This paper addresses how rereading can improve comprehension of second language college texts, describing a pilot study that examined what happens when people reread. The study involved two female Japanese college students enrolled in a U.S. university. The women were asked to do think-aloud protocols while individually reading a section of an introductory linguistics textbook for non-specialists. They were permitted to think aloud in English or Japanese, ask questions, and use a dictionary. After reading individually, the students together read a bookmarked Web page aloud, taking turns. They were told to stop their partner whenever they did not understand something, so they could work together to understand the passage. Results suggested that there were signs of increased comprehension, at least for one of the women, though the movement was not linear. Her movements through the texts and the rereadings looked very much like the reading process as outlined in a construction-integration model of comprehension like that of Kintsch (1998). (Contains 24 references.) (SM)
What happens when people reread?
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This paper was originally given on Dec. 17, 2002 at AILA 2002: the 13th World Congress of Applied Linguistics, in Singapore.
Literature Review

The novelist Vladimir Nabokov claimed, "A good reader... is a rereader." He noted, "When we read a book for the first time, the very process of laboriously moving our eyes from left to right, line after line, page after page... stands between us and artistic expression" (1980, p. 62). This is a common sentiment in literary circles: aesthetic pleasure comes from rereading.

Applied linguistics, however, is not much concerned with aesthetic pleasures. Our concerns are utilitarian: Can rereading help foster comprehension in second language reading?

I want to emphasize that we are not discussing the line of research that began with Samuels (1979), one that continues to provide insights (Dowhower 1994, Taguchi 1997, Taguchi & Gorsuch 2002). Samuels worked with children learning their first language. The children repeatedly read short passages until a criterion level of reading speed was reached. Along with an improvement in reading speed came increased word recognition skills.

In the L2 literature, Taguchi (1997) used Samuels' original method of repeated readings of short passages to increase oral and silent reading rates of beginning Japanese college students. Taguchi argued that repeated reading may be an effective way to increase word recognition skills and thus may lead to more fluent reading. Taguchi and Gorsuch (2002) found that learners trained in repeated reading experienced transfer effects for higher reading rates on a new passage, but experienced no effects for reading comprehension.

We are concerned here with how rereading can improve comprehension of college texts. In research on American undergraduates, rereading has been shown to be an effective study tool. Anderson's (1980) often cited review of study strategies, for example, showed that rereading was generally as effective as either note-taking or underlining in increasing comprehension of text.

Nist and her colleagues (1996) found that rereading was just as effective as, and sometimes more effective than, the use of explicitly taught strategies such as annotation and concept maps in learning the information contained in a passage from a sociology textbook. Marxen (1996) showed that rereading was just as effective a comprehension tool as underlining when reading a business passage.

Amlund and her colleagues (1986) suggest that there may be a law of diminishing returns involved in rereading. Subjects who read a history text twice remembered more information in free recalls than subjects who read the text once or three times. What is remembered may differ, however; the subjects who read the text three times remembered a significantly greater proportion of details than main ideas.

Should the rereading occur immediately or after some time? Krug and his colleagues (1990, p. 366) claim "full processing of text will occur" only when "readers' representations of the text are absent from working memory." That is, immediate rereading may cause readers to skim over the text, feeling that they understand it when they really do not. Their subjects recalled significantly more details after rereading a passage after one week than after rereading the passage immediately.

One reason rereading may work so well has been suggested by Barnett and Seefeldt (1989), who found that rereading facilitated recall of a law text. Even the
instruction that the passage could be reread facilitated recall in those subjects who were actually stopped after one reading. This is in line with Lynch’s (1996) findings in a study of listening comprehension in which half of the subjects heard a dictation once and the other half heard it twice. Repetition alone seemed to lead to higher scores and Lynch argued these higher scores might be a result of decreased anxiety.

Another reason rereading might be effective is that it may help students with limited working memories improve their processing efficiency, going beyond syntactic processing to make use of non-syntactic information like context and prior knowledge (Just and Carpenter 1992, Perfetti 1997).

Brown (1997) showed, in a study of different types of intertextual prereading activities, that the simple task of rereading, the control condition in the study, was as effective as either reading a connected text or doing a writing activity designed to activate students’ schemata.

Brown (2002) tested whether rereading a text led to comprehension equivalent to that fostered by reading a summary of that text and then the text itself. Comprehension was measured by recall of main ideas. The subjects were first-year Japanese women college students, false beginners enrolled in two sections of Reading I. Two target texts were read by each student. The texts were rewritten versions of articles from a special issue of *Time* focusing on multi-culturalism. In one case, reading a passage twice was more effective than reading the passage after having read a summary. In the other case, rereading was just as effective as reading a summary. It should be remembered that summary reading itself was found to be a relatively effective means of aiding comprehension (Chen and Graves, 1995).

If, then, rereading is as effective as prereading, why should teachers take the trouble to construct previewing activities? One reason is that prereading activities can develop a social atmosphere in the classroom. They may also provide speaking practice. In terms of pedagogy, teaching learners to reread provides an opportunity to talk about metacognitive strategies and how learners can control their own outside-of-class reading.

In summary, what happens when people reread? Quantitative studies have found equal or increased comprehension, based on comparison with other study/reading strategies:

RR = note-taking, underlining (Anderson 1980)
RR = or > annotation, concept maps (Nist et al. 1996)
RR = underlining (Marxen 1996)
RR = or > prereading activities (Brown 1997, Brown 2002)

People may remember more details with more RR (Amlund et al. 1986)

RR may have something to do with lowered anxiety level (Barnett & Seefeldt 1989)

RR may have something to do with freeing up resources (Just & Carpenter 1992, Perfetti 1997)
The Present Study

What happens while people reread? A pilot study was conducted to further probe the process of rereading. The subjects were two Japanese women college students enrolled in a state university in the Midwest. They had been in an ESL composition class I had taught, but the class had finished before the data were collected. One woman (Yukiko) was in her twenties and the other (Hanako) was in her thirties. (Both names are pseudonyms). Both had had some college education in Japan and had a TOEFL score of over 500. They were asked to do think-aloud protocols while individually reading a section of an introductory linguistics textbook for non-specialists (Brown & Attardo 2000). The section was titled “Reader, Text, and Meaning.” Consent was given to audi-tape their protocols. The instructions given were:

I’m interested in how people read. I’m going to have you read this out loud. I’m interested in how people think while they’re reading, so please think out loud too, in English or in Japanese. You can ask questions. You can use a dictionary.

They were given the text printed on one “card” at a time (it totaled five cards).

After reading individually, the students together read a book-marked web page aloud, taking turns. They were given the instructions:

Whenever you have a question or don’t understand something, stop your partner. Work together to understand this passage. Stop at the end of each paragraph.

Two points are worth noting here. The first is that neither subject spoke Japanese, probably because our relationship began in English. As Lee (1986) has pointed out in another context, choice of reporting language can have a significant effect on the results of a study.

The second point is that the class the two subjects had taken with me had used a textbook (Hall & Jung 2000) that had has its content issues of literacy, which was the subject of the readings in the study. Though there were no readings in the textbook specifically about the subjects encountered in the study, I was interested whether any intertextual connections would be made. In fact, neither brought in any other text or outside information, though one could argue Hanako’s metacognitive statements in fact brought in outside knowledge.

First reading: Hanako

The first paragraph introduces reading as a meaning-making activity. It explains the idea that people bring their own meanings to text and the idea of intertextuality. Hanako was at first silent, then said, “I don’t know. That one reading is hard to say something.” She had not yet begun to form any sort of representation of the text.
The second paragraph introduces top-down and bottom-up processing. Hanako still had not developed the beginnings of a text representation. She said, “Uummm I don’t really understand meaning.” I intervened and asked, “OK. What problems are you having?” She answered, “Umm. I don’t know what the main topic or what the writer tries to say.” I asked her to continue.

After reading the third paragraph, which focuses on the notion of bottom-up processing, Hanako made a metacognitive statement: “Hum. This says something about um reading, the way it’s bottom-up reading. So maybe what I read, what I’m reading now is, the order is like this.”

The fourth paragraph focuses on top-down processing in the context of Goodman’s work. Hanako said, “So, the psycholinguistics, psycholinguist Goodman has a theory, idea about reading. His idea is um top-bottom-up.” This is obviously just a small detail of the paragraph.

The fifth and final paragraph uses Stanovich as a compromise position between top-down and bottom-up approaches. Hanako said, “Um, reader, weaker readers tend to use uh bottom-up read and also ESL students use this way.” She does two things here: she again focuses on a detail of the paragraph, and she appropriates a phrase from the text (“weaker readers”). She does not, however, use the text’s terminology “beginning second language students,” instead using the term “ESL.”

Hanako’s first reading is characterized first by incomprehension, an inability to “get traction,” and then by a focus on detail

**Second reading: Hanako**

Hanako continued to focus on a detail, albeit a misunderstanding of a detail, after the rereading of the first paragraph. The text in part says of intertextuality, as Hanako read it:

Texts, too, have histories. They “speak” to other texts across time. If a character in a novel says “To be or not to be” we know she’s quoting Hamlet. She might even be quoting Hamlet if she leaves off the first part of the quotation and says something like, “Oh, that’s the quotation question.” At some level, the author may even be “quoting” Hamlet if she decides to write about a contemporary family in which a child, child is unhappy with a mother’s remarriage. Or she may be quoting an old American television quiz show when she says. “That’s the $64,000 question.”

Hanako reported, “Uh (laughs) Uh. It’s about quotations, and even small part of quotations we can match what come from.” She comprehended slightly more on second reading, but was really still developing her understanding of the passage.

After reading the second paragraph, she again made a metacognitive statement “Um, I think now I understand more than the last time.” She again used detail: “And here the writer says, uh, we use uh bottom-up processing when we read.”

The third paragraph has these sentences, as read by Hanako:
Some estimates says that this bottom-up way to read would take a remarkably long time, yielding a speed of about 60 words per minute. This is significantly fewer words per minute than the average 200-300 minutes a native speaker can handle.

Humans seems to process information by “chunking” it, and we can retain several, uh, sev, seven chunks of information in working memory.

She pulled out these two details and said, “Here the writer says we usually use this bottom-up way. It’s slower than usual and we understand the meaning at, uh, several chunks.”

Paragraph four concludes with the sentence:

Finally, reading, uh, relying too much on a hypothesis-testing model such as Goodman’s would be even slower than a bottom-up approach.

Hanako said, “Um, here is another theory about, uh, very important. It’s about Goodman’s top-bottom process. Um, but in some cases, his way is more slower than the last, another way, top, uh, bottom-up process way.” This was a reporting of detail. Finally, she reports the last paragraph this way:

Uh, in this new idea, Stanovich’s interactive compensatory model, he said, uh, we understand uh the meaning of the, uh writing at first from top to bottom using our experience about that and then uh but in the case of non-native speakers, or weaker readers, if they don’t have much information or knowledge they tend to use bottom-up processes.

Though Hanako did not noticeably improve her fluency during the rereading (She was reasonably fluent to begin with), this last report suggests another effects is taking hold, the positive effect of immediate speaking-task repetition noted by Bygate (1996).and Lynch and Maclean (2000).

**Yukiko**

Perhaps the reading was too difficult or too badly organized, with not enough cohesive devices, to allow Hanako to fully comprehend it. Yukiko certainly found the text too challenging. Even though, paradoxically, she was more fluent than Hanako in the sense that she called out the words quicker and with fewer miscues, her reports tended to consist of a word or phrase directly appropriated from the text, as in this example from the first reading of the fifth paragraph (bolded words have been appropriated from the text):

> It talk about Stanovich interactive compensatory model and um, and uh second language learners and uh problems with vocabulary and background knowledge and culture-specific knowledge.
This is the report from the rereading of the same paragraph:

Uh, **second-language** students are tied up to **bottom-up processing** and have **potential problems** and **syntax, vocabulary and background knowledge**, and especially **culture-specific knowledge**.

**Together: First Reading**

Hanako and Yukiko were asked to read a book-marked website, an ERIC Digest titled “Reading and the Adult English Language Learner” (VanDuzer 1999). They took turns reading, and either could comment. The general pattern seen in the individual readings held here: it took some time to begin to develop an understanding of the text. After the first paragraph, Hanako says, “About [unintelligible] adult reading ability?” But after the seventh paragraph, Hanako says,

> There are three types of reading ways. And the last one is explained here. It’s a mixture of top-down approach and bottom-up approach.

This is a less a detail from the text than the beginnings of a summary, using her own words and completed reformulated from the text’s

Other reading approaches are also considered interactive. . . . These approaches, often the subject of first language research, view the reading process as the interaction of both bottom up and top down skills. They focus on how the various aspects of reading (e.g., word recognition, eye movement, and background knowledge) contribute to the reading process.

**Together: Rereading**

Hanako is able on rereading the second paragraph

> Although the extent of the literacy problem is under debate, policymakers, educators, and the general public are concerned that many adults—both native and nonnative English speakers—lack reading, writing, and functional skills necessary for living in a liter-literate society.

to offer this summary of the purpose of the article:

> Hm, This is the main idea of this story [unintelligible] Native speakers and non-native speakers have their problems of reading and here is some example how to solve the problem to read.

However, paragraph four sees a return to the use of details by both readers:
Yukiko: Probably in the 1950s and 1960s [unintelligible] popular in this phonics.

Hanako: Reading phonics we uh word recognition is the most important thing.

Hanako makes quite a leap in expressing her understanding of the very next paragraph, which reads:

Psycholinguistic. Though the late 1960s and ah 1970s, the psycholinguistic or "top down" approach to reading, where meaning takes precedence over structure, become dominant. Although readers make use of sound-letter correspondence and syntactic knowledge, they draw on their experiential background knowledge (schema) to predict the meaning of the text and then read to confirm or correct their predictions.

Hanako says, "Psycholinguistics say we use top-bottom and top-down approach when we read and in this way we use our experience or background knowledge."

The last paragraph, which reads in part

Critical Literacy. In the 1980s and 1990s, psychology, psycholinguistic views of reading have been questioned by a social theorist perspective that regards reading as both a social and psychological activity...

brings this response, however:

Hanako: Hmm. So, they said both social and psychological activity is related to reading so they can read.

Conclusion

What happens when people reread? Can we draw any conclusions from the qualitative study that support the quantitative studies? I think we can reasonably argue that there are signs of increased comprehension; at least for Hanako, there is a movement toward a more complete, integrated understanding of the text, though the movement is not linear. Hanako’s movements through the texts and the rereading, look a lot like the reading process as outlined in a construction-integration model of comprehension like that of Kintsch (1998). Future work may well benefit from that paradigm.
References


Marxen, Dale E. 1996. Why reading and underlining a passage is a less effective study strategy than simply rereading the passages. *Reading Improvement* 33:2. 88-95.


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