The Conduit Hypothesis: How Reading Leads to Academic Language Competence
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The field of language education today is dominated by concerns about the development of Academic Language Proficiency, the mastery of the vocabulary, grammar, and discourse style of language needed for complex and specialized functions.

The usual approach is to teach these components directly. I argue here that this approach is not only incorrect, but presents students with an impossible task, and that there is a far better path: reading. I describe this path after presenting a few preliminary concepts.

Preliminaries

The central hypothesis underlying the claim of a better path is the **Comprehension Hypothesis,** the idea that we acquire language in only one way: When we understand messages, or obtain "comprehensible input." The **Reading Hypothesis** is a special case of the Comprehension Hypothesis and claims that reading is a form of comprehensible input and results in the acquisition of literacy-related aspects of language.

Over the last four decades, I have reported on the substantial and increasing amount of support for the Comprehension Hypothesis and the Reading Hypothesis (e.g. Krashen, 1994; 2003, 2004 2013).

Compelling CI

Language acquirers are obviously more likely to pay attention to input when it is interesting. The **Compelling Comprehensible Input Hypothesis** states that the most effective input is highly interesting, or "compelling," so interesting that the acquirer is often not even aware that it is another language (Lao and Krashen, 2014).

Self-selected voluntary reading is often compelling, and studies confirm that it is the primary source of our reading ability, our ability to write with an acceptable writing style, our vocabulary, spelling and our ability to understand and use complex grammatical structures (some evidence provided below). It has also been established that more self-selected reading leads to more knowledge in a variety of areas, including history, science, and practical matters (Stanovich, West, and Harrison, 1995).

The Conduit Hypothesis

The Conduit Hypothesis claims that there are three stages in the development of academic language, and each stage serves as a conduit for the next, providing the literacy competence as well as the knowledge needed to progress to the next stage. The hypothesis applies to first and second language acquisition. Also, progress can take place without including stage 1 or 2, but it is more difficult.

Stage One: Stories

Read-alouds and hearing stories contribute to language proficiency in two ways. First, they provide the linguistic competence that makes reading written texts more comprehensible. This includes vocabulary, grammar, and knowledge of how texts are constructed (text structure). This competence is absorbed as the story is heard – it is not an object of study (Mason and Krashen, 2004; Mason, Vanata, Jander, Borsch and Krashen, 2009; Krashen, 2013).

Second, stories and real-alouds stimulate an interest in books. The title of Brassell's study tells it all: "Sixteen books went home tonight: Fifteen were introduced by the teacher" (Brassell, 2003).

Studies also confirm that nearly all children love to hear stories (research reviewed in Krashen, 2004).

Stage Two: Self-Selected recreational reading

Stage two consists of massive, but not necessarily wide, self-selected voluntary reading. The reading done in this stage provides the competence and knowledge that makes academic reading more comprehensible.

The reading done in stage two, typically largely fiction, forms a bridge between "conversational language" and "academic language." This idea is confirmed by data from Biber (1988), who analyzed texts in terms of linguistic complexity and reported that fiction fell about midway between conversation and academic texts (abstracts of technical journal papers).

The value of fiction was confirmed by Sullivan and Brown (2014), who found that the amount of reading done was a clear predictor of vocabulary test scores among adult native speakers of English in the UK, controlling for reading done earlier in life. They also reported that the reported frequency of reading high quality fiction was a very strong predictor of vocabulary knowledge, and reading "middle brow" fiction was also a good predictor, slightly stronger, in fact, than reading nonfiction. In addition, most of the reading done in the studies cited below showing the value of self-selected voluntary reading was fiction.

Research supporting self-selected reading includes studies of sustained silent reading and correlational/multivariate research.

Sustained Silent Reading (SSR)

Students in classes that include time set aside for voluntary reading in the form of sustained silent reading do better than those in similar classes without sustained silent reading on tests of reading comprehension, vocabulary, writing, and grammar. This is true of first and second language studies and holds for children, teenagers, and university students (Krashen, 2004, 2007, Krashen and Mason, 2017).

Correlational and Multivariate Analyses

Here are two examples of this kind of research.

S.Y. Lee (2005) used structural equation modeling, a statistical procedure that allows the investigator to examine complex relationships among variables. Lee reported that the amount of free voluntary reading in English reported was a significant predictor of English writing performance for university students in Taiwan, and the amount of free writing reported was not, clear evidence in favor of the Comprehension Hypothesis: the amount of input, not output, was related to competence.

Mason and Krashen (2017) did a statistical analysis of the gains made by a group of intermediate adult acquirers of English as a foreign language in Japan who were engaged in self-selected voluntary reading. The subjects gained an average of .6 points on the TOEIC examination for every hour read, and there was little variation among the readers, even though they chose different books to read (largely fiction!). This result suggests that a low intermediate acquirer of English can move to the advanced level in three years of pleasure reading, without study.

Narrow reading

Readers in stage two, and, we shall see, stage three, are generally "narrow readers." Narrow reading is the practice of reading texts by one author or about a single topic of interest, which helps ensure comprehension and natural repetition of vocabulary and grammar (Krashen, 2004).

Evidence supporting the value of narrow reading includes Lamme (1976), who found that good readers in English as a first language tended to read more books by a single author and books from a series. The evidence also includes Cho and Krashen (1994, 1995a,b), who reported considerable enthusiasm for reading and substantial vocabulary development among adult second language acquirers who read books in the Sweet Valley series; readers rapidly moved from Sweet Valley Kids (second grade level) to Sweet Valley Twins (fourth grade level) to Sweet Valley High (fifth and sixth grade level). Several readers in these studies had never read a book in English for pleasure before, but became fanatic Sweet Valley fans.

I suspect that many of those who have been successful in using self-selected reading to reach the point where academic texts were comprehensible have been narrow readers.

Stage Three: Narrow Academic Reading

The reading done in stage two, self-selected recreational reading, does not fully provide academic linguistic competence. My claim is that it provides the linguistic and knowledge background that helps make academic reading more comprehensible. The rest of academic competence, I hypothesize, comes from doing a great deal of narrow reading of academic texts in an area of great personal interest to the reader.

As was the case in stage two, reading in stage three is narrow: Bazerman (1985) reported that the physicists he studied only read professional papers that related to their current projects, scanning and filing the others that appeared in current journals for later, if relevant.

Stage three reading is also compelling**,** just as exciting for the reader as the fiction of stage two. In my own case, I found that my first adventure in reading linguistic theory, Chomsky's *Syntactic Structures*, was as compelling and exciting as reading sports novels and science fiction when I was a teenager.

There is evidence supporting the hypothesis that most of academic linguistic competence must come from reading and not from other sources. It is unlikely that much of academic language competence comes from attending class: In his analysis of text complexity, Biber (2006) reports that classroom discourse is closer to conversational language than to academic language.

Nor does it come from writing. Writing is output, not input, and studies show that more writing does not result in improved writing ability (Krashen, 1994). Even if correction were effective (for evidence that it is not, see Truscott. 2007), we do not write enough or get corrected enough for writing to make a noticeable impact (Krashen, 1994). (1)

Also, gaining academic linguistic proficiency is not the result of studying "language for academic purposes."

Can academic language proficiency be "learned"?

Current approaches to developing academic language proficiency assume that it must be taught and studied. Scholars describe academic language, and these descriptions are then presented to students in textbooks and other teaching materials, and students are expected to consciously learn them.

This approach cannot be correct. Most obvious, the system to be mastered is very complex. Scholars, in fact, cannot even agree on the details of the structure of academic writing. Second, there is no clear evidence that anybody has ever mastered more than small bits of pieces of academic language via study. (2)

Acquisition without learning

I propose that all instances of successful acquisition of academic language are cases of subconscious acquisition, largely as a result of reading. I doubt that any member of the human race has ever consciously learned more than modest amounts of academic language through the study of Language for Academic Purposes.

Notes

1 Writing, however, can have a profound effect on cognitive development and problem-solving: Writing can make you smarter. As Elbow has noted, as you move from draft to draft, you come up with new ideas: “Meaning is what you end up with, not what you start out with” (Elbow, 1973, p. 12).

2 Research on the structure of texts provide clear evidence that text structure cannot be taught directly. The structure of texts is bewilderingly complex. It is hard to imagine any student mastering this knowledge consciously.

For example, Swales (1990) presents a "three move" description of introductions to research papers: First the writer "establishes a territory" by "claiming centrality" and/or "making generalizations" and/or reviewing previous research. Then the writer "establishes a niche," by doing one or more of the following: "counter-claiming," "indicating a gap," "question-raising," and/or "continuing a tradition." Step three is to "occupy the niche" that was created in step two, which is done by "outlining purposes" or "announcing present research" and then announcing the principal findings and indicating the structure of the article.

Those few people who have read a large number of research papers recognize that this description fits. In other words, it provides information that corresponds to what these readers have already subconsciously acquired. The question is whether this information is of use to beginning writers who have not read many or any journal papers.

Swales points out that this analysis, published in 1990, is a revised version of a "four move" description published in 1981. Clearly, the structure of introductions to research articles is a developing area of research where many issues are not settled. This means that it is likely that we are providing students with incomplete and perhaps inaccurate descriptions. And it also means that many people have managed to acquire the structure of research articles without the benefit of accurate descriptions.

The three-move model rapidly becomes more complex as Swales moves into the details. Here is only one example (his chapter on research articles runs 66 pages, with 29 pages devoted just to introductions):

In his discussion of move 3, where the writer "occupies the niche" that was created in move 2, Swales introduces the "easily applicable" (p. 148) distinction between "integral" and "non-integral" forms of citation of previous research. At first, this looks simple: Integral citations put the name of the researcher in the sentence, as in (Swales' example): “Brie (1988) showed that the moon is made of green cheese.” In non-integral citations the researcher's name does not appear in the actual sentence, e.g. “Previous research has shown that the moon is made of cheese (Brie, 1988).”

The description then becomes very complicated. Here is just enough to give you an idea: Integral citations include the name of the researcher in several ways, such as a passive agent ("The moon's cheesy composition was established by Brie (1988)."), as part of a possessive noun

phrase ("Brie's theory (1988) claims that …"), and as an "adjunct of reporting" ("According to Brie (1988), the moon is made of cheese."). Non-integral citations are also done in several different ways. Typically they are sentence final, "It has been shown that the moon is not made of green cheese (Brie, 1988)." but there are exceptions, and sometimes writers of research papers do not cite the names of scholars but make reference to schools of thought or name only the most prominent scholar, as in "Chomsky and his co-workers have recently …" or combinations: "Chomsky and his co-workers (e.g. Napoli, 1982) have recently …".

And there's more. Research article citations differ as to whether they use reporting verbs (show, establish, claim) or non-reporting verbs, as in: "According to Brie (1988), the moon is made of green cheese." Some research shows there is a trend from non-reporting to reporting verbs (Bazerman, 1984, cited in Swales, p 151; the reader of this paper has undoubtedly noticed (!) that I used a non-integral citation, and a non-reporting verb), but studies also show that most citations are reporting citations (non-integral, with names of scholars not included, with a reporting verb).

Swales then moves on to a discussion of what verb tenses are used in research articles. There are numerous rules and exceptions. Here is only one example: Swales cites the generalization (Malcolm, 1987) that references to specific experiments tend to be in the past tense. This sounds simple, but it was true in only 61% of the cases in Malcolm's study. Swales discusses why the rule does not hold in all cases – we might use the present tense if the citation "prepares the way for critical discussion (Malcolm points out that …)."

I have discussed a tiny percentage of the Swales' discussion, but I hope it is enough to give an idea of how hopeless it is to try to teach the structure of academic prose directly. Swales is not clear on the pedagogical implications of his work, sometimes showing some awareness that academic language is acquired from reading, rather than consciously learned (p. 90-91) but generally recommends direct teaching.

Also, I must emphasize that I have chosen only one example of many. Other scholars have contributed equally complex and confusing descriptions of text structure, recommending that we teach these descriptions to students (e.g. Schleppegrell, Achugar, and Oteiza, 2004).

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