Teacher-Prepared Materials:
A Principled Approach

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The language-through-content movement of the past decade has promoted the use of authentic texts for language-learning purposes. Content-based instruction, however, has had the effect of emphasizing content as the driver of curriculum rather than language-learning objectives in the language-through-content equation. Longitudinal studies of ESL learners' achievement on standardized measures suggest that it is in the intermediate-level proficiency range that these students are most in need of materials that are qualitatively and quantitatively distinct from authentic text. These distinct materials are needed in order to promote the development of English-language proficiency. Using various computer tools, teachers can prepare materials for intermediate-level learners following a principled approach, thus supporting them through a stage in their language development when they are at risk of failure. This article provides information and examples of how this may be accomplished. We conclude that preparing materials may also contribute to teachers' professional development.

Depuis une dizaine d'années, l'approche visant l'enseignement des langues axé sur le contenu promeut l'emploi de textes authentiques. Toutefois, l'enseignement axé sur le contenu a fait en sorte que le contenu est devenu le moteur du programme d'études aux dépens des objectifs d'apprentissage langagier. Des études longitudinales portant sur la performance des apprenants ALS telle qu'évaluée par des mesures standardisées donnent à penser que ce sont les apprenants intermédiaires qui ont le plus besoin de matériaux qui sont distincts, qualitativement et quantitativement, des textes authentiques. Ces matériaux distincts sont nécessaires à la promotion du développement de la compétence en anglais. En recourant à divers outils informatiques, les enseignants seront en mesure de suivre une approche fondée sur des principes pour préparer des matériaux destinés aux apprenants intermédiaires. Ainsi, les enseignants pourront appuyer leurs étudiants pendant que ceux-ci sont à un stade de leur apprentissage langagier où ils risquent l'échec. Cet article fournit de l'information et des exemples qui aident à atteindre ce but. Nous maintenons que la préparation de matériaux peut également contribuer au développement professionnel des enseignants.

Introduction

This article is primarily concerned with the language-learning needs of students for whom English is a second language (ESL), who broadly speaking

are in the intermediate range of English-language proficiency. Specifically, we address the need for learning materials that will support the development of vocabulary and beginning reading strategies. Although an active publishing industry is making increasingly better materials available for ESL learners, and plentiful authentic materials are always accessible, we see a distinct role for teacher-prepared materials: the focus of this article.

By the 1990s, a major shift had occurred in our thinking about language-learning approaches, predicated on the ideas of thinkers such as Chomsky (1968) and Vygotsky (1978). Language through content (LTC) in a communicative framework emerged as the prominent paradigm. In broad strokes, two versions of the LTC equation can be identified: one places the emphasis on content, the other on language.

Several LTC (content-driven) frameworks are available: Cognitive Academic Language Learning Approach—CALLA (Chamot & O'Malley, 1996), Knowledge Framework Key Visuals—KFKV (Mohan, 1986), Foresee (Kidd & Marquardson, 1997), among others (Crandall, 1994). The common thread that pervades all these frameworks is that language development will occur as an incidental by-product of engaging with content: content is the driver in the language-through-content equation. The content is often organized thematically or by way of literature-based units. Authentic materials in the form of newspaper and magazine articles and mainstream textbooks are the favored sources of learning materials. Language acquisition is seen as an implicit, unconscious process that occurs as a consequence of active engagement with these materials.

Mounting research evidence suggests that content-driven language instruction may not result in the desired language-learning outcomes (Raptis, 1997). Studies of learning outcomes in immersion settings (Genesee, 1995; Lu, 1998) and accelerated integration of ESL learners into mainstream settings (Watt & Roessingh, 2001) further suggest that a focus on content acquisition with insufficient attention to language-learning may result in low levels of proficiency in productive language skills, as well as in academic failure and ultimately dropout from school. It would seem that using authentic materials may not be sufficient for the purposes of acquiring English-language proficiency: naturally occurring contexts may not be adequate in providing the clues to promote initial acquisition for L2 learners. Authentic text is designed and written for native speakers (NS) who have many years of language-learning at their disposal. Second-language learners are attempting to learn (and compete) with their counterparts with far less language and time available. Most at risk are intermediate-level learners who appear to need various supports that are distinct from authentic materials, textbook materials for mainstream content area study, and other published materials that are commercially available for use with NS.

In our work, we adopt an LTC framework that places the emphasis on language development, and content (often organized here thematically as well) is seen as the vehicle (rather than the driver) that supports L2 acquisition. We have documented positive outcomes that have been published elsewhere (Roessingh, 1999; Roessingh & Kover, 2002, 2003; Roessingh, Kover, & Watt, 2003). In this version of LTC, it is not merely a question of activating an existing but inert knowledge of the language, but of stimulating the development of the language system itself. At the intermediate level, this involves focusing on lexis: single words as well as word combinations that are stored in our mental lexicons as meaningful chunks. Ultimately, this will allow better access to the grammar system (Moudraia, 2001). Language objectives, then, must be made explicit to our learners in a variety of ways that teachers can orchestrate: they can prepare the materials following a principled approach.

Our inquiry question relates to the qualitative and quantitative characteristics of learning materials that teachers can prepare. These will promote efficient second-language development in the critical areas of vocabulary and reading strategies for intermediate-level students. Curiously, little has been written about teacher-prepared materials. Information we have located in the literature is dated (Cray, 1988; Lotherington-Woloszyn, 1988), but provides a good starting point from which we can now build.

We begin by providing some background information about LTC and the learning needs of intermediate learners. A brief discussion of the merits of published and authentic materials follows. This leads to a rationale for teacher-prepared materials, especially rewriting authentic materials and developing supplementary materials. We identify a series of principles from the literature that can be applied to rewriting and developing materials. Our goal is to provide guidance for the development of materials so that mainstream and ESL teachers can produce authentic-like materials that will interest, motivate, engage, and support our ESL learners through a transitional phase. We provide examples of both authentic and rewritten materials, and we suggest ways for developing them as learning resources. Finally, we suggest that the types of materials we find useful for working with intermediate ESL learners of all ages may be seen in a larger context of thematic organization. In undertaking this work, we hope to encourage teachers to become more critical and reflective of their teaching practices; to approach the classroom in the spirit of inquiry for what makes for good learning relative to materials design; and to collaborate in this work with others who have an enthusiasm and interest for this work.

Background

Authenticity is perhaps the key descriptor of the communicative/LTC approach: practitioners are encouraged to promote real language use for real

purposes, using real-life tasks (Galloway, 1993). It follows that authenticity in materials selection would further provide the learning resource support for communicative/LTC language teaching. Newspapers (Patrie, 1988; Paribakht & Wesche, 1993), textbooks (Chamot & O'Malley, 1993), TV commercials (Davis, 1994), the National Enquirer (LaSasso, 1983), swear words (Mercury, 1995), videos, board games, role plays, contact assignments, party games and the like, are all examples of authentic materials and tasks deemed useful for promoting the language-learning goals of ESL learners. More recently, Internet technology permits e-mail penpals, chatrooms, and a host of other Internet applications useful for enriching the second language-learning classroom by way of authentic language-learning experiences (LeLoup & Ponterio, 2000). To sum up, the strengths of these materials include:

- Meaningfulness;
- Relevance;
- Motivational value;
- Engaging;
- Natural.

According to some reasearchers, negotiating meaning and active engagement in purposeful language use are thought to be sufficient for language acquisition. Authentic text can be mediated and made comprehensible through the use of reading guides, questions, and graphic representations; and by building background knowledge (Paribakht & Wesche, 1993; Crandall, 1995).

At the same time, other writers highlight the benefits of (ESL) published materials (Crawford, 2002; McDonough & Shaw, 1993). Published resources include many of the above features, but in addition are seen to be convenient and to support inexperienced teachers (or those without the expertise and time to assemble authentic learning resources and to develop them for pedagogical purposes).

> The issue, then, is not whether teacher should or should not use such materials (published materials)—most do so at some point in their career—but what forms these materials should take if they are to contribute positively to teaching and learning. (Crawford, 2002, p. 84)

An increasing body of research evidence over the past decade, however, suggests that content-driven instruction—whether by authentic or published materials, whether in immersion, integrated, or dedicated settings—is insufficient to ensure that language-learning will occur at certain levels in the development of English language proficiency.

Figure 1 provides a few points of comparison between NS and ESL learners and begins to illustrate the enormous challenge ESL learners face, regardless of age on arrival and language-learning context and goals.

	L1	*L2*
Words at age 6	2,500 (Moskowitz, 1978)	Beginners: 0-1,000
Words at age 15	40,000 (Miller & Gildea, 1987)	Estimated at fewer than 10,000 due to low plateau/fossilization for learners schooled in L2 (Roessingh & Kover, 2002)
Words at age 18 (university entrance)	17,000 word families: 40,000+ words (Goulden, Nation, & Read, 1990)	5,000 words (Cobb & Horst, 2000); These students have full proficiency in L1
Rate of vocabulary acquisition/year	750-5,500 words per year (Nagy, Herman, & Anderson 1985)	550 words per year (EFL learners: Milton & Meara, 1995); 1,000 words per year, ESL learners
Threshold for accessing authentic text at university level	11,123 words (Hazenburg & Hulstijn, 1996)	11,123 words
Readability level of *The Calgary Herald*	9+	
Threshold for accessing academic content materials at postsecondary levels	Reading GE 9-10	
Threshold for contextual guessing of unfamiliar vocabulary in authentic text	95% comprehension or 1 new word in 20 words of running text (Laufer, 1992)	

Figure 1. Some points of comparison between L1 and L2 learning.

The research findings on vocabulary thresholds are inconsistent and widely discrepant. There are many variables at play: level of first language proficiency, age on arrival, and first language spoken. Although all learners find the initial stages of language acquisition challenging, the academic words (Coxhead, 2000; Stubbs, 2001) may come more easily to students whose first language contains recognizable cognates or Latin-based words. For learners from the Pacific Rim (our largest group of learners), however, this too remains a challenge because there is so little to transfer at any level of L2 learning.

Researchers have recently investigated the possibility of providing short cuts for ESL learners, focusing on the 3,000 high-frequency vocabulary items that account for 85% of text coverage, supplemented by the core academic vocabulary: taken, for example, from the Academic Word List (Coxhead, 2000). This might account for another 570 headwords and 3,000 words from within these words families. Students might add another few thousand discipline-specific words, but the estimate proposed lies within the range of 3,000-8,000 base words. Hazenberg and Hustijn's (1996) well-designed, com-

puter-based corpus study puts the threshold significantly higher: they suggest the need for a base vocabulary of 11,123 words for 95% text coverage of average academic text. Laufer (1992) is recognized for his work in finding that learners cannot cope with more than one new word in 20 words of running text (i.e., readers know 95% of the words) if they are to deploy strategies such as contextual guessing to derive the meaning of unknown words. But despite the discrepancies in threshold levels, no one would argue that one of the major challenges facing many ESL learners is the acquisition of a massive vocabulary and that the major way learners expand their vocabulary is through reading (Nation & Coady, 1988; Krashen, 1989; Horst, Cobb, & Meara, 1998). Few ESL learners overcome this deficit, and this affects their academic achievement for the duration of their school experiences and beyond. It is not only the word count that matters, but the multiple meanings and how words are organized into mental frameworks/constructs that needs to be considered. Here again, ESL learners lose out: this time, even more devastatingly so because this deficit has a direct effect on conceptual understanding of complex constructs (semantic networks).

It is our belief that teacher-prepared materials can play a major role in mitigating the effects of this vocabulary deficit at the intermediate level. And it is not only the materials themselves that, if carefully designed, can support language development and strategy use, but also the supplementary materials that teachers can devise to provide access to content and "work" the language. Our goal is to use authentic materials and rewrite them to render them useful as raw data for language development while maintaining their natural "look and feel" as much as possible, in short, to make them authentic-like. Through intentional patterning, recycling, and text enrichment, language-learning can move from the implicit to the explicit. Supplementary resources can reinforce this learning process.

A principled approach to this work will facilitate this process. Further, modern-day technology in the form of computer-based tools, Web site programs for profiling vocabulary, and the Internet even make this work enjoyable and exellent professional development for all teachers: both ESL specialists and mainstream practitioners. In the paragraphs that follow we elaborate on the research that can inform this work. This is followed by an example of how the work can be done using the above-mentioned technologies.

Principles That Will Inform Materials Design and Development

Learning a second language involves much more than acquiring a large vocabulary. And even acquiring vocabulary is a long, complex process (Ellis, 1995; Meara, 1983, 1999). But as noted above, this is a critical aspect of L2 development, and reading is the key means for acquisition. From the research response in L2 learning, a series of key findings (key concepts) have

emerged that can inform practitioners as they think about materials needed for successful L2 development. We highlight below the key principles that have informed our work. All are important: they are not organized by way of priority.

1. *Critical mass.* Learners need to acquire 3,000-5,000 high-frequency words requisite to developing reading skills and strategies (Grabe, 1986; Laufer, 1992; Hirsch & Nation, 1992). In addition, we seek to help our students acquire at least another 5,000 words that include academic words, discipline-specific words, and common words that are not frequent but that we feel students should know. This begins to approach the threshold suggested by Hazenberg and Hulstijn (1996), which in our experience is required to trigger integrative skills and effective reading strategies (Roessingh et al., 2003).

2. *Comprehensible input, CI* (Krashen, 1989). Learners need input that is challenging, but not overwhelming. For instructional purposes, the materials need to be far enough ahead of the learner to provide for growth through scaffolded support or mediation. This is known as CI+1 in Krashen's terms. Vygotsky's (1978) zone of proximal development (ZPD) reflects a similar idea in terms of cognitive growth. The CI level corresponds to the independent reading level of the learner and is also important in our work of providing reading materials to our learners. These levels can be determined through various informal assessment tasks, for example, cloze procedure (Bormuth, 1968).

3. *Context.* Overwhelmingly, the research findings point to the importance of offering words in context in order to make meaning (as opposed to word lists). In addition, *contextual richness* supports the development of fluency in reading (Zahar, Cobb, & Spada, 2000). This means infusing the text with examples, explanations, and other redundancy features that will help the learner acquire vocabulary and make meaning through strategy use. This is a key feature of materials design for learners that native speakers do not need.

4. *Strategies* (Oxford, 1994; Chamot & O'Malley, 1996). Deployment of learning strategies can override the effects of vocabulary deficits, but they need to be taught explicitly in a five-step process (i.e., named, described, and explained, modeled, practiced with teacher support, and practiced independently). Two key strategies our learners need are contextual guessing and morphological analysis.

5. *Frequent exposures* (recycling 6-8 times) to new lexical information is necessary for the learner to recognize the new word, enter it into the mental lexicon, and to assign precision of meaning (Horst et al., 1998; Rott, 1999; Schmitt & Carter, 2000; Ellis, 1995).

6. *Increased rigor (spiral).* Materials should not remain flat or stagnant, as they often do throughout published texts. Rather, as students' level of

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comprehension increases, the CI+1 (or ZPD) shifts, so in the dynamic process of acquiring English language proficiency, we must continue to challenge our learners by continually raising the bar.

7. *Salience* of new information in order to notice and move from implicit to explicit language intake. Learners' attention must be focused on this new information, otherwise they are unlikely to just "get it" incidentally (Moudraia, 2001).

In addition, research in first language reading development can further provide direction for materials design. Key concepts that emerge from these studies include:

8. *Text-considerate features or text accessibility*. The inclusion of visual representations and organizers (Clarke, 1991), boldface, italics, font size, headings and subheadings, chunking (300-500 words), wide margins (for taking notes), creation of white space to lift the density load, pre- and post-reading or study questions, a glossary of key words and concepts can help all learners and hence pass the litmus test for good inclusionary practice (Jonassen, 1982).

9. *Scaffolded support*. The need to support our learners with *supplementary reading guides* and scaffolding (Raphael, 1982).

Together these nine principles give direction to the work of rewriting materials for the purposes of making meaningful language-learning the focus of our instructional efforts. In the following section we illustrate how these principles can be applied.

Selecting and Rewriting Text

Teachers can select (and collect) newspaper articles according to students' interest or currency. We suggest targeting stories that are durable and thus can be reused over time and that have a sense of unfolding/development. These articles can be clustered into a mini-theme that permits for recycling of language (Schmitt & Carter, 2000) and the potential to design a variety of

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Counts:
- 434
- Paragraphs: 16
- Sentences: 24

Averages:
- Sentences per paragraph: 1.6
- Words per sentence: 17.8
- Characters per word: 4.6

Readability:
- Passive sentences: 20%
- Flesch Reading Ease: 60.6
- Flesch-Kincaid Grade Level: 9.0

Figure 2. Readability statistics for "isolation therapy prescribed for Keiko."

Count: 440
First 500: (278) (63.18%)
K1 words (1 to 1000): 335 (76.14%)
    Function: (188) (42.73)
    Content: (145) (32.95%)
K2 words (1001 to 2000): 33 (7.50%)
AWL Words (academic): 16 (3.64%)
Off-list words: 49 (11.13%)

Figure 3. Web VP output for file: Isolation therapy prescribed for Keiko.

learning tasks. To illustrate, we have chosen an article from *The Calgary Herald* (November 6, 2002, A20) entitled "Isolation Therapy Prescribed for Keiko." The complete text appears in Appendix A. The story of Keiko goes back over a decade and has inspired the *Free Willy* films as well as a major children's campaign to free Keiko, the orca that played the starring role in the films.

We type the text into the computer, and using the tools available on most computers, generated the following readability statistics, displayed in Figure 2. Next we type the text into the Vocab Profiler (Cobb, 2003). This generates the profile displayed in Figure 3.

It is immediately clear that the 95% threshold (i.e., 22 unknown words) suggested by Laufer (1992) for learners to guess at meaning is not met. In fact, the AWL words together with the off-list words (65 words) amount to nearly 15% of the word count: three times the weight Laufer (1992) recommends for strategic guessing. The biggest challenge for our learners is the off-list words. Second, the overall readability of the article, although typical for newspapers (grade equivalent [GE] 9), surpasses the instructional level (i.e., CI+1) for intermediate-level learners, which we place in the range of GE 5-7. We estimate (from our experience in the classroom) the independent reading level—CI—of intermediate learners to be GE 4-5.

To make this newspaper clipping usable for language-learning purposes, we must reduce the GE between 9 and 5-7. To accomplish this, we need to reduce the sentence length and reduce the number of academic and off-list words. Failure to do this makes the reading task arduous for the second-language learner. The experience may be simulated roughly for the native speaker by attempting to make meaning with the ratio of roughly 1:5 in the following gapped passage from the article (Appendix A).

His awkward _____ in the wild and lack of social skills among other _____ have caused his _____ to wonder if the people-loving _____ will ever _____ with his own _____.

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This sentence carries more than three times the load recommended by Laufer for successful guessing from context: five of the 32 words in the sentence are off-list words, and one word is from the AWL. In addition, the reader must infer a great deal of information: awkward forays and social skills for a normal orca: what might these be?

Finally, we need to recycle key vocabulary, enrich the context to allow for guessing at unfamiliar vocabulary, and use the visual (photo of Keiko) and the caption to greater advantage. This can readily be done on the computer. We have imported our own photo of Keiko, taken while on holidays in Oregon, that clearly shows Keiko in the aquarium and written a caption that more directly helps the reader make meaning of one of the off-list words (i.e., aquarium). The reworked text appears below.

Leave Keiko Alone!

Keiko has lived in the aquarium for more than 20 years.

Keiko, the whale that played a star role in the Free Willy movies, is about to be moved to a new bay. His new home will be more isolated. There will be fewer people and more wild orcas.

Keiko has been in captivity for more than 20 years. He has lived in an aquarium with human handlers all this time. After the Free Willy movies were made, millions of people demanded his release. He was finally released into the wild 4 months ago, off the coast of Iceland where he was born. This is where he was captured so long ago. His handlers have worked hard to prepare Keiko for his return to the open ocean. They have spent 6 years and more than $20-million US getting Keiko ready for his release.

But Keiko has not taken easily to life in the wild. Instead of playing and hunting with other whales, Keiko again and again returns to his handlers or anyone else who will pay attention to him. Over the summer months, Keiko swam from Iceland to Norway. He surfaced close to Halsa, a small village in the northwest of Norway. Here he has found boaters and bathers who are more than happy to swim with him, touch him, feed him and even climb on his back. Copying a scene from one of the movies, a young girl played her harmonica for Keiko. He came immediately to her. It seems that Keiko just can't get enough of all this human attention.

Keiko's handlers are upset with all this human attention. They have asked Keiko's fans to leave him alone. They have placed a ban on approaching Keiko. For the winter, Keiko's handlers want to lead him to a more isolated bay where feeding grounds are rich and wild orcas are thought to be plentiful.

Authorities in Norway have promised to protect Keiko. His name means "lucky one" in Japanese. He cannot be captured again nor killed for meat. Norway allows whalers to hunt only Minke whales.

The people of Halsa have fallen in love with Keiko and they would like to keep him in their region. Their slogan is, "Do like Keiko. Pick Halsa."

But Keiko's handlers want a different future for him. They hope Keiko will finally join a pod of wild orcas when they move him. "It is entirely up to him; we just want to give him the chance to meet them," says Colin Baird, one of Keiko's handlers. "He is free. He is not penned in or anything."

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Counts:
  • Words: 461
  • Paragraphs: 9
  • Sentences: 37
Averages:
  • Sentences per paragraph: 4.1
  • Words per sentence: 12.4
  • Characters per word: 4.2
Readability:
  • Passive sentences: 16%
  • Flesch Reading Ease: 77.2
  • Flesch-Kincaid Grade Level: 5.4
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Figure 4. Readability statistics for Leave Keiko Alone!

Critics say the effort is a waste of time and money. "I don't think for a second that Keiko would survive in the wild," says Erik Berntsen, a veterinarian at the Norwegian Institute of Nature Studies.

The revised readability statistics are displayed in Figure 4. The Vocabulary Profile generates the information shown in Figure 5.

The rewritten materials are now much more usable for language-learning purposes. The article remains at a length that is reasonable for intermediate learners (300-500 words); it maintains the look of a newspaper clipping and thus gives learners practice with this format (i.e., heading/title, the key visual and caption, the columns). The next step is to develop the comprehension questions and the other tasks that will work the text; promote the use of reading strategies and top-down processing (e.g., making inferences, predicting), and develop integrative skills (e.g., cloze).

Developing the Text

To supplement the article, we want to develop a variety of language-learning tasks that will recycle key vocabulary and concepts, promote the teaching of reading strategies, and check for comprehension. Puzzles, cloze, and comprehension questions are easily designed for these purposes, all on the computer.

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First 500: (308) (66.67%)
K1 words (1 to 1000): 357 (77.27%)
    Function: (224) (48.48%)
    Content: (132) (28.57%)
K2 words (1001 to 2000): 22 (4.76)
AWL Words (academic): 12 (2.60%)
Off-list words: 32 (7%)
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Figure 5. Web VP output for file: Leave Keiko Alone!

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Raphael (1982), advocates teaching learners three levels of questions: "right there" (literal level); "think and search" (synthesis); and "on my own" (inference/interpretive). Examples of level 1 question types would be "How long was Keiko in captivity?" or "Where was Keiko born?" level 2, "Why do Keiko's handlers think that Keiko's new home will be a better place for him?" and level 3, "What makes Erik Berntsen say that Keiko will not survive in the wild?" or "Is Keiko really free?"

The text has been intentionally rewritten to encourage the use of contextual guessing as a key reading strategy. Students' attention needs to be focused on this task. The teacher can highlight the off-list words (e.g., *aquarium, ban, bathers, boaters, captivity, harmonica, pod, star*), or ask the students to highlight for themselves the words they do not know and then ask them to figure out the meaning of these words. A five-step approach, mentioned above, is suggested. Some words such as *boaters* and *bathers* lend themselves to morphological analysis as a way of making meaning.

If a cloze exercise is needed from any text (of at least 350 words) for either teaching or testing purposes, the procedure is as follows. Leaving the first two sentences intact, delete every fifth word from the remainder of the text (excluding the words *a, an, the*). Replace these words with a blank of standard length (e.g., 12 letter spaces). Ask the students to replace the missing words. Bormuth (1968) suggests the following scoring guidelines: 60-100% (independent level, the student can read without help); 45-60% (instructional level, the student can read with help); 0-45% (frustration level, unsuitable for use with this student). An example is provided in Appendix B. For instructional purposes, it is worth having students share their strategies for filling in the blanks and having a class discussion about alternative words that would make sense for any given blank. For testing purposes, target the student's independent range.

The words from the academic word list (AWL) can be taught explicitly in a variety of ways. These include: *approaching, authorities, finally, institute, isolated, region, release, role,* and *survive*. Again, contextual guessing is possible as a strategy.

Puzzlemaker (www.puzzlemaker,school.discovery.com/) is a computer-based tool that generates crossword puzzles or word searches based on the input given. Once having completed a few teacher-prepared puzzles, our students have enjoyed writing their own clues for the key vocabulary highlighted in text and exchanging puzzles with classmates. At high intermediate levels, students can be instructed to give a synonym, a definition, collocations or word partnerships, an example, an antonym or an analogy (e.g., captivity: aquarium; freedom: _____; humans: family; whales: _____) in writing their crossword puzzle clues. An example appears in Appendix C.

Finally, students at this level may benefit from direct instruction and practice in top-down processing: reading beyond the text. Making predic-

tions, inferences, and hypotheses; drawing conclusions and attributing motive are examples of higher-order thinking skills that require reading at the interpretive level. ESL learners, especially young arrivals who do not have cognitive academic language proficiency in L1, are often stuck at the literal level (Roessingh & Kover, 2002). Appendix D provides questions teachers can ask to promote reading beyond the text.

Teacher-prepared text can serve as a vehicle for acquiring vocabulary in many ways. Our experience has been that with a little practice, the process becomes fairly intuitive, not too labor-intensive, creative, enjoyable, and even addictive. Once the materials are prepared, it is easy to exchange them with others, again using computer tools for this purpose. A major advantage of this process is that this circumvents copyright issues, and creating and sharing materials become an excellent form of professional growth and development. We welcome any visitors to browse our materials at www.learningbydesign.ucalgary.ca

Conclusion and Reflection

Intermediate-level learners can benefit from teacher-prepared materials that will bridge toward authentic text. In the range of reading abilities from high beginner to high intermediate, it becomes clear that the materials learners need to promote language development are qualitatively and quantitatively distinct from authentic and published materials designed for NS. Failure to support learners through this transitional phase may result in short-circuiting, that is, an overemphasis on content acquisition at the expense of language-learning with the consequence of low plateau and fossilization, often at about a GE 4-5. In the context of a thematic unit (e.g., *Orca! The Story of Keiko; Elephant Man: A Life Well Lived,* as found on the www.learningbydesign.ucalgary.ca Web site) learners can make the shift (spiraling) from teacher-prepared to authentic materials as they build background knowledge, become familiar with the key vocabulary and concepts, and practice independent use of reading strategies. To return to our inquiry question, then, the features of teacher-prepared materials that are most important are perhaps the intentional recycling (quantitative/frequency) and intentional contextual enrichment (qualitative/salience) that will make explicit the vocabulary, and in the long run the English grammar system. We see vocabulary as the building blocks for carrying meaning rather than the grammar system: language consists of grammaticalized lexis rather than lexicalized grammar. If we are to reach the target of 11,123 words suggested by Hazenberg and Hulstijn (1996), it is in the intermediate range that learners must begin to expand the high-frequency words and acquire words from the AWL, some topic specific words, and a broader base of common words that are off-list.

A second major benefit of this work is teacher professionalization. We can move from being technicians, implementing and delivering somebody else's mail, to informed decision-makers who can respond to the needs and interests of our learners. And in the dynamic of the teaching-learning relationship, we think of ourselves as learners at times, and our learners as our teachers. A principled approach together with the support of computer-based tools and other technology makes for ease of creating and sharing materials. Reflective, engaged, intentional teaching transforms our work from practice to praxis.

Acknowledgments

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References

Bormuth, J.R. (1968). Cloze test readability: Criterion reference scores. *Journal of Education Measurement, 5,* 189-196.

Chamot, A., & O'Malley, M. (1993). *The CALLA handbook: Implementing the cognitive academic language learning approach.* Reading, MA: Addison Wesley.

Chamot, A., & O'Malley, M. (1996). The cognitive academic language learning approach: A model for linguistically diverse classrooms. *Elementary School Journal, 96*(3). Available on-line.

Chomsky, N. (1968). *Language and mind.* New York: Harcourt, Brace & World.

Clarke, J. (1991). Using visual organizers to focus on thinking. *Journal of Reading, 34,* 526-534.

Cobb, T. (2003) *VocabProfile tool available on the Compleat Lexical Tutor.* Accessed October 4, 2004, from http://www.textutor.ca/

Cobb, T., & Horst, M. (1999). *Reading academic English: Carrying learners across the lexical threshold.* Retrieved May 1, 2003, from http://www.er.uqam.ca/nobel/r21270/cv/threshold.html

Cobb, T., & Horst, M. (2000). *Vocabulary sizes of some city university students.* Retrieved May 1, 2003, from http://www.er.uqam.ca/nobel/r21270/cv/CitySize.html

Coxhead, A. (2000). A new academic word list. *TESOL Quarterly, 34,* 213-238. Retrieved June 26, 2003, from http://www.vuw.ac.nz/lals/div1/awl/ http://www.nottingham.ac.uk/~alzsh3/acvocab/lists/sublist%201.doc www.uni-trier.de/uni/fb2/anglistik/Projekte/stubbs/awl.htm

Crandall, J. (1994). Content-centered language learning. *ERIC Digest,* ED 367142. Retrieved June 26, 2003, from www.cal.org.ericcll/digest/cranda01.html

Crandall, J. (1995). The why, what and how of ESL reading instruction: Some guidelines for writers of ESL reading textbooks. In P. Byrd (Ed.), *Material writer's guide* (pp. 79-95). Boston, MA: Heinle & Heinle.

Crawford, J. (2002). The role of materials in the language classroom: Finding the balance. In J. Richards & W. Renandya (Eds.), *Methodology in language teaching: An anthology of current practice* (pp. 80-91). New York: Cambridge University Press.

Cray, B. (1988). Why teachers should develop their own materials. *TESL Talk, 18*(1), 82-88.

Davis, R. (1994). Commercial messages: You got the right one, baby! *TESOL Matters, 46)*, 10.

Ellis, N. (1995). Vocabulary acquisition: Psychological perspectives. *Language Teacher, 19*(2), 12-16.

Galloway, A. (1993). *Communicative language teaching: An introduction and sample activities.* Retrieved June 20, 2003, from http://www.cal.org/ericcll/digest/gallow01.html

Genesee, F. (1995). *Integrating language and content: Lessons from immersion.* Retrieved June 26, 2003, from http://www.cal.org/ericcll/digest/ncrcds05.html

Goulden, R., Nation, P., & Read, J. (1990). How large can a receptive vocabulary be? *Applied Linguistics, 11*, 341-363.

Grabe, W. (1986). The transition from theory to practice in teaching reading. In F. Dubin, D.E. Eskey, & W. Grabe (Eds.), *Teaching second language reading for academic purposes* (pp. 25-48). Reading, MA: Addison-Wesley.

Hazenberg, S., & Hulstijn, J.H. (1996). Defining a minimum receptive second language vocabulary for non-native university students: An empirical investigation. *Applied Linguistics, 17*(2), 145-163.

Hirsch, D., & Nation, P. (1992). What vocabulary size is needed to read unsimplified texts for pleasure? *Reading in a Foreign Language, 8*, 689-696.

Horst, M., Cobb, T., & Meara, P. (1998). Beyond a Clockwork Orange: Acquiring a second language vocabulary through reading. *Reading in a Foreign Language, 11*, 207-223. Retrieved May 1, 2002, from http://www.er.uqam.ca/nobel/r21270/cv/Casterbridge.html

Jonassen, D. (1982). *The technology of text: Principles for structuring, designing and displaying text.* Englewood Cliffs, NJ: Educational Technology Publications.

Kidd, R., & Marquardson, B. (1997). The Foresee approach to integrated ESL instruction. *TESL Canada Journal, 15*(1),1-21.

Krashen, S. (1989). We acquire vocabulary and spelling by reading: Additional evidence for the Input Hypothesis. *Modern Language Journal, 73*, 104-114.

Laufer, B. (1992). How much lexis is necessary for reading comprehension? In P.J. Arnaud & H. Bejoint (Eds.), *Vocabulary and applied linguistics* (pp. 126-132). London: Macmillan.

LaSasso, C. (1983, March). Using the *National Enquirer* with unmotivated or language-handicapped readers. *Journal of Reading*, 546-548.

LeLoup, J., & Ponterio, R. (2000). *Enhancing authentic language learning experiences through Internet technology.* Retrieved July 17, 2003, from http://www.ericfacility.net/ericdigests/ed442277.html

Lotherington-Woloszyn, H. (1988). On simplified and simplifying materials for ESL reading. *TESL Talk, 18*(1), 112-123.

Lu, M. (1998). *English-only movement: Its consequences for the education of language minority children.* Retrieved July 4, 2003, from http://www.indiana.edu/~eric_rec/ieo/digests/d139.html

McDonough, & Shaw (1993). *Materials and methods in ELT: A teacher's guide.* Cambridge, MA: Blackwell.

Meara, P. (1983). Word associations in a foreign language. *Nottingham Linguistics Circular, 11*(2), 29-38. Retrieved June 26, 2003, from www.swan.ac.uk/cals/calsres/vlibrary/vlib.htm

Meara, P. (1999). *The vocabulary knowledge framework.* Retrieved June 26, 2003, from www.swan.ac.uk/cals/calsres/vlibrary/vlib.htm

Mercury, R. (1995). Swearing: A "bad" part of language; a good part of language learning. *TESL Canada Journal, 13*(1), 28-36.

Miller, G., & Gildea, P. (1987). How children learn words. *Scientific American, 257*, pp. 86-91.

Milton, J., & Meara, P. (1995). How periods abroad affect vocabulary growth in a foreign language. *ITL Review of Applied Linguistics, 107/108*, 17-34.

Mohan, B. (1986). *Language through content.* Reading, MA: Addison-Wesley.

Moskowitz, B. (1978). The acquisition of language. *Scientific American*, November.

Moudraia, O. (2001). *Lexical approach to second language teaching.* Retrieved July 2, 2003, from http://www.cal.org/ericcll/digest/0102lexical.html

Nagy, W.E., Herman, P.A., & Anderson, R.C. (1985). Learning words from context. *Reading Research Quarterly, 20*, 233-253.

Nation, P., & Coady, J. (1988). Vocabulary and reading. In R. Carter & M. McCarthy (Eds.), *Vocabulary and language teaching* (pp. 97-110. New YOrk: Longman.

Oxford, R. (1994). *Language learning strategies: An update.* Retrieved June 26, 2003, from http://www.cal.org/ericcll/digest/oxford01.html

Paribakht, T.S., & Wesche, M.B. (1993). Reading comprehension and second language development in a comprehension-based program. *TESL Canada Journal, 11*(1), 9-29.

Patrie, J. (1988). Comprehensible text: The daily newspaper at the beginning level. *TESL Talk, 18*(1), 135-147.

Raphael, T.E. (1982). Question-answering strategies for children. *Reading Teacher*, November, pp. 186-190.

Raptis, H. (1997). Is second language reading vocabulary best learned by reading? *Canadian Modern Language Review, 53*, 566-580.

Roessingh, H. (1999). Adjunct support for high school ESL learners in mainstream English classes: Ensuring success. *TESL Canada Journal, 17*(1), 72-86.

Roessingh, H., & Kover, P. (2002). Working with younger-arriving ESL learners in high school English: Never too late to reclaim potential. *TESL Canada Journal, 19*(2), 1-19.

Roessingh, H., & Kover, P. (2003). Variability of ESL learners' acquisition of cognitive academic language proficiency: What can we learn from achievement measures? *TESL Canada Journal, 21*(1), 1-21.

Roessingh, H., Kover, P., & Watt, D. (2003). *Developing cognitive academic language proficiency: The journey.* Unpublished manuscript, University of Calgary.

Rott, S. (1999). The effect of exposure frequency on intermediate language learners' incidental vocabulary acquisition and retention through reading. *Studies in Second Language Acquisition, 21*, 589-619.

Schmitt, N., & Carter, R. (2000). The lexical advantages of narrow reading for second language learners. *TESOL Journal*, spring, 4-9.

Stubbs, M. (2001). *Which words must students know? A note on "A new academic word list" (Coxhead 2000).* Retrieved July 8, 2003, from www.uni-trier.de/uni/fb2/anglistik/Projekte/stubbs/awl.htm

Vygotsky, L. (1978). *Mind in society: The development of higher psychological processes.* Cambridge, MA: Harvard University Press.

Watt, D., & Roessingh, H. (2001). The dynamics of ESL dropout: Plus ca change ... *Canadian Modern Language Review, 58*, 203-222.

Zahar, R., Cobb, T., & Spada, N. (2000). *Acquiring vocabulary through reading: Effects of frequency and contextual richness.* Retrieved May 1, 2003, from http://www.er.uqam.ca/nobel/r21270/cv/v_conditions.htm

Appendix A

Isolation therapy prescribed for Keiko
Calgary Herald, November 6, 2002, p. A20

More than two months after arriving in Norway's Skaalvik fjord, Keiko the killer whale is ready to be moved to another bay with fewer people and more wildlife.

The 5.5-tonne star of the Free Willy films was released in his native waters off the coast of Iceland in July, after more than two decades in captivity.

His awkward forays in the wild and lack of social skills among other orcas have caused his handles to wonder if the people-loving cetacean will ever bond with his own kind.

After a $20-million US program trained him for life in the ocean, Keiko traveled 1,400 kilometers to western Norway, frolicking with boats and bathers to the delight of fans and the distress of scientists.

Colin Baird, Keiko's trainer, said crowds have thinned since Keiko arrived in September. For the winter, his handlers want to lead him to a more isolated bay called Taknes, where fishing grounds are rich and wild orcas are thought to be plentiful.

"We're looking forward to it," Baird said by telephone. "But there have been a lot of logistics involved."

The team will use boats to guide Keiko through Norway's waterways to his winter home. A date for the move had not been announced.

Authorities in this Scandinavian country of 4.5 million have promised to protect Keiko, whose name means "lucky one" in Japanese. He cannot be captured, penned or commercially exploited. He's protected under law because Norway permits commercial whalers to hunt only Minke whales.

But Keiko, now nearly 25 years old, finds humans hard to resist. Hundreds of fans swam with him, petted him and climbed on his back until Norwegian authorities imposed a ban on approaching him.

Even after that, Keiko came close to shore in response to an eight-year-old girl's harmonica serenade, mimicking a scene from one of his movies.

The people of Halsa—a village about 400 kilometers northwest of the capital, Oslo—were delighted by Keiko's presence and lobbied to keep him in their region with the slogan, "Do like Keiko. Pick Halsa."

Baird and other supporters say Keiko, rescued from a Mexico City amusement park in 1996, could eventually join a pod of wild orcas.

"It is entirely up to him; we just want to give him the chance to meet them," said Baird. "He is free. He's not penned in or anything.

Critics say the effort is a waste of time and money.

"I don't think for a second that Keiko would survive in the wild," said Erik Berntsen, a veterinarian at the Norwegian Institute of Nature Studies.

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HETTY ROESSINGH and CARLA JOHNSON

Appendix B
Cloze Exercise: Leave Keiko Alone!

Keiko, the whale that played a star role in the Free Willy movies, is about to be moved to a new bay. His new home will be more isolated. There will be fewer _____ and more wild orcas.

_____ has been in captivity _____ more than 20 years. He _____ lived in an aquarium _____ human handlers all this time. _____ the Free Willy movies _____ made, millions of people _____ his release. He was _____ released into the wild 4 _____ ago, off the coast _____ Iceland where he was _____. This is where he _____ captured so long ago. _____ handlers have worked hard _____ prepare Keiko for his _____ to the open ocean. _____ have spent 6 years and _____ than $20-million US getting Keiko _____ for his release.

But _____ has not taken easily _____ life in the wild. _____ of playing and hunting _____ other whales, Keiko again and _____ returns to his handlers _____ anyone else who will _____ attention to him. Over the _____ months, Keiko swam from _____ to Norway. He surfaced _____ to Halsa, a small _____ in the northwest of _____. Here he has found _____ and bathers who are _____ than happy to swim _____ him, touch him, feed _____ and even climb on _____ back. Copying a scene _____ one of the movies, a _____ girl played her harmonica _____ Keiko. He came immediately to _____. It seems that Keiko _____ can't get enough of _____ this human attention.

Keiko's _____ are upset with all _____ human attention. They have _____ Keiko's fans to leave _____ alone. They have placed a _____ on approaching Keiko. For the _____, Keiko's handlers want to _____ him to a more _____ bay where feeding grounds _____ rich and wild orcas _____ thought to be plentiful.

_____ in Norway have promised _____ protect Keiko. His name _____ "lucky one" in Japanese. _____ cannot be captured again _____ killed for meat. Norway _____ whalers to hunt only _____ whales.

The people of _____ have fallen in love _____ Keiko and they would _____ to keep him in _____ region. Their slogan is, "_____ like Keiko. Pick Halsa."

_____ Keiko's handlers want a _____ future for him. They _____ Keiko will finally join a _____ of wild orcas when _____ move him. "It is _____ up to him; we _____ want to give him the _____ to meet them," says _____ Baird, one of Keiko's _____. "He is free. He _____ not penned in or _____."

Critics say the effort _____ a waste of time and _____. "I don't think for a _____ that Keiko would survive _____ the wild," says Erik _____, a veterinarian at the _____ Institute of Nature Studies.
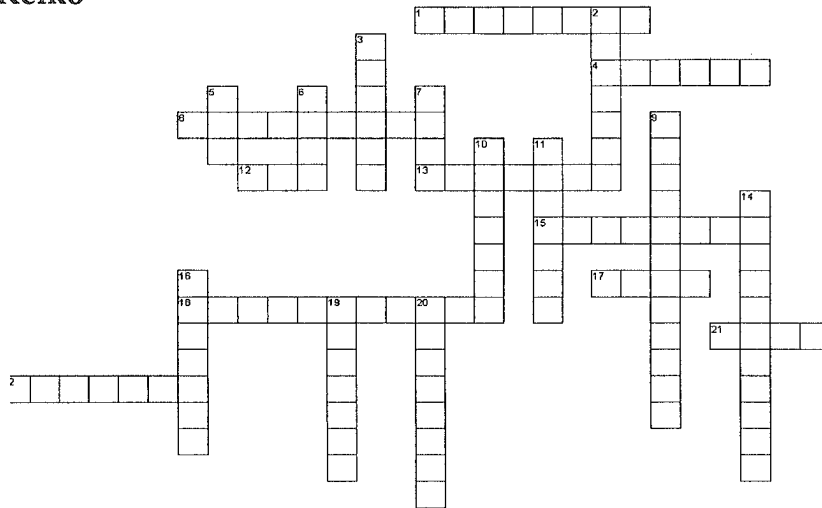
Estimated GE: 5.4
Scoring: Independent range: 49-82
Instructional range: 40-49
Frustration: less than 40

Appendix C
Keiko

Across
1. come close
4. enclosed
8. musical instrument
12. group of wild whales living together
13. stay alive
15. home for a captive whale
17. sort, type
18. those who have power, control
21. free
22. make ready

Down
2. not free
3. area, place
5. body of water
6. join
7. followers, admirers
9. animal doctor
10. those who disagree
11. at last
14. right away
16. swimmers
19. let go
20. apart

Appendix D
Making Inferences

To understand the story of Keiko, you need to "read beyond the print": You need to make connections between what you read and what you know. Practice making connections by answering the following questions carefully and thoughtfully!

1. Keiko means "lucky one" in Japanese. What makes Keiko a lucky whale?
   Possible ideas: He was chosen to star in the movies. The movies provided the impetus for the "Free Willy/Free Keiko" campaign. Much time and effort has been put into preparing Keiko for release. Even if the release plan fails, Keiko has lots of friends who love him just the way he is. In any case, he cannot be hunted /killed because killer whales are protected under Norwegian law.

2. Keiko does not seem to want to join the whales in the wild even after all the work the handlers have done to prepare him. And the wild whales don't seem to want to accept Keiko. Why do you suppose this is so?
Possible ideas: He's been away too long. Even though he was put back in the ocean where he was first captured, his pod doesn't recognize him or want him back. Even though he can hunt for himself, he doesn't know "the ways" of wild orcas well enough, especially their communication system. He still "talks" like the baby he was more than 20 years ago when he was taken to the aquarium. He much prefers people, who clearly love him very much!

3. Colin Baird, one of Keiko's trainers, says "He is free." Do you agree with Colin's comment? Explain your answer.
Possible ideas: He is not really free because after all these years in captivity he doesn't really have the choice about living with his family again.

4. Erik Berntsen, a veterinarian says, "I don't think for a second that Keiko would survive in the wild." Explain what he means by this comment.
Possible ideas: Although Keiko has been taught how to hunt, he clearly does not choose this way of life. Again and again, he seeks human company. Orcas, like people, thrive on relationship. In the wild Keiko is dead because the other orcas don't seem to want him. But his friends in Halsa do.

5. After 6 years and millions of dollars spent trying to "Free Keiko", Colin Baird wants to try one more time. Erik Berntsen says it's a waste of time and money. Why is Colin so stubborn?
Possible ideas: Colin is totally committed to Keiko's release and nothing will stop him. On the other hand, there has been a lot of media attention, a lot of time, and a lot of money on the line. Maybe Colin's reputation as a handler/trainer is on the line, too. Can he afford to fail?

6. Whales in the wild are usually a bit dangerous and scary. Why do you think the bathers and boaters in Halsa dared touch Keiko and even climb on his back?
Possible ideas: They knew from the media reports that Keiko was in the area. When an over-friendly orca came hanging around, some guessed it must be him. The first to approach Keiko were kids, and they continued to be the first to feed him, touch him and play music for him. Kids may blur the lines between "Willy the movie star" and Keiko the (maybe) dangerous orca.

7. Devise a plan for Keiko's future.