

Improving Cohesion in L2 Writing: A Three-Strand Approach to Building Lexical Cohesion

When I was invited to deliver a series of English as a foreign language (EFL) teacher workshops at an institute in Lima, Peru, I gave participating teachers a choice of topics to focus on. Because of my earlier collaboration with the institute on a large-scale research project, I was able to offer the teachers a choice of workshops addressing specific issues that I had noted in their students' writing. One issue was that the students relied heavily on discourse markers such as "First," "Second," and "In conclusion" as a way to achieve cohesion between paragraphs. However, each paragraph gave the reader a sense that the students' ideas were not connected to one another. Despite the students' best efforts, the writing was not cohesive. Students seemed to be saying nothing, but they were saying nothing very well.

The teachers voted that a workshop on lexical cohesion would interest them the most. As I prepared for the workshop, I was shocked by the shortage of teaching materials on cohesion—particularly lexical cohesion—in second language (L2) writing. As I searched for literature to help, I found it surprising how few teaching resources address lexical cohesion in L2 writing. Additionally, much of the research on cohesion in L2 writing has focused on grammatical cohesion (Hinkel 2001) or on the explicit repetition of vocabulary (Crossley and McNamara 2012). Further, in a search for scholarly articles on cohesion in L2 writing, I found very few articles that were published after 1995. In fact, many of the articles I found were research articles on the relationship between

explicit cohesive markers and L2 writing performance. I was in uncharted territory. How was I going to lead teachers through a workshop on lexical cohesion in L2 writing when so few materials were available?

What follows is my answer to that question. This article presents an overview of teaching techniques that I developed in preparation for the workshop. Specifically, I suggest a three-strand approach to help L2 writers in EFL and English as a second language (ESL) instructional contexts achieve greater cohesion in their written work. The approach focuses on (1) the analysis of authentic texts, (2) the development of productive vocabulary, and (3) information structure and vocabulary development as part of the revision process.

To introduce this approach, I outline key concepts below. First is a brief discussion of how a text differs from a random collection of sentences. This is followed by a basic discussion of cohesive devices and how we as teachers often miss the mark in our attempts to address cohesion in our students' writing. Finally, I walk readers through a three-strand approach that can help L2 writers achieve greater cohesion in their writing.

WHAT IS A TEXT?

According to McAllister and Miller (2013, 255), texts (a) “share a topic and a purpose,” (b) conform to the “readers’ knowledge of the world” and cultural assumptions, and (c) “display logical and consistent development and structure.” In other words, texts are *coherent*. We as readers may attempt to cooperate with the author, assuming that the author is at least trying to advance a topic and appeal to our cultural assumptions and knowledge of the world. However, our willingness to cooperate with the author will be influenced by our own culture as readers (Connor 1996). Because English is considered by many to be a “writer responsible culture,” writers are responsible for using cohesive devices to signal the connection between ideas. This can be done through the use of

explicit grammar devices or vocabulary devices.

COHESION IN ENGLISH

In their work on cohesion in English, Halliday and Hasan (1976) were among the first to identify the cohesive devices that writers often use to guide readers through a text. The devices can be classified broadly as forms of grammatical cohesion or forms of lexical cohesion.

Grammatical Cohesion

Grammatical cohesion is achieved through reference, ellipsis, substitution, and conjunction (see Table 1 for examples). Types of *reference* can be broken down as anaphoric reference (referring back to something already mentioned), cataphoric reference (referring forward to something that has not yet been mentioned), and exophoric reference (referring to something in the culture that is understood). Note in the example of exophoric reference that the referent (the person or thing being referred to) changes depending on the broader culture. In my own culture at the time I delivered the workshop in August 2015, “the president” referred to Barack Obama. However, when I delivered this workshop in Peru, the participating

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| <p>1. Reference
 Anaphor (referring backward): <i>I have a neighbor named <u>Bob</u>. <u>He</u> is my best friend.</i>
 Cataphor (referring forward): <i>I would do anything for <u>him</u>. <u>Bob</u> is my best friend.</i>
 Exophor (referring outward): <i><u>The president</u> entered the room.</i></p> <p>2. Ellipsis
 <i>Would you like some ice cream?</i>
 <i>Yes, I would ... (like some ice cream).</i></p> <p>3. Substitution
 <i>My <u>bicycle</u> is too old. I need a new <u>one</u>.</i>
 <i>I'm not a fan of blue <u>bicycles</u>. I'd like a red <u>one</u>, please.</i></p> <p>4. Conjunction
 <i>Many children do not like vegetables. <u>For example</u>, my daughter hates broccoli.</i>
 <i>My daughter hates broccoli. <u>However</u>, my son loves it.</i></p> <p>Note: In each example, the cohesive device is underlined twice. Its referent (where applicable) is underlined once. Elided elements are enclosed in parentheses.</p> |
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Table 1. Forms of grammatical cohesion (Halliday and Hasan 1976)

teachers understood “the president” to refer to Ollanta Humala.

Ellipsis can be described depending on the grammatical form that is left out. When a verb or verb phrase is left out (as in the example in Table 1), it is called verbal ellipsis. When a noun or noun phrase is left out, it is called nominal ellipsis. *Substitution* is the use of a pronoun to replace a referent in the following discourse. *Conjunction* is the use of explicit discourse markers (e.g., “However,” “For example,” “First,” “Second,” “Third,” “In conclusion”) to link sections of a text, and it seems to be the preferred cohesive device of L2 writers (Hinkel 2001) and L2 writing instructors.

The focus on conjunction is no surprise for two main reasons. First, conjunction as a method of achieving cohesion is easy to teach and to learn. Conjunctive adverbs can be classified by their discourse function (see Table 2) and can be easily plugged into students’ writing to help them achieve a level of cohesion that they could not achieve without the use of conjunction. Second, addressing lexical cohesion is difficult. Mahlberg (2009) describes a number of challenges in teaching

lexical cohesion in EFL and ESL contexts, the most notable being the need for extensive, detailed text analysis. Instead, many teachers of writing in EFL contexts rely on their intuitions or—more likely—the intuitions of their textbook author.

Lexical Cohesion

Halliday and Hasan (1976) identify two broad types of lexical cohesion: (1) *collocation*—the use of words that are closely associated with one another, and (2) *reiteration*—the repetition of a referent. Because a discussion of collocation often involves reader intuition (Halliday and Hasan 1976) and/or extensive analyses of various corpora (Siyanova and Schmitt 2008), it is beyond the scope of this article. Instead, the current discussion focuses on an overview of types of reiteration (see Table 3 for examples) and how they are used to structure the flow of information in a text, lending a sense of cohesion to that text.

When we examine the examples in Table 3, we notice that the subject of the second sentence in each example is co-referential with the noun phrase in the predicate of the preceding sentence. This points to a very strong relationship between lexical

Contrasting	Conceding	Summarizing and Concluding	Sequencing	Adding Information
on the other hand however nevertheless otherwise	of course certainly regardless yet after all	to sum up in conclusion in other words briefly	first second third firstly then next finally	furthermore additionally what is more besides

Table 2. Examples of conjunctive adverbs categorized by discourse function

<p>Repetition: My wife and I found a <u>cat</u>. The <u>cat</u> was white with black spots.</p> <p>Synonym: My wife and I found a <u>cat</u>. The <u>kitty</u> was white with black spots.</p> <p>Near-synonym: My wife and I found a <u>cat</u>. The <u>kitten</u> was white with black spots.</p> <p>Superordinate: My wife and I found a <u>cat</u>. The <u>feline</u> was white with black spots.</p> <p>General word: My wife and I found a <u>cat</u>. The <u>animal</u> was white with black spots.</p>

Table 3. Examples of reiteration (adapted from Halliday and Hasan 1976, 279)

cohesion and information structure in English writing; in my view, this relationship is not often addressed in L2 writing instruction. Reiteration as a cohesive device in English writing requires not only a broad productive vocabulary, but also an understanding of how information tends to be structured in English-language texts.

INFORMATION STRUCTURE IN ENGLISH TEXTS

In English discourse, the flow of information is usually structured such that given (or old) information is presented first—often as the subject—and new information is presented second—often in the predicate (Chafe 1994; Connor 1996). The new information presented in the predicate then becomes given information in the following sentence. New information is then presented in the predicate. This new information becomes given information for the next sentence, and so on. Thus, the reader is never asked to make too big a jump from what has been previously mentioned to what is mentioned next. This flow of given information to new information is followed—to good effect—by many professional authors:

Since the living dead first stepped onto the silver screen, their greatest enemy has not been hunters, but critics. Scholars, scientists, even concerned citizens have all argued that these movies depict the living dead in a fantastic, unrealistic fashion. Visually stunning weapons, physically impossible action sequences, larger-than-life human characters, and above all, magical, invincible, even comical ghouls have all added their colors to the controversial rainbow that is “the Zombie Movie.” (Brooks 2003, 22–23)

If we examine the flow of given and new information in this passage, we find that it conforms closely to the pattern described above. The subject of the very first sentence, “the living dead,” is understood as given information. After all, the passage is taken

from a book about zombies. The new referent “critics” in the first sentence is taken up and expanded as the subject of the following sentence: “Scholars, scientists, even concerned citizens.” The new referent presented in the second sentence, “a fantastic, unrealistic fashion,” is taken up as the subject of the third sentence and is expanded as “visually stunning weapons, physically impossible action sequences, larger-than-life human characters, and above all, magical, invincible, even comical ghouls.” As this example shows, the author artfully advances the topic through an expansion of given information in the subject position of each sentence. If we compare this professional author’s information structure to an example provided by Wallace (1992, 11), we see striking differences:

The boats are on the water. The men have the nets in the boats. Off they go. The men go off in the boats. They go off to fish.

The new information that appears in the predicate of the first sentence, “the water,” is not taken up as the given information in the subject of the second sentence. Rather, the subject of the following sentence, “the men,” seems somewhat disconnected from the previous sentence. Further, if we examine the remaining sentences in this passage, we see that one of the co-referential noun phrases “the men” and “they” fills the subject position in each sentence, leading to a sense of repetition and a sense that the topic is not being advanced in a meaningful way.

A comparison of this sample to the previous professional sample from Brooks (2003) illustrates the importance of vocabulary development to the flow of information and its effect on the cohesion of a text. Using the various cohesive devices in Table 2 can help students better link their ideas. What follows is a proposed three-strand approach to helping L2 writers use lexical cohesion effectively through a focus on information structure and its relationship to lexical cohesion. The approach focuses on (1) text analysis, (2) vocabulary development, and (3) emphasis

on vocabulary and information structure as part of the revision process.

STRAND ONE: TEXT ANALYSIS

Working with students to analyze authentic English-language texts can go a long way toward illustrating how information is structured in English texts. Focusing students' attention first on the flow of given and new information, then on how vocabulary is used to structure information, is a good way to model cohesive writing for students. However, text analysis need not be a dull, teacher-fronted experience. Text analysis can take the form of exercises on reading comprehension and vocabulary development, as described in the tasks below.

Activity: Analysis of authentic text and student text

Goals: To raise awareness of information structure in English-language texts; to raise awareness of information structure in student-written texts

Materials: An authentic text, preferably one that addresses a topic that is part of a thematic unit of instruction. Key words, corresponding to target vocabulary, should be removed from the text as illustrated in Table 4, taken from Bittman (2015). Also required is a short text written by a student.

Step 1: Present the text.

Step 2: Brainstorm vocabulary to fill in the missing gaps. Be certain to ask students to brainstorm more words than are needed.

Step 3: Students and teacher transfer their lists to the blackboard.

Step 4: Teacher and students work together to classify students' vocabulary lists according to the types of lexical cohesion identified in Halliday and Hasan (1976): repetition, synonym, near-synonym, superordinate, or general word (see Table 3).

Step 5: Use the students' lists to fill in

Instructions: Read the text below, then brainstorm a list of words that could fill in the missing words. Be sure to brainstorm more words than there are spaces!

Among all the pollinators, _____ get the most publicity, deservedly, because of the problems around their survival. Claire Kremen's research at the University of California, Berkeley, looks at diverse pollinators — not just _____, but also _____, _____ and many _____ — and the issues affecting them as emblematic of the broader problems of the food system. _____ are critical to global food production and about 75 percent of crop species depend on them to produce food that is more abundant and nutritious than it would otherwise be. (Bittman 2015)

Table 4. Authentic text with key words removed

Instructions: Compare your word choices to the author's choices. How are your choices similar? How are they different?

Among all the pollinators, honeybees get the most publicity, deservedly, because of the problems around their survival. Claire Kremen's research at the University of California, Berkeley, looks at diverse pollinators — not just bees, but also birds, moths and many insects — and the issues affecting them as emblematic of the broader problems of the food system. Pollinators are critical to global food production and about 75 percent of crop species depend on them to produce food that is more abundant and nutritious than it would otherwise be. (Bittman 2015)

Table 5. Original text for student comparison

the blanks in the text. Encourage multiple possible answers.

Step 6: Students compare their answers to the original text in Table 5. Encourage students to notice similarities and differences between their word choices and the author’s word choices.

Step 7: Work with students to build a hierarchical diagram of the author’s word choices (see Table 6). The diagram can be used (1) to demonstrate how cohesion is achieved in English and (2) as an organizational scheme for vocabulary instruction.

Pollinators (superordinate)	
1. many insects	1a. honeybees, bees (synonyms); moths
2. birds	

Table 6. Suggested organization of missing words in original text

Step 8: Use differences and similarities between the students’ brainstormed vocabulary lists and the vocabulary used by the original author as an awareness-raising exercise to show students how their answers achieve varying degrees of cohesion.

Step 9: Work with students to analyze the information structure of the sample text. However, because the text is informationally quite dense—as are many academic texts (Biber and Gray 2010)—it is best to first work with students to identify the noun phrases in the passage (see Table 7).

Step 10: Work with students to identify the referent of each noun phrase. For example, in the Table 5 text, I found that most of the items revolved around three main topics: (1) pollinators, (2) the problems of pollinators, and (3) food sources. Once this analysis is complete, teachers and students can present this information, as in Table 8.

all the pollinators	moths
honeybees	many insects
the most publicity	the issues affecting them
the problems around their survival	the broader problems of the food system
Claire Kremen’s research at the University of California, Berkeley	food that is more abundant and nutritious than it would otherwise be
diverse pollinators	global food production
bees	75 percent of crop species
birds	pollinators

Table 7. Noun phrases identified in Table 5 text

Pollinators	Their problems	Food sources
all the pollinators	the problems around their survival	the broader problems of the food system
honeybees	the issues affecting them	global food production
diverse pollinators	Claire Kremen’s research at the University of California, Berkeley	75 percent of crop species
bees		food that is more abundant and nutritious than it would otherwise be
birds		
moths		
many insects		

Table 8. Noun phrases listed by their referents

Step 11: Compare the model text to a passage from a student’s text (see Table 9) by first identifying all the noun phrases in the student’s written work, as indicated in Table 10.

Step 12: Work with students to identify the referent of each noun phrase in the student’s written work (see Table 11).

Step 13: Label the referent of the noun phrases in each paragraph, then mark the information status of each referent as given or new (see Figures 1 and 2).

When readers compare the analyses of the model text (Table 5) and of the student’s writing

(Table 9), many will likely notice that the majority of the nouns and noun phrases in Table 5 (approximately 81 percent) address one of three themes. Further, new referents are consistently presented in the predicate position of sentences before they are taken up as given information in the following sentence (see Figure 1). In Table 5 the writer advances the topic, bit by bit, by constantly referring to information that has already been presented or is assumed to be known to the reader. Movement may be slow, and the topic may not advance as quickly as we would like. However, advancing the topic in this way ensures that the continuity of the topic is maintained and that new information is incorporated into the text in a way that makes its relationship to the topic clear to the reader.

The majority of people believe that the earth is being damaged by human activity. On the other hand, there are people who think that human activity makes the earth a better place to live. In my opinion, I think that we are damaging our world with our activities. For example, the global warming is a big problem that we are seeing nowadays.

Table 9. Sample student text

I	we
the majority of people	our world
the earth	our activities
human activity	example
the other hand	the global warming
my opinion	a big problem that we are seeing nowadays
people who think that human activity makes the earth a better place to live	

Table 10. Noun phrases from sample student text

Referent	Noun phrases
Environmental problems	the global warming; a big problem that we are seeing nowadays
Human activity	human activity; our activities
Planet Earth	the earth; our world
The author	I
The author and the reader	we
The population	the majority of people
The author’s opposition	people who think that human activity makes the earth a better place to live
Part of a discourse marker	the other hand; my opinion; example

Table 11. Noun phrases listed by their referents

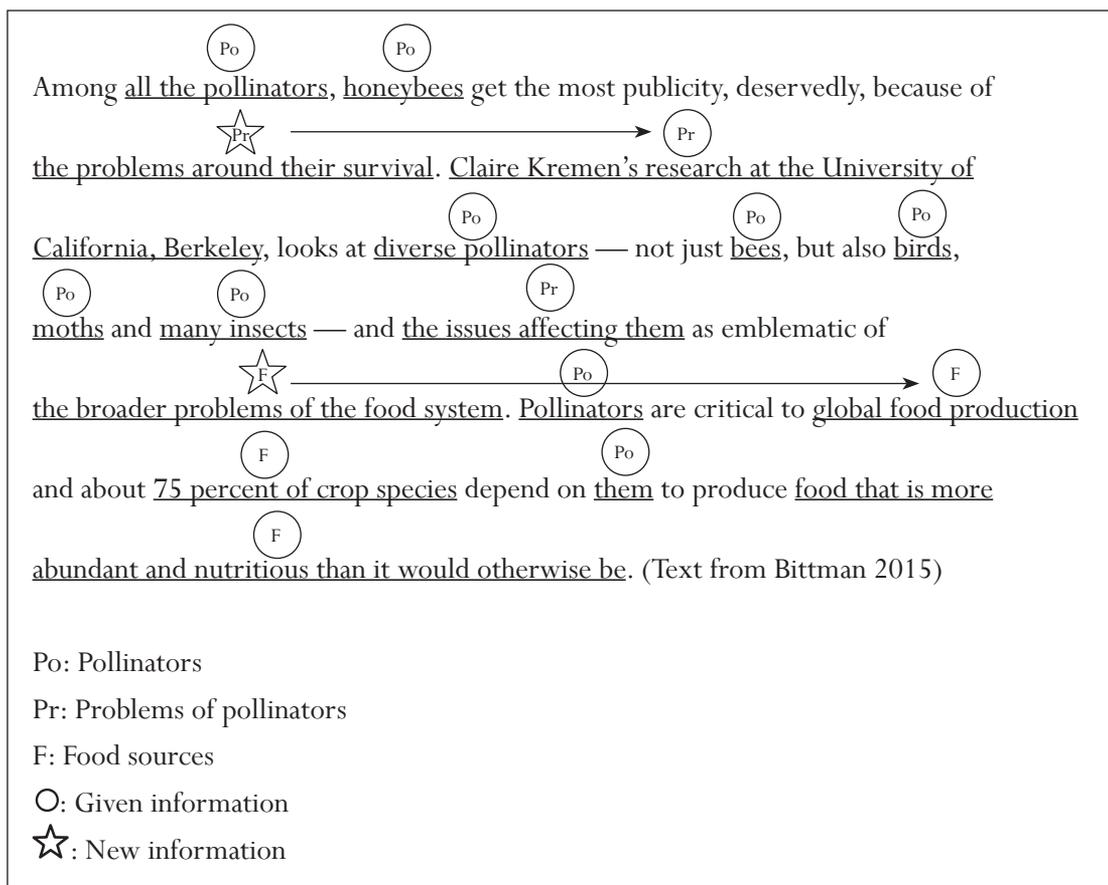


Figure 1. An illustration of the information structure in Table 5 text

In contrast, as we examine the information structure of the student's text in Table 9, we notice how many of the noun phrases (a little over 23 percent) are part of set discourse markers (e.g., "in my opinion," "on the other hand," "for example"). Further, one of the noun phrases—the longest one—appears to have been copied verbatim from the writing prompt ("people who think that human activity makes the earth a better place to live"). More concerning, however, is that only six of the noun phrases (approximately 46 percent) co-refer: "the earth" and "our world" co-refer, as do "human activity" and "our activities," as well as "the global warming" and "a big problem that we are seeing nowadays." However, the majority of the noun phrases in this student's text are parts of set phrases or introduce new information into the text without taking it up as given information in the following sentence.

In addition, the one new referent in Table 9 is presented in the subject position of the final sentence and is addressed again in the predicate

of the same sentence (see Figure 2). This suggests that the writer is not advancing the topic and that the text is not cohesive. Key to helping this student develop a greater sense of cohesion in his or her writing is promoting an awareness of information structure in English texts and illustrating to the student how his or her own writing differs from the anticipated information structure of an English text.

Helping L2 writers expand on new information, in my view, requires attention to vocabulary development, the second strand of the three-strand approach.

STRAND TWO: VOCABULARY DEVELOPMENT

It seems obvious that a focus on lexical cohesion requires attention to vocabulary development. However, in many instructional contexts, vocabulary instruction is considered the responsibility of the reading teacher and not the

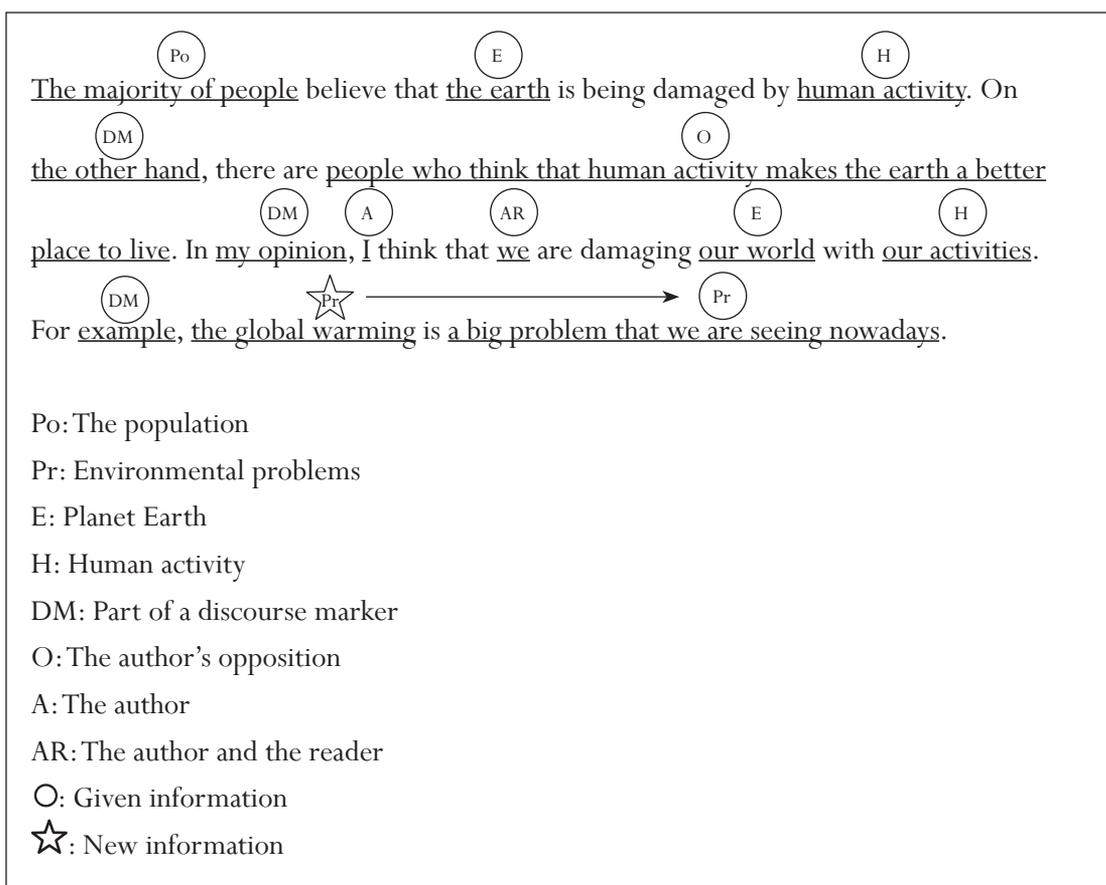


Figure 2. An illustration of the information structure in Table 9 text

responsibility of the writing teacher (Folse 2008). This is unfortunate for two reasons. The first reason is that vocabulary instruction is treated as a method for comprehending text, rather than as a means of expressing original meaning. The second reason is that two key types of vocabulary knowledge are associated with L2 writing performance: the first type is accurate productive knowledge of high-frequency word families (Johnson, Acevedo, and Mercado 2016), and the second type is the use of low-frequency word families (Johnson, Acevedo, and Mercado 2013, 2016). This suggests that instructors must balance two seemingly contradictory goals: developing students' accurate use of high-frequency vocabulary and developing their range of low-frequency vocabulary. I will initially focus on the first goal and then address the second when considering revision.

Teachers can use frequency information

to target vocabulary for instruction by analyzing students' reading materials using the VocabProfile tool, which is freely available at www.lexutor.ca. Teachers can then select high-frequency vocabulary for the following three activities in order to help students build speedy, automatic retrieval of high-frequency vocabulary and accurate written production of high-frequency word families.

Activity 1: Vocabulary Guessing Game

Goal: To develop speedy, automatic retrieval of high-frequency vocabulary

Materials: High-frequency words written on individual slips of paper; these slips will be put in a box, a hat, or another container that students cannot see through.

Step 1: Group students in pairs.

Step 2: Students randomly pick three (or more) words from the box. They should not show their words to their partners.

Step 3: Without saying the word on the slip of paper, Student 1 describes his or her first word to Student 2. Student 2 tries to guess the word, based on the description.

Step 4: As soon as Student 2 guesses the word, Student 1 describes the next word.

Step 5: When Student 1 has described all three words to Student 2, Student 2 describes his or her words to Student 1.

Step 6: Student 1 guesses the words Student 2 is describing.

Step 7: Repeat as desired or needed.

Activity 2: Dictation

Goal: To develop accurate written production of high-frequency word families

Material: A relatively easy paragraph from the students' reading materials; ideally, the text should be composed of high-frequency vocabulary. Teachers can check this by using the VocabProfile tool at www.lex Tutor.ca to create a lexical frequency profile of the text.

Step 1: Tell students to take out a clean sheet of paper.

Step 2: Inform students that you will read the paragraph three times and that they should

write the paragraph as you read it. Read the paragraph the first time at a natural speed.

Step 3: Prepare students for the second reading. Instruct them to listen carefully for any words they missed during your first reading. Read the paragraph at a natural speed.

Step 4: Prepare the students for the third and final reading. Instruct students to listen carefully for any words they missed during the first two readings. Read the paragraph at a natural speed.

Step 5: Instruct students to exchange papers with the student sitting next to them. Read the paragraph slowly, giving students the opportunity to correct each other's work. Answer students' questions as needed.

Step 6: Collect the students' papers in order to give them feedback on the accuracy of word forms and spelling.

One thing to bear in mind is that vocabulary instruction—particularly for L2 writing—should be done in word families rather than in individual words. Because knowing a word involves a number of different facets of knowledge about that word (Nation 2001), teachers and students should work together to change the form of target vocabulary so that it can be used in a range of syntactic environments. That word manipulation is the target of the following activity, which teachers can easily adapt from their own course materials and course textbooks.

Instructions: Fill in each blank by changing the word in parentheses. The first one has been done for you.

1. Great teachers are able (ability) to create effective learning environments for their students by _____ (relate) to their students with caring and humor.
2. They are experts at _____ (build) a good relationship with their students.
3. The _____ (effective) of a good relationship is a relaxed environment that _____ (supportive) learning.

Table 12. Sample gap-fill worksheet

Activity 3: Word Manipulation

Goal: To develop accurate written production of high-frequency word families

Material: A gap-fill worksheet with the target words in parentheses (see Table 12). The form of the word in parentheses and the form of the missing word should be different from each other.

Step 1: Distribute the worksheet to students.

Step 2: Instruct students to change each word in parentheses to complete each sentence.

Step 3: Work with students to correct any errors in word form and spelling.

STRAND THREE: REVISION

To develop students' range of low-frequency vocabulary, teachers and students may use the lexical frequency profiler at www.lextutor.ca to create lexical frequency profiles of students' written work. The profiler offers a number of output options to illustrate the relative frequency of the students' vocabulary choices compared to data from various frequency lists.

Teachers or students can choose which frequency lists to use as they create a lexical frequency profile of writing assignments, and the choice may depend on the first language (L1) background of the students. Students from L1 backgrounds that include Romance languages such as French and Spanish may want to focus on the British National Corpus (<http://www.natcorp.ox.ac.uk/>) or Corpus of Contemporary American English (<http://corpus.byu.edu/coca/>) frequency lists (Johnson, Acevedo, and Mercado 2013). Students with backgrounds in non-Romance languages such as Japanese and Chinese may want to focus on vocabulary from the Academic Word List (Coxhead 2000; Coxhead and Byrd 2007).

Activity: Analysis and revision of students' texts

Goal: To promote critical analysis of students' own writing

Materials: Students' written work; thesaurus (online or print); computer with access to the lexical frequency profiler at www.lextutor.ca

Step 1: Students work individually to analyze the information structure of their written work (see the procedure described in Strand One).

Step 2: Students revise their written work so that it more closely matches the expected flow of given and new information.

Step 3: The teacher or the students create a lexical frequency profile of their revised essays. Students can then see where they have relied on more frequent—less sophisticated—vocabulary.

Step 4: Students use a thesaurus (paper-based or online) to determine synonyms for key vocabulary.

Step 5: Students revise their written work to include the new vocabulary.

Step 6: Students submit their written work for teacher input and feedback.

This activity achieves three simultaneous objectives:

- It teaches students to critically examine their work for word choice and information flow.
- It gives students hands-on practice in the use of authentic reference materials.
- It provides students with further experience in the revision of their written work.

CONCLUSION

Lexical cohesion in L2 writing instruction has historically been overlooked, both in L2 writing research and in instructional materials. Instead, in many L2 writing instructional contexts—both ESL and EFL—the main cohesive device that is taught to

L2 writers is conjunction. And this makes sense. Text analysis can be difficult and time-consuming, whereas teaching our students commonly used discourse markers and their function is a quick and easy method to help them achieve cohesion in their writing. However, L2 writers' overreliance on conjunction to achieve textual cohesion (Hinkel 2001) often leads to texts that are formulaic and seemingly disjointed because the flow of information may not match reader expectations.

Few teaching materials appear to have taken up the issue of lexical cohesion as part of L2 writing instruction. Thus, my hope is that this three-strand approach to developing lexical cohesion in L2 writers' texts is a step in the right direction. I believe that by building learners' awareness of how information is typically structured in English texts, developing learners' accurate productive vocabularies, and focusing on information structure and vocabulary (rather than proofreading) as part of the revision process, L2 writing teachers in EFL and ESL contexts can help their students develop a greater sense of cohesion in their writing.

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