who disfavor Form-focused instruction in the teaching of writing. Actually, in the field of *second language* writing, the controversy on this point may be more interesting. Two separate, but closely related, questions need to be addressed in future research: (1) one claim by opponents of systematic Form-focused instruction (regarding the development of writing skills) might be that FFI is limited to developing explicit knowledge of the L2 grammar, not contributing to implicit linguistic competence. This implicit linguistic competence, for argument’s sake, we could say is about the core linguistic competence of the second language. However, in the mastery of *writing ability*, especially *for academic purposes*, there is much more that L2 students must learn than just this core linguistic competence, starting with the conventions of orthography (from elementary stroke patterns to morphological knowledge related to formation of compound words) all the way to the grammar of discourse organization for each kind of school-related advanced literacy genre that learners need to master. (2) Would the same arguments against systematic FFI in (1) also apply to these domains of academic literacy learning? Chapter 9 will return to this question.

The next chapter examines the specific problems of corrective feedback, in particular the kind of feedback that is available to learners in Computer Assisted Language Learning. In this learning environment another kind of awareness, at a higher level than that considered so far, plays an essential role: metacognition (Ma, 2007). In particular, the kind of metacognition that is important in on-line learning is related to awareness of one’s learning strategies, how to control attention, monitor understanding and misunderstanding, and how to make the most effective use of interactive learning resources.

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