FOREWORD

ARE COGNITIVE STUDIES IN WRITING REALLY PASSÉ?

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Over the past few decades, a number of influential voices within the Conference on College Composition and Communication have discouraged researchers' interest in cognitive approaches to writing. The cognitive approach has been accused of many sins—including being scientistic, failing to resist dominant ideologies (e.g., serving corporate masters), and being anti-feminist, (see Charney [1996, 1998] for excellent critiques and reviews). Other critics have asserted that cognitive approaches to writing are ineffective and have, in fact, disappeared. As recently as 2006, Martin Nystrand and Paul Prior, in separate articles in the *Handbook of Writing Research*, made these comments:

> By the 1980s, this new social perspective gathered momentum within writing studies. Challenging the Flower and Hayes (1981) cognitive model of writing processes, Nystrand (1982) argued that "the special relations that define written language functioning and promote its meaningful use . . . are wholly circumscribed by the systematic relations that obtain in the speech community of the writer" (p. 17). Bizzell (1982), also challenging Flower and Hayes's cognitive model, argued that "what's missing here is a connection to social context afforded by the recognition of the dialectic relationship between thought and language . . ." (Nystrand, 2006, p. 19)
>
> Research on writing processes in the United States initially settled on cognitive processing theory (i.e., Flower & Hayes, 1981); however, that paradigm was soon critiqued as too narrow in its understanding of context and was eclipsed by studies that attended to social, historical, and political contexts of writing. (Prior, 2006, p. 54)

From these quotes, one might easily infer (1) that cognitive writing research was briefly popular in the early 1980s but was soon abandoned and (2) that it

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was abandoned because it failed to take adequate account of social, political, and historical contexts. In this foreword, I will address these two issues.

HAVE WRITING RESEARCHERS REALLY LOST INTEREST IN COGNITION?

The best evidence to answer the question as to whether cognitive studies have been abandoned would be provided by a broad survey of the literature to find how many cognitively oriented articles about writing were published in the years from 1980 to the present in all manner of journals worldwide. To carry out such a survey would require an enormous effort; so I decided instead to ask the more limited question, "Are people still citing cognitive models of writing?" I reasoned that if interest in cognition had died in the 1980s, citations of cognitive models should be scarce, certainly in the last few decades.

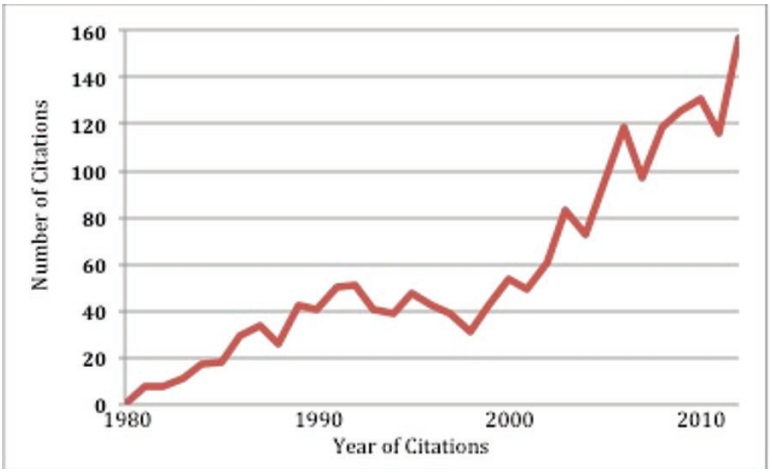

Figure 1. Citations per year of Hayes' and Flower's (1980) cognitive model between 1980 and 2012.

I obtained the citations for Figures 1 through 4 by consulting Google Scholar in March, 2014. Figure 1 shows yearly citations of the Hayes-Flower (1980) model. Rather than fading into the twilight, interest in that model appears to have grown fairly steadily since 1980 with the exception of a dip in the late 1990s. Figures 2 and 3 show yearly citations for Ronald T. Kellogg's (1996) model and Hayes' (1996) revision of the 1980 model. Because these models were introduced well after the early 1980s, one would predict, according to the account of Nystrand and Prior, that there would not have been

much interest in these models. However, as with the Hayes and Flower (1980) model, researcher's interest in both of these models has been substantial and growing.

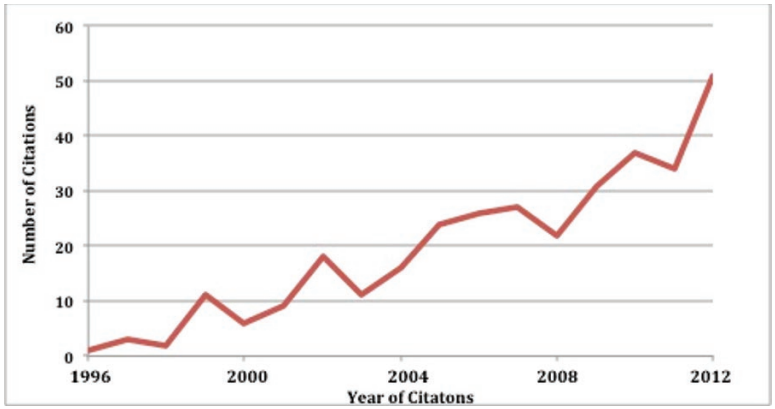

Figure 2. Citations per year of Kellogg's (1996) model between 1996 and 2012.

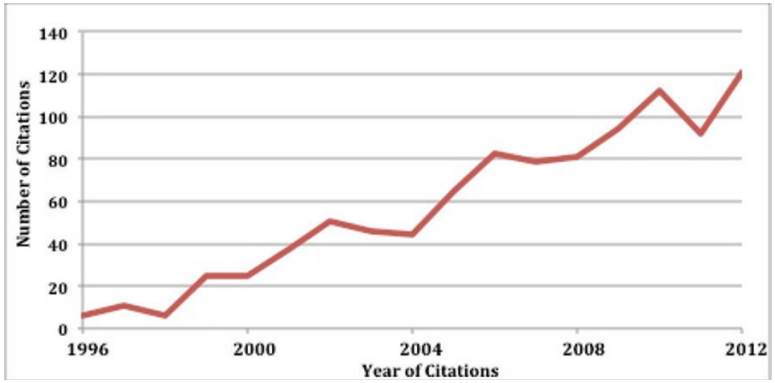

Figure 3. Citations per year of Hayes' (1996) model between 1996 and 2012.

Why would Nystrand and Prior declare the death of interest in cognitive processes in writing when clearly that interest has not died? Perhaps they had focused primarily on the North American environment, but that the sustained interest in cognition in writing was really a European or Asian phenomenon. To explore this possibility, I divided the citations for the Hayes and Flower (1980) model into U.S./Canadian versus non-U.S./Canadian citations and plotted them separately, as shown in Figure 4.

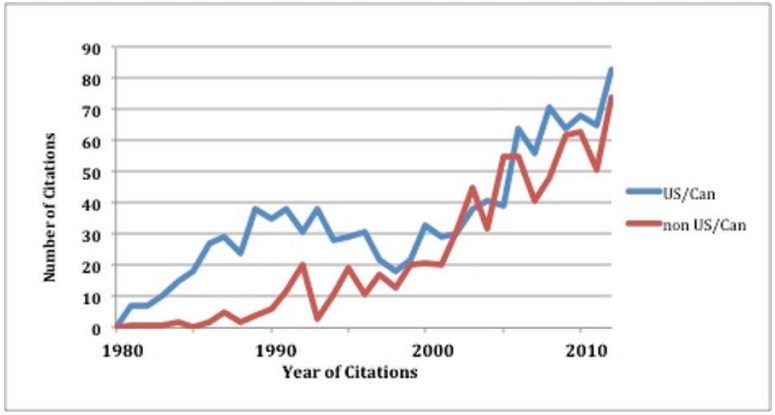

Figure 4. U.S./Canadian and non-U.S./Canadian citations per year of the Hayes-Flower (1980) writing model.

It is clear that the dip in citations seen in Figure 1 in the late 1990s is a U.S./Canadian phenomenon. However, after 2000, citations by both groups increase steadily and rather dramatically.

To summarize, it is clear that contrary to Nystrand's and Prior's claims, interest in cognition in writing appears to have increased substantially since the 1980s. In fact, cognitive writing studies are very much alive and well both in North America and abroad. These studies have had impact in many fields including writing instruction for adults (Penrose & Sitko, 1993) and children (Boscolo, 2008; McCutchen, 2006), writing to learn (Klein, 1999), second language writing (Devine, Railey, & Boshoff, 1993), writing by individuals with disabilities (Arfe, Dockrell, & Berninger, 2014; Ellis, 1993), writing for mental health (Lepore & Greenberg, 2002), writing and technology (Pea & Kurland, 1987), and professional communication (Schriver, 2012).

Although Nystrand's and Prior's claims that interest in cognitive writing research had vanished were clearly mistaken when applied to the research community generally, they may have accurately reflected attitudes common in North American English departments. Perhaps it was specifically members of English departments who had rejected cognitive writing research.

To explore this possibility, I surveyed all of the articles in *Written Communication* published in the years from 1984 to 1988 and from 2010 to 2014. I divided the articles into three groups, according to the department of the first author. In the first group were articles by authors who identified their department either as English, rhetoric, literacy, literature, or composition. In the second group, the authors were from departments of education, psychology, or instruction. In the third group, the authors came from all other sources. I noted whether each

of the articles in the first two groups referenced any of the following cognitive theorists: Berninger, Bereiter, Flower, Hayes, Kellogg, Scardamalia. This was my measure of the author's interest in cognition. Figure 5 shows a sharp decline over time in articles that reference cognitive theorists in the English/rhetoric group but not in the education/psychology group.

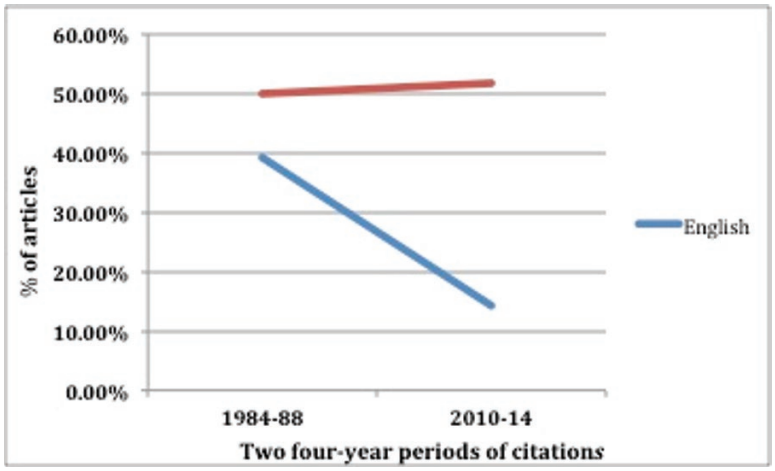

Figure 5. Percent of articles referencing selected cognitive theorists during two periods in Written Communication.

Although some members of English departments still create high quality studies of cognitive writing processes, the number of such studies appears to have declined in English Departments in sharp contrast to the writing research community more generally.

DO COGNITIVE STUDIES HAVE TOO NARROW AN UNDERSTANDING OF CONTEXT?

Why would English and related departments reject cognitive research about writing? Prior (2006) claimed that writing researchers recognized that the field of cognitive studies was "too narrow in its understanding of context . . ." (p. 54). In particular, he highlights social, historical, and political contexts. This might mean that the writing researchers that Prior was referring to were more interested in social, historical, and political factors than cognitive ones. Probably true, but I don't think that was the essence of the criticism. I think the critique is really that cognitive researchers uniquely ignored context. To clarify the issue, we need to discuss the relation between research and context.

To start, we should recognize that both social/cultural and cognitive factors

are essential for understanding writing. Written language is a cultural product. Language would be impossible without the conventions that have been created through social interaction. Further, the purpose of most writing is social: to communicate with others. But cognitive factors are essential, too. Individuals must learn and remember the socially created linguistic conventions if they are to have any effect. Indeed, without cognitive processes, such as long-term memory, working memory, and perception, one can neither write nor read.

Those readers who have relatives or friends with senile dementia know the importance of cognitive functioning for successful social relations. I have observed this in my own family. My mother and my aunt took care of my aging grandmother. Grandmother had no idea who I was but one day she confided in me that "these two ladies" (her daughters) were keeping her captive, but that one day her husband (long since dead) would come to rescue her. A healthy cognitive system is important for social functioning. Even life-long relationships can be erased when memory fails.

Given that both cognitive and social/cultural factors are essential for a full understanding of writing, what are the implications that concern for attention to context has for carrying out writing research? Does it mean that a study focused on a cognitive factor must take all relevant historical, social and political factors into account to be worth doing? Or that a study focused on an historical factor must take all relevant social, political, and cognitive factors into account to be worth doing? If that were so, we would need to know what all the relevant contextual factors are. But we don't! We can guess what some of them are and take them into account when we design a study. But we can't know them all. Finding out what they are is an important part of what research is about. For example, the use of control groups, common among cognitive researchers, is an effective way to discover important contextual factors. The argument that cognitive writing research pays insufficient attention to context is plainly a red herring.

To illustrate the situation that researchers face in trying to take context into account, I will recount an incident that I experienced some years ago. I was preparing to do a study about creativity in musical composers. Herbert Simon and William Chase (1973) had published a study showing that if chess players were to become grand masters, they needed at least 10 years of intensive practice. I wondered if composers needed a similar period of intensive practice before they created the works for which they became famous. I decided to study the musical preparation of as many composers about whom I could find adequate biographical material. My sample included 76 composers covering a time period of more than two centuries, starting with Vivaldi and ending with Stravinsky.

To get expert advice, I described my study to a musicologist on campus. His

advice, which he presented in a kindly way, could be summarized as, "You're wasting your time." He explained that the esthetic goals of musicians who composed in different centuries and in different artistic traditions were so diverse that there could be nothing in common among them. Therefore, I couldn't expect to find any consistent results. This wasn't an implausible argument. Social and historical factors might have overwhelmed the effects of practice.

But in this case, they didn't. I found that 73 of the 76 composers I studied had had ten or more years of practice before they wrote the works for which they became famous and the remaining three had either eight or nine years. In a second study (Hayes, 1989), I found similar results for painters. Nina Wishbow (1988) found parallel results for poets. Practice, then, clearly has an impact on creative performance even though cultural and historical factors must surely have been operating as well.

My point is not that cognitive factors are more important than social or historical ones. Rather, my point is that whether cognitive, social, historical, or political factors have a significant impact in a given situation is a matter to be decided by observation, and not by assumption.

Given that the argument about context is a red herring, why then might English Departments shun cognition? Richard Haswell (2005) suggested it might be a matter of pursuing fads. Every few years, a hot new topic may be required to replace the once hot old topic. Perhaps, but I believe that the underlying cause is that many of the people who become members of English departments dislike science and math. The tradition of empirical argument that is central to cognitive writing research may not fit comfortably with the professional styles of English professors. In an article entitled, "Finding a Comfortable Identity," William Irmsher (1987) wrote, "What we know is that scholars in the humanities characteristically distrust quantitative measures, even for linguistic or stylistic studies" (p. 85). He advises writing scholars to "prefer case-study and ethnographic inquiry to controlled group studies involving comparisons" (1987, p. 86). Finally, he complains "must we continue to be plagued by the scientific nemesis? By the specters of averages and standard deviations?" (1987, p. 87). Irmsher clearly did not like science or statistics, and in these quotes, he foreshadowed the strange valorization of qualitative over quantitative methods that is popular in English departments today.

Although many writing researchers in English departments have divorced themselves from cognitively oriented studies, the present volume gives hope of a reconciliation. The authors in this volume do not dispute the importance of social, political, and historical influences, but they do embrace the importance of cognition and neuroscience for understanding writing. Many of the authors cite the importance of transfer and metacognition for teaching and learning

writing; others express interest in attention and knowledge. The phenomena of plasticity and mirroring receive special attention from authors interested in the implications of neuroscience for writing.

If these authors in this book and like-minded colleagues can garner attention from an audience within English departments and beyond, perhaps they can reduce the bias against cognitive writing studies. Perhaps, in coming decades, researchers in English departments will integrate cognitive science and neuroscience in their studies of writing to design more effective research programs and more effective writing instruction. Let's hope!

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