The Language of Psychology

APA Style as Epistemology

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The Publication Manual of the American Psychological Association *(4th ed., APA, 1994) is a guide for many aspects of professional writing for psychologists. In this article, the authors propose that APA style involves more than a set of explicit guidelines for presenting information; it also incorporates a variety of unarticulated practices that reflect fundamental attitudes and values of psychologists. The authors examine some of the less obvious characteristics of APA style to show how they support the discipline's commitment to the empirical method and the discipline's view of itself as a cumulative, collaborative enterprise. Students who enter the field of psychology acquire psychology's language conventions, and in doing so they also come to implicitly endorse important values of their discipline.*

It might be argued that all American psychologists, regardless of specialty, share at least two common educational experiences: a course in statistics and exposure to the *Publication Manual of the American Psychological Association.* "APA style" (e.g., Gelfand & Walker, 1990a) has come to refer to this well-developed system of writing conventions that includes information on how to organize empirical reports, how to reference published works, and how to solve dozens of other technical problems that arise in the preparation of a manuscript. But the use of APA style has spread far beyond settings in which manuscripts are readied for publication. Psychology curricula typically require that competence in APA style be demonstrated in class papers, theses, and dissertations. Indeed, the use of APA style has become common even in disciplines outside psychology, such as education and nursing. Contemporary English composition textbooks (e.g., Hacker, 1992) present APA style as an established standard on a par with the venerable "MLA style" (Achtert & Gibaldi, 1985).

Although fully appreciating its ubiquitous presence in the discipline, we argue in this article that APA style plays an even greater role in psychology than it might appear. We propose that APA style is not just a collection of arbitrary stylistic conventions but also encapsulates the core values and epistemology of the discipline. APA style is itself a model for thinking about psychological phenomena and serves as an important socialization experience for psychologists. We show in this article that the subtleties of APA style make its mastery a challenging task that is frequently underestimated by both students and professors.

APA Style as a Writing Genre

Although familiarity with APA style prose makes it seem unremarkable, it is nonetheless a specialized genre of writing that differs in many ways from writing found in other disciplines. Figure 1 shows a comparison of features of academic writing drawn from scholarly journals in literary criticism, history, and two areas of psychology. We obtained these data by examining the first 25 articles published in 1992 in representative journals of each discipline.

Although these textual differences may seem minor, they have major rhetorical consequences that give each discipline its own characteristic voice. Subheadings are not common in literary criticism and history but are widely used in psychology. By announcing the next major topic, subheadings reduce the need for authors to incorporate transitional passages to connect major sections. When subheadings are standardized, as in most psychology journals, the organizational structure they impose contributes to the communication between writer and reader by creating specific expectations about forthcoming information. The extensive use of discursive footnotes in disciplines such as literary criticism and history has the effect of establishing a second, parallel text that the author can use to rhetorical advantage. Writers in literary criticism, for example, exhibit sophistication in distributing important points between the main text and discursive footnotes. Figure 1 also shows that writers in psychology frequently cite other published work but rarely quote directly from them. Citing previous work by paraphrase rather than by direct quotation is a convention that affects both the flow and feel of the resulting text. Paraphrase gives an author more flexibility in presenting another's point. Although not shown in Figure 1, most articles in psychology are the work of multiple authors, whereas the articles reviewed from the other disciplines were almost without exception the work of a single author. The mean number of authors in articles sampled from two psy-

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chology journals was 2.5 and 2.8, respectively. It is likely that multiple authorship works against distinctive language usage and tends to produce more subdued prose.

The textual differences captured by Figure 1 are illustrative, not exhaustive. Although the characteristics of disciplinary writing styles have only recently received careful attention, there is considerable support for the existence of a number of academic writing genres. Bazerman (1981) has examined scholarly articles from biology, sociology, and literary criticism and has concluded that each is distinctive. MacDonald (1989) has proposed that the development of concepts in written work proceeds in fundamentally different ways in different disciplines. Writers in the humanities introduce ideas with a discussion of particular cases and then proceed to more general conclusions. In the social sciences, writers begin with a consideration of general principles in the introduction, move to a particular data set, and then return to general principles. These structural differences are reflected in the many details of texts produced in different specialty areas (MacDonald, 1992).

Skilled writers must not only master the general rhetorical approach favored in their disciplines but must also develop a myriad of subtle stylistic nuances that separate novice and expert writers. Berkencotter, Huckin, and Ackerman (1988) described the difficulties an accomplished writer in the humanities experienced as he acquired a research-oriented writing style in graduate school. Textual features admired in the humanities sounded "off register" in his new discipline and marked his writing as the work of an outsider. A considerable amount of effort was necessary to unlearn comfortable stylistic preferences and to develop the new ones necessary to give his writing the voice of an expert in the field. Psychology professors sometimes encounter a similar situation when students change their academic majors late in their college careers. These students may find that a formerly successful writing style produces criticism from their new professors.

Distinctive writing genres such as APA style are defined by the practices of complex networks of writers and readers. Bizzell (1986) has used the term *discourse community* to refer to a group of individuals who share common goals and beliefs and who have established mechanisms for communication. Texts within the discourse community are produced and judged in relation to the community's implicit norms. The community's writing genre serves as both a model for writers and as a template for readers (Todorov, 1990). Both writers and readers come to find prose that contains the typical textual features of the discourse community to be appropriate, persuasive, and interesting.

APA Style and Paradigmatic Thinking

APA style codifies the writing practices of a large discourse community. It has evolved along with psychology. VandenBos (1992) reported that the APA began its journals program in 1923. By 1929, an APA committee printed a seven-page writer's guide in the *Psychological Bulletin.* The document grew to 42 pages in 1944. The title "Publication Manual" was first used in 1952, and new revisions followed in 1957, 1967, 1974, and 1983. By 1990, annual sales exceeded 200,000 copies (VandenBos, 1992). The 1994 revision is 368 pages. Each edition has communicated the standards of its time for reporting empirical studies.

These developments may be viewed from a sociocultural perspective wherein APA style richly reflects psychology's intellectual milieu, in which agreement about trivial details can carry with it agreement about more fundamental matters. For example, APA guidelines have mirrored changes in psychology's concept of a person who serves as a "subject" in a psychological investigation. Although the current view is that subjects (now termed *participants;* American Psychological Association, 1994,

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p. 49) are anonymous, interchangeable, and distinct from experimenters, this was not always the case (Danziger, 1990). During much of psychology's early history, studies were reported in which participants were explicitly named individuals who were frequently the authors of the report. Changes in the nature of the research participant reflected a shift in the social structure of the psychological laboratory that had far reaching effects, ultimately impacting the types of data collected and the methods used to analyze them (Danziger, 1990). APA style helped codify these developments and institutionalize them. By mastering APA style and reading APA style reports, a student learns how a participant is to be conceptualized in contemporary psychology and other details about the way her or his discipline constructs knowledge about the world. As APA writing conventions are internalized, the student is presented with the larger worldview implicit in them (Scinto, 1989) and is encouraged over time to think in ways characteristic of the discipline.

Characteristics of APA Style

In the following section, we identify several distinctive characteristics of APA style. All of the examples are taken from published empirical reports, which form the setting in which APA style evolved (Bazerman, 1987). Professional journals remain models for appropriate scholarly writing in psychology.

Story Schema for Empirical Reports

The overall organization of empirical reports follows a similar form in many disciplines: introduction, method, results, and discussion. We view this structure as a story schema (Mandler, 1983) that provides a formula for recasting the actual empirical study into a reported version that exhibits characteristics valued by the discipline. The typical published study is portrayed as a logical, linear sequence of activities that lead directly from carefully considered conceptual issues presented in the introduc-

tion, to data collection, to the discussion in which the contribution of the new data is assessed.

The reality of the research conducted for these published texts appears to be less organized and more ad hoc than a reading of the empirical report would suggest. Skinner (1956) described his free-wheeling research style as the antithesis of textbook presentations of the scientific method. Several of his major contributions are attributed to either serendipity or equipment failures. Gilbert and Mulkay (1984) reported interviews with scientists in a variety of empirical disciplines who commented on the contrast between the rational, impersonal portrayal of the published study and the more complex human story that actually took place. What appears in print is a sanitized, rationalized account of the research that conforms it to the standard story schema. Although experienced investigators sometimes can guess the probable real story behind the published report by reading between the lines, the written presentation of the research contains none of this.

One specific example of the power of the story schema in reconstructing the research experience comes from the method section of empirical reports. Interviews with various investigators (Gilbert & Mulkay, 1984) confirm our own experience that the actual conduct of research is a demanding practical activity that requires

Figure 1
A Comparison of Academic Writing in Literary Criticism, History, and Two Areas of Psychology

■ Journal of American History □ PMLA ■ Journal of Counseling Psychology □ JEP: LMC
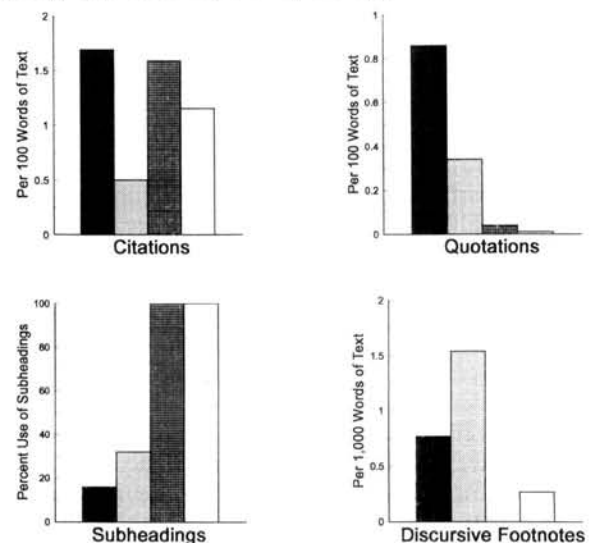
Note. Data are based on the first 25 scholarly articles published in representative journals of each field in 1992. Citations are references to the work of other scholars. Discursive footnotes are footnotes or endnotes that include author commentary. Additional methodological details are given in the Appendix. PMLA = Publication of the Modern Language Association; JEP: LMC = *Journal of Experimental Psychology: Learning, Memory, and Cognition.*

problem solving, specialized knowledge, and intuition. In the final published version, however, these events are reconstructed into a highly routinized, impersonal account of what the author believes are key methodological steps appropriate for inclusion in a published report. Procedural details that were both problematic and important may not be described if the author judges them to be routine problems or idiosyncratic occurrences (Knorr-Cetina, 1981).

Our aim is not to criticize the distortions that take place during this schema-driven reconstruction of empirical studies. The organizational structure for such writing has evolved into similar forms in a variety of empirical disciplines, attesting to its functionality. Rather, our aim is to emphasize the degree to which the underlying schematic model reinforces and promotes psychology's empiricist values. The story schema supports a generalized empirical approach to thinking about human behavior, one of the central characteristics of the discipline (Hilgard, 1987; Lehman, Lempert, & Nisbett, 1988; Toulmin & Leary, 1985). Implicit in the story schema is a formula for addressing psychological questions: (a) review past empirical studies, (b) collect and analyze new data, and (c) relate conclusions to current psychological theorizing. As psychology students become skilled readers and writers of this style of written prose, we suggest that they also become enculturated into their discipline by acquiring key empiricist values that are carried by the common schema that such texts share.

Language of Disagreement

The analytical nature of scholarly writing makes occasional differences among writers inevitable. Indeed, theoretical disagreements are common in psychology and have been responsible for significant advances (Kendler, 1987). However, confrontive disagreements in empirical reports are rare and explicitly discouraged by the *Publication Manual* (American Psychological Association, 1994), which urges writers to treat controversial issues fairly and to avoid animosity (p. 12). Psychology's conventions for disagreement with peers differ from those in some other disciplines. Disagreement in literary criticism, for example, can have a sharply personal focus. In the articles reviewed for Figure 1, a rival critic was described as "truculently persist[ing] in crediting the discredited" (Battersby, 1992, p. 51); an alternative view was presented as "willful revisionism" (Bethea, 1992, p. 232). Although not all writers in this discipline adopt such assertive rhetoric, these examples are not unusual and would not be likely to alienate a reader.

In the *Journal of American History,* disagreement is gently handled or ignored. An alternative position is described as "too simple" (White, 1992, p. 874). Another historian who has proposed a different interpretation is said to "take a sunnier view of the material" (Rogin, 1992, p. 1076). The relegation of disagreement to short comments in footnotes is another convention observed in this journal (e.g., Smith-Rosenberg, 1992, p. 846, Note 10).

In psychology, disagreement focuses on the empirical process and away from investigators as individuals. Three common disagreement strategies were illustrated in the sample articles from psychology. The generality of another's proposal may be challenged, as Tenpenny and Shoben (1992) did in asserting, "this [theoretical] distinction is not able to deal with an increasing number of results" (p. 25), or methodology may be questioned as illustrated by Hirshman and Durante (1992): "The primary criticism is that the threshold-setting procedures used in previous experiments are not adequate to ensure that . . ." (p. 255); or the data of another investigator may be reinterpreted to support a rival position. Myers's (1990) analysis of empirical biology articles found similar examples of disagreement.

It is instructive to compare informal assessments of disagreements with colleagues to the restrained, impersonal, published versions. Gilbert and Mulkay (1984) interviewed investigators in several empirical disciples about their professional disagreements and found these verbal descriptions to be more personal than their published accounts. Disagreements were attributed to "strong personalities" or "dogmatic" dispositions or "having too much invested in a theory" (pp. 68–69) rather than to methodological weaknesses or to experiments with limited generality. Although these interviews were with researchers outside of psychology, it is certainly the case that psychologists are also capable of personalized disagreements, as illustrated by the "Comment" section of the *American Psychologist.* But when it comes time to disagree in an empirical article, APA style requires a different tack, and any personal disagreement must be reconstructed into an acceptable format.

This depersonalized style of disagreement is consistent with the model many psychologists hold for their discipline: a collaborative, cumulative endeavor based on empirical data. APA style disagreement focuses on empirical details rather than personalities and thus both reflects and supports the discipline's perception of itself.

Drawing Hedged Conclusions

Empirical reports typically relate the data of the study to the discipline's current understanding of a recognized problem. In such a situation, the author is faced with a rhetorical task that requires a delicate balance. On the one hand, the author must convince peers that the results have substantive implications; alternatively, the conclusions must not appear to extend beyond the data. If the author is unsuccessful in the first objective, peers may view the study as having little consequence; if the author overreaches in discussing the data, the same peers are likely to criticize the study on different grounds. One indication of this rhetorical tightrope is the frequency with which hedged wording is used to discuss the conclusions of empirical studies. Words such as *tend, suggest,* and *may* allow authors to relate findings to larger issues while acknowledging the need for more research before reaching firm conclusions. In Table 1, a representative collection of hedge words is presented to illustrate the variety of

Table 1
Thirty-two Ways to Hedge a Conclusion in APA Style Writing

Conclusive	Hedged
there is reason to argue	is consistent with
our suggestion is	may be related to
it seems plausible that	provides suggestive evidence
broadly speaking	is compatible with
in the meantime	a more fruitful approach
perhaps an important factor	seemed to add weight to
on the other hand	may question
if we take seriously	may not generalize
it appears to be	should prove useful
this finding suggests	may be considered
the results seemed to	lends support to
the results point to	does not rule out
the results might indicate	may provide
the results support	tentatively conclude
the results may provide	in a sense
however additional research	it could be

Note. Examples are from authors' statements of their conclusions, from the *Journal of Experimental Psychology: Learning, Memory, and Cognition* and the *Journal of Counseling Psychology.*

ways an author may relate findings without being definitive.

In reviewing the sample articles from three disciplines, hedged wording was associated with the authors' conclusions more commonly in scholarly articles written about psychology than in those from either literary criticism or history. Figure 2 presents the number of hedge words found per 100 words of text in the concluding portions of the sample articles used to construct Figure 1. The relatively high frequencies found in both psychology samples is not surprising, given the strong empirical values of the discipline. Hedge words implicitly recognize the uncertain flow of the ongoing stream of empirical studies investigating complex phenomena. New findings can and do cause old conclusions to be abandoned. Hedge words also convey an impression that theories are more tenuous and less permanent than the data that generate them, an idea that has characterized empirical disciplines since the time of Bacon.

Another factor contributing to the use of qualifying wording is the journal review process itself. Myers (1990) has presented a description of the negotiation that takes place between reviewers and authors in getting an empirical article in biology accepted for publication. Many of the changes that were ultimately made in the article had the effect of hedging theoretical interpretations of observed data. Complaints about the peer review process associated with journal publication in psychology (Bradley, 1981, 1982) suggest that similar adjustments take place. It is important to note that the final products, published journal articles, become models of appropriate disciplinary writing and thus tend to perpetuate the writing style that emerges from the editorial process.

Hedged wording thus plays an important role in the rhetoric of an empirical article. By making some theoretical conclusions tenuous, qualifiers increase peer acceptance of overall work; by showing proper respect for the empirical process, such wording has the rhetorical effect of making a hedged conclusion more convincing to members of the discourse community than a stronger sounding claim. We suggest that psychology students who learn to properly hedge conclusions in empirical reports also acquire important empiricist values and thereby increase their enculturation into their discipline.

Use of Citations

Scholarly writing in all disciplines requires the judicious use of citations of previous work, but there are marked differences in the conventions that govern these citation practices. One characteristic of APA style writing is a moderately high frequency of text citations, as compared with some other disciplines. Figure 1 shows the results of an examination of textual citations in the sample articles collected for this article, expressed as the number of citations per 100 words of text. Texts in psychology contain more citations than works in literary criticism but somewhat fewer than those in American history. A more detailed study would likely show other important differences in the location of references within scholarly articles, their formats, and their rhetorical functions. The variation in the use of citations among the three disciplines is extensive and reflects their different histories and scholarly values.

Citations in APA style writing typically occur in the introduction and discussion sections, as authors attempt to place their work in the ongoing stream of empirical studies. These references in the text not only function to

Figure 2
Frequency of Hedge Words in Academic Writing From Literary Criticism, History, and Two Areas of Psychology
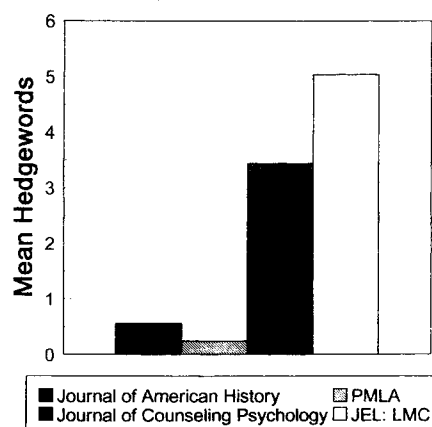
Note. Data are from the articles used in Figure 1. Bars show the mean number of hedge words in the authors' statements of their conclusions. Additional methodological details are given in the Appendix. PMLA = Publication of the Modern Language Association; JEP: LMC = *Journal of Experimental Psychology: Learning, Memory, and Cognition.*

provide necessary background for the study but can also play a role in establishing the author's credibility as an expert on the subject. Failure to cite key works may call the rest of the effort into question. Myers (1990) and Berkencotter and Huckin (1993) studied the use of citations in empirical reports in biology and found that the inclusion of the "correct" citations in an article's introduction can be crucial for publication, independent of other characteristics of the study. Some citations in APA style writing may serve no rhetorical purpose other than to signal to members of the discourse community that the author knows the work of other key scholars in the area.

Another specialized use of citations is seen in articles that deal with phenomena that have received extensive previous study. The author faces the possibility that a point in the article will provoke questions or criticism from another authority in the field. Latour (1985) discussed the strategy common in empirical reports of anticipating these objections by marshaling arguments and citations against them. This complicates the development of the text because the author must attend not only to the phenomena under study but also to unseen colleagues with possible challenges. As the author juggles these two rhetorical burdens, the text becomes increasingly complex and dense (Latour, 1985), with a localized increase in the frequency of citations.

A marked difference between APA style citations and those in other disciplines is the less frequent use of direct quotation of sources. Previous work is often broadly summarized, or specific points are paraphrased. It is accepted that the language in which a particular point is expressed can be changed by a succession of writers, even though each cites the same original work. Although the objective language encouraged in APA style is expected to prevent excessive slippage as writers rework the language of their predecessors, it is also true that a certain amount of accommodation is the norm. One author is permitted to restate the findings of another in ways that support a new work.

This convention may seem particularly strange to beginning psychology students who have been taught by their English composition professors to include quotations that present important points in the exact language of their sources. The origin of this practice is a belief common in the humanities that meaning is inseparable from the specific language that expresses it. This disciplinary difference is illustrated by Figure 1, which shows that articles in literary criticism use fewer citations in the text but use more frequent direct quotations than do articles from psychology journals. Composition instructors typically have strong, successful backgrounds in the humanities and have been enculturated into discipline-specific values concerning the use of direct quotation, leading them to encourage their students to do likewise. Students who have successfully acquired the writing skills taught in freshman composition courses will use direct quotation in their psychology papers to an extent that may strike psychology instructors as excessive. As students move through the psychology curriculum, they will be subtly

encouraged to change their use of citations from the pattern typical in the humanities to that of their major.

Language as Medium Rather Than as Product

APA style writing shares with other empirical disciplines a utilitarian view of language in which words are implicitly assumed to function as simple transmitters of information from the writer to the reader. Word choice is important to the extent that it may facilitate or impede this process. Empirical reports are treated as if they are about phenomena and data rather than about language (Bazerman, 1988). It is important to note that this straightforward view of the function of language is not shared by all discourse communities. Furthermore, this view of language may be directly responsible for important characteristics of APA style writing.

The relevance of an implicit language model for disciplinary writing styles can be illustrated in the humanities, where language is frequently given a more central role in scholarly enterprises. Not only is a message believed to be inseparable from the words that express it, but the larger meaning of a work is viewed as accessible only through a study of its rhetoric (Fish, 1990). Certain disciplinary writing conventions stem from this view. The high frequency of direct quotation in the works examined from literary criticism shows the value placed on the unique language of their sources. The use of distinctive metaphors and colorful word choices that is also characteristic of this style of writing reflects a concern with language that goes beyond its use as a transparent communication medium.

Language in APA style takes on the function of a somewhat unimportant container for information about phenomena, data, and theories. The convention of paraphrasing rather than quoting sources illustrates this orientation. Colorful language or attention-getting metaphors are rare because they give prominence to the vehicle rather than the content. In APA style, language use is not allowed to call attention to itself. Dillon (1991) described this as the "rhetoric of objectivity" that has evolved to create the impression of neutrality or impersonal detachment and that is generally characteristic of the empirical disciplines. This effect is enhanced by giving the persona of the writer a low profile in the text, keeping the focus on the phenomena under study. Several grammatical constructions serve this end, such as the use of the passive voice (e.g., "the observations were collected over a two week period") and the attribution of agency to inanimate objects (e.g., "the data showed"). Gross (1990, 1991) has referred to the "self-effacement" of the scientist to characterize the way in which the utilitarian language of the empirical disciplines systematically emphasizes the data or theory over the researcher as an individual. As students learn to write in this style, we believe they also begin to implicitly adopt an empiricist approach to knowledge construction.

The question of whether language should (or can) function as just a medium is one that divides scholarly disciplines both philosophically and practically. APA style

writing is a disciplinary genre that adopts an uncomplicated view of the role that language plays in communication. This leads away from a self-conscious examination of rhetoric, common in some disciplines, and toward practices that make language appear as a transparent medium for conveying objective information about a fixed external reality. Psychology's language aligns it with the sciences and distances it from the humanities.

Varieties of APA Style Writing

The examples here have stressed APA style as seen in empirical reports. Although this is only one of the writing contexts in which APA conventions are used, it is a particularly good one for the examination of APA style writing. The format and style of published empirical reports is clearly specified by a respected publication manual that has evolved over many revisions. Published empirical reports also reflect not only the writer's judgments about appropriate style but those of editors as well. The journals publishing these reports serve as easily accessible benchmarks of acceptable writing practices for the discipline.

As APA style is adapted to other contexts, such as books, theses, and term papers, authors become more free to express their own stylistic preferences. Nonetheless, we believe that the ongoing stream of journal articles, and the value the profession places on them, serves as a standardizing force that influences the writing of other less regulated texts. By applying APA style with sophistication, a writer implicitly endorses the epistemological values of the discourse community while presenting ideas in familiar rhetorical and stylistic patterns. A term paper that exhibits textual features of a journal article is likely to be better received by a psychology professor than a paper that doesn't. A professional book whose argument is presented in APA style writing is likely to seem more convincing to a psychologist than it might be otherwise. Such cases reflect these readers' long experience with APA writing style and suggest how the journals of the field exert a gentle, steady pressure on the written work of the entire discourse community.

Acquisition of APA Style Writing

The APA style characteristics presented here are certainly not exhaustive. Bazerman (1987), for example, made a different set of observations about writing in psychology. Nonetheless, the examples presented in this article serve to make the point that APA writing style is more complex than it may appear on the surface. The intricacies of APA style are such that it must be mastered from within the discipline, but this process presents difficulties to both psychology professors and their students.

Psychologists face two obstacles in helping students acquire APA writing skills. First, their own knowledge of APA style is the result of many experiences over many years, and much of it is not rule based. A student's phrasing may sound somehow off the mark, but the professor may be hard pressed to articulate a specific rule that might help the student improve. It is likely that a significant

amount of the professor's own writing skill is tacit, procedural knowledge that allows an experienced writer to detect and remedy a problem, but not to specifically diagnose it (Flower, Hayes, Carey, Schriver, & Stratman, 1986). This obviously causes difficulty in an instructional setting. A second impediment professors face is a belief that writing is a general skill that can be adequately taught in the freshman composition sequence. This causes psychologists to underestimate the difficulty students may have in moving into a discipline like psychology, which has its own well-developed writing genre.

Students engaged in this process are also handicapped. It can be difficult for them to identify the standards for good writing in APA style and discriminate these from the standards for good writing they have encountered elsewhere. It is not uncommon for psychology professors to encounter students who are shocked when they receive a mediocre grade for a report they were proud of, a report that may well have received a good grade in a composition class or a journalism class. These students must now learn to inhibit writing practices that had previously won them admiration while acquiring new techniques, some of which had been actively discouraged.

APA Style and the Socialization of Psychologists

The difficulties of mastering APA style are obviously not insurmountable; large numbers of psychology students ultimately acquire sufficient competence to achieve success in the discipline. Several recent developments should make the process less painful. The APA has actively promoted the use of the *Publication Manual* to undergraduate faculty in a number of disciplines, including English composition (VandenBos, 1992). New materials have appeared that provide exercises and other pedagogical aids designed to help students master APA style (Gelfand & Walker, 1990a) and help faculty members teach it (Gelfand & Walker, 1990b). We suggest that the process of mastering APA style directly contributes to students' enculturation into psychology. In developing writing skills, students learn to reason empirically about human behavior. The empirical report provides an explicit model for the way that psychological knowledge should be constructed. Empiricist values are thoroughly supported and encouraged by a variety of writing conventions. The journal articles that students read implicitly depict the discipline as a loose collaboration among a network of investigators, all of whom share the goal of articulating an empirically based theory of human behavior. The discipline's efforts are implicitly presented as a cumulative, incremental process in which different studies contribute various pieces that are necessary to solve a complex puzzle. The objective language the students learn to use suggests that real truths wait to be discovered.

Exposure to this style of writing can only help define for students the discipline of psychology and encourage the development of intellectual values that are typical of the discipline. A successful student comes not only to write like a psychologist but to think like one as well.

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APPENDIX

Counting Textual Features

The data presented in Figures 1 and 2 were obtained from the first 25 traditional, scholarly articles published in the four target journals during the calendar year 1992. Journal presentations that were commentaries, society reports, book reviews, introductions to special issues, and the like were not included in the sample. The history sample contained articles published in 1993, which was necessary to obtain 25 articles.

A citation was defined as a reference to one or more pages in a specific source document, even if the pages were not contiguous. A quotation referred to a word string enclosed by quotation marks and attributed to a specific source. When two or more separate quotations were obviously continuous in the original document, they were counted as one (e.g., "Canalmen," Broklin asserted, "were frequently . . . "). Discursive footnotes were those with author com-

ments that went beyond information about the reference source. A hedge word was counted when a word or phrase reduced the certainty of an author's conclusion, as illustrated in Table 1. Hedge words were tallied only for author conclusions, not for author summaries of others' conclusions.

Interrater agreement for citations, quotations, and discursive footnotes was estimated by having a second rater independently score history articles, which presented the most difficulty because of the nature of the referencing conventions in that discipline.

The interrater agreement was .98 for citations, .90 for quotations, and .95 for discursive footnotes. Interrater agreement for hedge words was estimated by a second scoring of the *Journal of Experimental Psychology: Learning, Memory, and Cognition,* where the most extensive and complex use of hedge words occurred. The interrater agreement was .89.