A study used protocol analysis to trace a group of specialized journalists' cognitive processing of information. Science writers were selected because they were hypothesized to be particularly sensitive to the needs of their audience and to rely more on audience knowledge when making decisions. Five science journalists (of about 25 contacted at professional meetings) recorded their thoughts from the time they started to write an article until the time they finished. Tape recordings were transcribed and analyzed. Results indicated that discourse knowledge, rather than audience knowledge, motivated decision making throughout the newswriting process. Findings suggest that journalists' decision making is guided by journalistic discourse conventions, not by their knowledge of the audience. Journalists learn how to accommodate the audience by relying on discourse knowledge they obtain through their educational training, professional experience and interactions with other members of the journalistic discourse community. (Contains 36 references.) (Author/RS)
Writing for Readers?: Journalists' Use of Discourse Knowledge During the Newswriting Process

Jocelyn Steinke
Assistant Professor
Roy H. Park School of Communications
953 Danby Road
Ithaca College
Ithaca, N.Y. 14850-7253
607-274-1030

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Writing for Readers?: Journalists' Use of Discourse Knowledge During the Newswriting Process

Abstract

Journalists are repeatedly told to write for their readers. The assumption underlying this advice is that successful communication requires thoughtful consideration of the audience's needs and interests. However, studies indicate that contrary to popular belief, audience knowledge may be a relatively unimportant factor in guiding journalists' decision making (Gans, 1979; Pitts 1982, 1989).

This study used protocol analysis to trace a group of specialized journalists' cognitive processing of information. The results indicate that discourse knowledge, rather than audience knowledge, motivated their decision making throughout the newswriting process.

These results suggest that journalists' decision making is guided by journalistic discourse conventions, not by their knowledge of the audience. Journalists learn how to accommodate the audience by relying on discourse knowledge they obtain through their educational training, professional experience and interactions with other members of the journalistic discourse community.
Journalists are repeatedly told to write for their readers. The assumption underlying this advice is that successful communication requires thoughtful consideration of the audience's knowledge, needs, interests, experiences, beliefs, attitudes and expectations. Assessing the characteristics of a mass audience, however, is a difficult task because audience members come from diverse backgrounds. Each audience member "has a history, lives in a particular social formation (a mix of class, gender, age, region, etc.), and is constituted by a complex cultural history that is both social and textual" (Fiske and Hartley, 1983, p. 62).

Little is known about how journalists' knowledge of the audience affects them during the newswriting process. Pitts' analyses (1982, 1989) of journalists' processing of information indicated that journalists do not have a continuous, conscious awareness of the audience. In his interviews with journalists, Gans (1979) found that most had little knowledge of the actual audience, rejected feedback from the audience and paid little attention to the audience. These studies indicate that contrary to popular belief, journalists' knowledge of the audience may be a relatively unimportant factor in guiding their decision making. If journalists are not guided by a sense of the audience when they write, what information do journalists use to make decisions about their articles?

This paper argues that journalists rely on discourse knowledge instead of audience knowledge to guide their decision
Research indicates that writers' affiliations with particular groups have a greater influence on writers than writer-reader relationships (Brandt, 1992). As Brandt (1992) explains:

What a writer does or writes down during composing may relate less to a reader's needs or expectations than to a writer's affiliations with the sense-making practices of a particular group, say feminists, the Roman Catholic Church, or AT&T (p. 330).

Discourse knowledge, information about the standards and conventions of a particular genre of writing, rather than audience knowledge, information about audience members' needs and interests, drives journalists' decision making during the newswriting process. This study uses protocol analysis to trace journalists' use of discourse knowledge during the newswriting process.

**Discourse Knowledge**

All writers use discourse knowledge to make decisions about their texts. Park (1986) describes discourse knowledge as an array of rhetorical choices about "appropriate formats, matters of tone, diction, stance toward the reader, kinds of allowable openings, structure, evidence, and argument" (p. 483). According to Britton (1978), discourse conventions vary depending on whether the purpose of writing is transactional, expressive or poetic.

Writers obtain discourse knowledge from a specific "discourse community" (Bizzell, 1982; Porter, 1986), also known as an "interpretive community" (Fish, 1980) or a "speech community" (Nystrand, 1982). A discourse community is "a group of individuals bound by a common interest who communicate through
approved channels and whose discourse is regulated" (Porter, 1986, pp. 38-39). Writers can belong to several different discourse communities. Each discourse community establishes the approved channels, or "forums" (Porter, 1986), through which members communicate.

By reading texts published in approved forums, writers acquire discourse knowledge. They learn the accepted topics, organizational structures and styles of a particular type of discourse (Tierney and Leys, 1986). Flower (1987) explains writers' "images of prior texts often function as heuristics, guiding [their] effort[s]" (p. 117). Cooper (1986) adds: "All the characteristics of any individual writer or piece of writing both determine and are determined by the characteristics of all other writers and writings in the systems" (p. 368).

Discourse knowledge is often tacit. However, at certain times during the writing process, discourse knowledge surfaces in writers' consciousness as they recall discourse knowledge from long-term memory into working memory. Writers use discourse knowledge that is retrieved into working memory to make decisions about their texts. Flower (1987) explains:

Discourse knowledge then is not only the sort of information we acquire and use unconsciously, it is at time the object of cognition, at which point it exerts a direct and powerful influence on the writing and reading process (p. 116).

Research on Use of Discourse Knowledge Over Audience Knowledge

Studies show that writers rely on discourse knowledge instead of audience knowledge to guide them during the writing process. Odell (1985) found that perceptions of the audience
held by writers who worked in a state bureaucracy were based not on personal knowledge and experience, but on their perceptions of organizational values, procedures and preferences. Selzer (1983) found that when writing a report, an engineer followed the firm's conventional format when he did not know his audience's preference. Andersen (1987) argues that writers pay more attention to discourse conventions than to the audience. Kroll (1984) adds that writing for an audience depends not so much on social knowledge as on textual knowledge.

A few studies indicate that journalists also rely on discourse knowledge instead of audience knowledge to guide them while writing. Hall et al. (1978) state that journalists learn how to address an audience by modelling the "public idiom" (p. 61) or "mode of address" (p. 61) of a newspaper. They explain:

> The language employed will thus be the newspaper's own version of the language of the public to whom it is principally addressed: its version of the rhetoric, image and underlying common stock of knowledge which it assumes its audience shares and which thus forms the basis of the reciprocity of producer/reader (p. 61).

Andersen (1987) found the conventional register, "an accepted, imposed, or expected way of writing," (p. 112) affects journalists' decision making more than their sense of the audience.

**Journalistic Discourse Knowledge**

Like writers in other fields, journalists rely on discourse knowledge to help them process information, make decisions and monitor their progress during the writing process. Journalists use discourse knowledge to make sense of what they are writing and to make sure their texts conform to the accepted standards of
the journalistic community. For the journalistic community, discourse knowledge includes knowledge of news values, clarity, vividness, credibility and production constraints. Each of these is described below.

**News Values:** The news values held by journalists and editors include prominence, timeliness, proximity, rarity and consequence. As van Dijk (1988) explains, "They provide the cognitive basis for decisions about selection, attention, understanding, representation, and the uses of news in general" (p. 119).

**Clarity:** Clear writing is achieved through precise word choice, concise and direct sentence structure, grammatically-correct sentences, a logical progression of thought from paragraph to paragraph, a logical text organization and sufficient background information and explanation.

**Vividness:** Vividness involves creating images or pictures and appealing to the senses through the use of rich description, colorful language and literary techniques.

**Credibility:** Credible writing is accurate, factual and impartial. One way journalists maintain credibility in their writing is by using quotations to "achieve distance from the story by getting others to express desired opinions" (Tuchman, 1978, p. 95).

**Production Constraints:** Journalists often face space and time constraints. Journalists learn to write to space and to write under deadline pressure.

**Tracing Journalists' Use of Discourse Knowledge**

**Protocol Analysis**

In the 1940s, psychologists frequently used protocol analysis to study problem-solving. More recently, researchers in the field of composition studies have used protocol analysis to explore writers' cognitive processing during various composing tasks (Flower and Hayes, 1980a; Flower and Hayes, 1981; Hayes and Flower, 1980; Berkenkotter, 1983; Kirsch, 1991). A few mass communication researchers have used this methodology to study
journalists' cognitive behavior during news production (Pitts, 1982, 1989; Schumacher et al., 1989). Researchers have also used this analysis in ethnomethodological studies to examine how the social context affects the writing process (McHoul, 1982; Brandt, 1992).

Protocol analysis enables researchers to closely probe subjects' mental processes. Basically, the think-aloud procedure requires subjects to verbalize their thoughts as they perform some task. Subjects' verbalizations are recorded and then transcribed for analysis. The subjects' verbalizations represent information they call into working memory for processing.

Researchers who advocate the use of protocol analysis argue it is one of the best ways to capture information writers call into working memory. Some researchers oppose protocol analysis because they fear the process of thinking-aloud distorts writers' normal composing processes. However, studies show that protocol analysis does not disrupt normal cognitive behavior, although it does slow down such behavior (Ericsson and Simon 1980, 1984). Despite its limitations, think-aloud protocols "give us a new window on the process [of writing] and capture in rich detail the moment-to-moment thinking of a writer in action" (Swarts et al., 1984, p. 53).

Writing researchers often analyze think-aloud protocols using a hermeneutical approach that involves a close reading of protocol texts. This approach greatly differs from traditional methodological approaches used by empiricists. Brandt (1992) explains that while empiricists view this approach as "impressionistic, unsubstantiated, or too ideologically fixed"
(p. 317), socially oriented scholars in composition argue that research on language and writing "can only be approached hermeneutically, through situated attempts at interpretations and reinterpretations" (p. 317). This study follows the hermeneutical method of analysis developed by composition researchers to examine journalists' mental processes during the composing process.

Overview of the Study

In this study, protocol analysis was used to trace the cognitive processes of a small group of science journalists to examine their use discourse knowledge instead of audience knowledge during the newswriting process. Science writers are a particularly interesting group of subjects for exploring this question because of the difference between their level of scientific knowledge and their audience's level of scientific knowledge. Given the degree of difference, one would expect science writers to be particularly sensitive to the needs of the audience and to rely more on audience knowledge when making decisions.

Approximately 15 science writers were contacted during the Twenty-Eighth Annual New Horizons Briefing in Science, organized by the Council for the Advancement of Science Writing (CASW) at the University of Pennsylvania in Philadelphia on November 4-8, 1990 and 10 science writers were contacted during the American Association for the Advancement of Science (AAAS) meeting in Washington, D.C. on February 14-19, 1991 meeting.

The science writers who agreed to participate in the study used the think-aloud procedure as they wrote articles based on a
presentation, paper session or news conference. They received a letter that provided an overview of the research, an instruction sheet and a 60-minute cassette tape.

The instruction sheet asked subjects to record their thoughts from the time they started to write the article until the time they finished. They were instructed to verbalize everything they were reading, thinking, writing and editing. They were instructed not to justify or explain what they were writing for the researcher’s benefit. This request was made in an attempt to prevent them from altering their normal thinking processes. Each science writer was asked to practice thinking aloud before beginning the actual protocol.

Approximately one month after each conference, a follow-up letter was sent to each science writer who had agreed to try the think-aloud procedure. One science writer returned the tape after the follow-up letter. Each science writer who returned the think-aloud protocol received a debriefing letter, which revealed the purpose of the study.

A total of three science writers from the CASW meeting returned protocols and two science writers from the AAAS meeting returned protocols. Two science writers returned the tapes during the conference; the others returned them by mail. The think-aloud protocols were transcribed independently by two transcribers and prepared for analysis. Each protocol was divided into T-units, or into independent clauses (Johnson, 1985). Clauses with an implied subject were coded as complete independent clauses. Portions of the protocols were set off by underlined type to indicate when the science writer was writing.
Other portions of the protocols were set off by bold type to indicate when the science writer was reading or rereading sections of the article. Portions of the text were left as plain type to indicate when the science writer was verbalizing his or her thoughts.

Each protocol text was closely read by the principal investigator. Each text was examined for specific instances of or references to recalling or using discourse knowledge to make decisions. The analysis of the science writers' use of discourse knowledge appears in the following section.

Journalists' Use of Discourse Knowledge Over Audience Knowledge

Use of Audience Knowledge

The journalists rarely recalled audience knowledge from long-term memory into working memory when making decisions about their articles. The think-aloud protocols of these journalists included few, if any, references to the audience's knowledge, needs, interests, experiences, beliefs, attitudes and expectations. Although most of the journalists recalled some audience knowledge during the news writing process, they rarely used audience knowledge when making decisions.

For example, Journalist 1 made no references to the audience. Of all the journalists in this study, Journalist 2 most frequently used audience knowledge to make decisions. He stated: "Maybe I should touch on it [what happens in the bacterial cell], though, cause readers may want to know," "I think that will get people interested in the story," and "I think a lot of people can relate to that." Journalist 3 used audience
knowledge at only one instance during the newswriting process. He said: "I don’t feel like this moves. I don’t feel I’ve got the reader in this story at all." Journalist 4 also made only one reference to the editorial audience. He used the following quote from one of his sources: "I’m not a Luddite," and he noted that "of course no one will know what a Luddite is, especially [name of editor] my editor." Journalist 5 recalled audience knowledge only once to decide whether to include information. He said: "My rule is if it’s interesting to me it’s probably interesting to other people. It’s a little presumptuous, but that’s how I run my life."

Use of Discourse Knowledge

The journalists in this study often relied on discourse knowledge instead of audience knowledge when making decisions during the newswriting process. The journalists’ reliance on discourse knowledge was reflected in their attention to news values, clarity, vividness, credibility and production constraints.

Use of Knowledge of News Values

Of all the types of discourse knowledge, information about news values had the least impact on the journalists’ decision making. However, Journalist 1’s knowledge of news values clearly affected her decision to write an article on the gas masks used during the Gulf War. She said the timeliness of the subject would appeal to her editors. She said, "I hope they run this story because I wrote something not too dissimilar too long ago, but I figure it’s war and they want more of the war stuff."
Although none of the other journalists directly referred to their knowledge of traditional news values, such knowledge may have affected their decision making during the news gathering process, when journalists typically select story ideas, rather than during the newswriting process. This study only captured the journalists' processing of information during the newswriting process.

**Using Knowledge of Clarity**

Information on how to assess and improve the clarity of their writing influenced many of the decisions journalists made during the newswriting process. The protocols of a number of the journalists indicated that they actively used discourse knowledge to monitor the clarity of their writing. For example, Journalist 2 said a passage was "too colloquial" and "needs to be fixed up." Journalist 3 said: "That still doesn't sound quite right;" "I don't know if that's clear enough;" and "That's not quite what I want to say."

A few of the journalists were concerned about the clarity or precision of the words they used. For example, Journalist 1 corrected herself and said: "Not rather, but more likely" and "Not when, if." Journalist 3 said: "No that's not the right word;" "It's not really the right word either;" and "I'm not sure how shall I'll call it." Journalist 4 asked, "Is the right word tragic?"

A couple of the journalists were concerned how repetitive information would affect the clarity of their articles. Journalist 1 said: "I'm going to cut this sentence. It says, 'According to Maselson such reports are mostly nonsense,' since I
just said that." Journalist 3 frequently stopped to eliminate repetitive words: "Too many that’s;" "I don’t like to have two infections in one sentence;" "I’ve got resistant in here too many times;" "This is redundant, redundant material;" and "Get rid of some of this repetitive stuff."

Many of the journalists were concerned that disorganization might hamper the clarity of their articles. For example, Journalist 3 said: "I need to get this set up broadly enough so I can go back and explain some of these issues later;" "Maybe I should just move this discovery with broad implications into the second paragraph;" and "Move that quote paragraph up." Journalist 4 carefully monitored the organizational structure of his article throughout the writing process: "Start a new graph here;" "Ok these three graphs here;" "Then we go right into a specific example and then the more general stuff about the research;" "We probably need an example here;" "Maybe I need an example here to break up all this talk;" and "We need an example of that flexibility or to go into the corollary."

Using Knowledge of Vividness

The journalists' decision making was influenced somewhat by their concern about the vividness of their writing. Of all the journalists, Journalist 5 most often assessed and tried to improve the vividness of his article. For example, he said: "I’m going to use that as my lead here, just because that’s grabby;" "This is all boring stuff;" "Second graph ok, that’s boring;" "Makes it a bit punchier;" and "Let’s put a little image in there." At one point he chooses vividness over credibility. He says:
Journalist 4 briefly considered the vividness of his article. He said, "We need a billboard graphic." Journalist 2 noticed a lack of vividness in his writing. He said, "I don't think it's too terrible exciting, but I think it's something that should be brought out."

Using Knowledge of Credibility

Of all types of discourse knowledge the journalists recalled, information on how to maintain the credibility of their articles had the greatest impact on their decision making. The journalists in this study frequently recalled information on when and how to use direct quotes in order to enhance the credibility of their articles. Journalists 1 periodically stopped to insert a direct quote from a source to support a point she previously made. For example, she says, "There's a quote. It's by a toxicologist;" "I'm looking for that quote again;" and "I better quote him again." She is meticulous about quoting sources verbatim. She says, "I need to find if that's actually a quote" and "I can't find the quote. I thought the guy said it, but I didn't write it down. So I can't quote him exactly. I have to paraphrase." Journalist 2 also used direct quotes to enhance the credibility of his article. At one point he says, "Let's see if I can get an expert to back this." He was concerned mainly about the placement of quotations in his article. He said, "Here is about the time in the story when I need to bring in a
quote." Journalist 4 kept a "file of quotes" in his computer, and retrieved the file when he wanted to add a quote. Most of the time he seemed to have an ongoing sense of where to place quotes. At one point he says, "OK now we quote," and at another he tells himself to "quote from LaPorte again."

The journalists' concern about credibility is also reflected in their attention to accuracy. For example, Journalist 1 asked: "When did he say this? I suppose I have to say he said it today." Later she reminds herself to check the wording of a direct quote. She says, "I'm going to doublecheck that he actually used the word excellently but I'm sure he did. He said it about three times." Journalist 3 stopped to check the spelling of his sources' names and their titles. At one point, he stops to gather more factual information from his source. He says, "Back from talking with Dr. Tomasz and I found a whole bunch of problems here." Journalist 4 reminded himself to check facts, check sources' names and titles. Journalist 5 consulted references sources to verify information. He says, "I'm going through the abstracts book for a definition." Journalist 5 also acknowledged the importance of accurate quotes. He says, "I'm going to have to get it exactly the way he said it."

Some of the journalists were concerned about the credibility of the sources they selected. Journalist 2 stopped to evaluate the credibility of the sources he planned to use in his article. In his protocol he said he plans to call the CDC, Hershey Medical Center, a couple of pharmaceutical associations based in Washington and the state health department for information. Journalist 5 emphasized his sources' expertise. He says, "Title
all right, I'm trying to find his exact title" and "Ok now I need his title up there."

Using Knowledge of Production Constraints

Production constraints influenced some of the journalists' decision making depending on the severity of constraints they faced. Information on space constraints determined when Journalist 1 had written enough. She said: "That's all. My story is seven inches which is plenty long enough." Journalist 4 frequently stopped to check the length of his article. He said: "Let's see how we're doing here. Word count 386 words I should probably write about 1,000;" "We're up to 114 lines;" and "OK we're up to 158 lines this is getting longer." Similarly, Journalist 5 checked the length of his article twice. He said: "I'm at line 46" and "55 lines." Journalist 3 was the only one affected by time constraints. At one point he asked, "What time is it here," and responded, "Yikes."

Conclusions

The journalists in this study relied on discourse knowledge instead of audience knowledge when making decisions during the newswriting process. Journalists may rely more on discourse knowledge than audience knowledge because they rarely interact with actual audience members, and thus, can never really "know the audience."

Journalists gain discourse knowledge through their educational training, professional experience and interactions with other members of the writing discourse community. Through their socialization, journalists "learn to employ the devices of
audience-adapted writing by handing their texts to colleagues to read and respond to, by revising articles or memos or reports guided by comments from editors or superiors, by reading others' summaries or critiques of their own writing" (Cooper, 1986, p. 371). So, by trial and error, journalists learn what is acceptable and what is not, what works and what does not work.

One could argue that the science writers in this study, did have the audience in mind whenever they recalled discourse knowledge. However, the decisions the science writers made during the writing process seemed to be driven more by a sense of "what works" and "what is acceptable," than a sense of what the audience needs. The journalists were more concerned about discourse conventions than audience needs.

The results of this research raises questions about the current pedagogical practice of instructing students to "think of the audience." In fact, most journalism texts provide little information about the knowledge, needs, interests, experiences, beliefs, attitudes and expectations the audience -- perhaps because discourse knowledge, or "what works," is what really matters.

As with all research, this study has its limitations. The limitations of this methodology have been addressed earlier. Despite these limitations, this approach allowed close inspection of writers' cognitive processes. However, in order to fully understand the complexities of cognitive processing of information, we need to consider and test other approaches that allow us to peer into writers' minds. Another limitation of this study is that it examined only one aspect of the journalists'
decision making -- their use of discourse knowledge. Further research needs to explore the wide array of knowledge journalists use during the newswriting process. Another limitation of this study is that it examined only one part of the news production process -- the newswriting process. Research is also needed on journalists' decision making during the newsgathering process.

This results of this study suggest that the discourse community has a significant and powerful impact on journalists. Additional research is needed on the ways the social context affects journalists and the messages they create. We are just beginning to understand the complex interaction between writers and social context.
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