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An Elephant in Your Pajamas? Notes on Writing Research Reports

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Abstract

What follows is a “valentine” of sorts to all the wonderful colleagues I have known during nearly 50 years at ETS. I have cherished your friendship, and I have benefited greatly from our collaborations. I hope you enjoy the following notes, which resulted from my review of hundreds of manuscripts as an associate editor for the ETS Research Report series.

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In one of his madcap movies, legendary comedian Groucho Marx proclaimed that he had once shot an elephant in his pajamas. “How an elephant got in my pajamas,” quipped Groucho, “I don’t know.” With his inimitable comedic genius, Groucho succinctly and humorously illustrated one of the observations discussed in this note—that relatively minor grammatical infelicities can sometimes produce awkwardly humorous results. Unfortunately, even merely humorous ones can sometimes distract earnest readers, at least momentarily, from an author’s (usually serious) message, or worse, frustrate readers who struggle to understand their words. Such distractions may, as Groucho has demonstrated, result from the slightest misplacements of simple phrases or clauses. Sad to say, there are also numerous other ways to achieve this (and other) unintended effect. We usually know what the authors mean to say. But it isn’t difficult to imagine the kind of wisecrack that even minor infelicities might have prompted from the quick-witted Groucho, as he wiggled his bushy eyebrows and waggled his signature stogie. So, be wary of inadvertently using descriptions that might prove to be fodder for opportunistic readers aspiring to be Groucho.

In my role as an associate editor for the ETS Research Report series, I was privileged (at least *most* of the time) to read numerous thoughtful, interesting, and well-written accounts of Educational Testing Service (ETS) research. I was continually impressed by (and a little envious of) the clarity with which my colleagues expressed themselves when conveying the results of complex investigations. This is especially true of colleagues for whom English is not their first language and who have nonetheless learned to express their thoughts so clearly—often more effectively than I could ever hope to in my *first* language. So, it gave me considerable satisfaction when I was able to spot even the slightest grammatical infractions in their writing.

What follows here is less a systematic collection of guidelines than it is a hodgepodge of casual observation that I made while reading hundreds of research reports during my 14 years as an associate editor. My observations aren’t intended as rules for writing research reports. There are other far more authoritative sources than this brief note, which is only one person’s perspective (or perhaps merely the pet peeves of a cantankerous curmudgeon). And many of my “astute” observations will undoubtedly be painfully obvious to many of you. Furthermore, I do not profess to have always practiced what I preach: I suspect that, as you read this note, you may detect some of the very flaws about which I harp and others to which I am completely oblivious.

Please just applaud me for daring to write on a subject (i.e., flawed writing) with which I have had so much personal, first-hand experience. This leads me to my first "nonrule."

1. Embrace the review process (instead of regarding it as merely a necessary evil) and learn what you can from it. We have all drawn that reviewers sometimes fail miserably in understanding what may seem crystal clear to us authors. Instead of railing reflexively against such reviewers, prudent authors are likely to first ask themselves if other readers might misinterpret their words in the same way that an off-track reviewer has. As annoying as they sometimes may be, even reviewers who are ill-informed or overly critical usually have *something* to contribute, if only to represent readers who are also hypercritical or unknowledgeable about the subject of a paper. Seasoned researchers generally know that it's wise to consider reviewers' suggestions seriously but not to conform blindly to them. Rebuttals may be entirely appropriate, and it is sometimes appropriate, I think, simply to acknowledge critical comments as alternative points of view, perhaps without explicitly challenging them.

2. Allow sufficient time for an adequate review and revision. In a world of hard and fast deadlines, this corollary of the first nonrule is obviously often easier said than done. Unfortunately, though, rushing to meet a deadline can affect the quality of a manuscript: Reviewers may have less time than necessary to vet a draft, and authors may be afforded insufficient time to consider and benefit from reviewers' insights. It's painful, but not unusual, to hear authors acknowledge that they simply didn't have enough time to accommodate reviewers' insightful suggestions. In any case, it seems prudent not to assume that your first draft will require little if any revision to meet publication standards. Try as best you can to plan time for the internal review. Regard it as an integral part of the publication process, not as an inconvenient afterthought.

3. Respect your readers. Treat them as if they were guests invited to partake in the feast you have prepared. Make their experience as enjoyable and as satisfying as you can. Naturally, you should expect to devote far more time planning and preparing your delicious (and easily digestible) meal than your guests will take to consume it. Don't forget to taste your concoction numerous times as you prepare it

and again before you finally serve it. (As an aside, I suggest that in your writing you refrain from resorting shamelessly to analogies involving food.) In any event, your readers ought not need to devote more time trying to understand what you have written than you spent writing it (and trying to make it understandable).

4. At some point, take off your ETS hat and assume the role of a non-ETS reader. Ask if you have used any technical terms (jargon?) that only ETS colleagues will know and love. We ETSers (and the assessment community more generally) do have a lingo of our own that may be foreign to some readers. Sometimes the terms we use are necessary to convey subtle nuances precisely. In such cases, brief definitions can be provided for readers who are unlikely to be familiar with certain technical terms. "Test item" (and "item response") is a prime example. The term has very specific meaning that may be necessary for most of our reports, but sometimes the less precise "test questions" (and "answers") may suffice for more general audiences.

5. Give some thought to the title of your paper. Be informative, but don't try to communicate every aspect or nuance of your study, lest your title becomes so unwieldy as to fall under its own weight. Beyond being informative, a title can, I think, serve a second purpose—to help other researchers recall a study in the future. Ideally, a title should, I contend, be at least somewhat memorable. I regret that I didn't have this insight earlier in my career. Sadly, the titles of most of the papers that I wrote took the general form, "The effects of yada, yada, yada (or blah, blah, blah)"—hardly an auspicious beginning. (Note that when titling this piece, I have tried follow my own advice.) Though unconfirmed, my hunch is that articles with clever titles are more readily recalled and therefore more frequently cited than are those with less clever names. For instance, after all these years, I still recollect an article published by former ETS statistician Howard Wainer entitled "Estimating Coefficients in Linear Models: It Don't Make No Nevermind" (Wainer, 1976). With this (I think) creative but grammatically unconventional title, Wainer succinctly conveyed both the gist of his study and the major finding, and he did so in a way that was (at least for me) memorable. I'm not quite sure why, though. Perhaps it's because in my lifetime I have known good folks who tended

to speak this way. A more recent example is an article by Brent Bridgman and colleagues with the evocative title "Predicting Grades From an English Language Assessment: The Importance of Peeling the Onion" (Bridgeman, Cho, & DiPietrol, 2015). Be careful, though, not to craft a title that may be regarded as being just too cute.

6. Conduct literature reviews in a way that best advances your research. A literature review of some sort usually sets the stage for most research papers. The aim generally is to identify and discuss previous research that is relevant to furthering your research objectives. Unfortunately, literature reviews can sometimes devolve into a litany of individual studies that are described in excessive detail without enough attention to underlying themes.

   A second issue, I think, are the conclusions that are sometimes reached from literature reviews. In my humble opinion, these conclusions too frequently take the following form: "Our review uncovered little relevant investigations of this topic. Therefore, there is a vital need for research to fill this gap." I've come to view arguments of this type as possibly valid but not entirely sufficient justification for additional research. To me, the lack of something doesn't automatically warrant the need for it. Instead, perhaps it suggests only that there was never really any pressing need for it in the first place. Moreover, in my view anyway, very little if any research addresses needs that are "vital" or "crucial"—important maybe, but seldom matters of life or death. Dramatically overstating a need doesn't seem like a convincing strategy. In addition, "filling a gap" doesn't strike me as either an accurate or a particularly flattering characterization of the more subtle ways in which researchers advance our understanding of important issues.

7. Be careful not to let causal language slip into your prose when it isn't warranted. As researchers, most of us have been warned ad nauseum that correlation doesn't imply causation. Yet, on occasion, most of us inadvertently use words like "affect," "influence," and "impact" in accounts of studies that we clearly recognize as being correlational (and when instead therefore we should be using phrases like "correlated with," predictive of," "related to," and "associated with").

8. Be mindful of the tone with which you state the recommendations you draw from your study. They sometimes take the following form: "The graduate admissions process *needs* to be made more explicit…," "Policymakers *should* enact…," "Test users *must*…," and "It is *imperative* that we…." While I always admire the passion that engenders such forceful exhortations, I also wonder if a less authoritarian, more deferential tone would be less likely to invite resistance and, as a result, better serve an author's purpose. Alternative phrasing such as "It seems important to consider…," "We suggest that…," "Our findings support…," and "Our results are consistent with previous calls for…" may be more effective in convincing readers to consider study recommendations seriously. In summary, I think that the less that our research recommendations sound like harsh demands or stern ultimatums, and the more they seem like compelling, evidence-based suggestions, the more likely they will be to garner reader support. This is merely one person's speculation, of course, but one that is amenable to empirical study.

9. Be mindful of sentences that are breathtakingly long. I think that as writers we sometimes get caught up in our own streams of consciousness, unaware that the verbal tsunami we are generating has the potential to overwhelm unwary readers. Here is an example (slightly disguised):

> These findings suggest that improved preparation is needed in academic settings to infuse instruction with the needed opportunities for students to demonstrate competency in [these kinds of skills], therefore warranting investigation on how to improve training and assessment [of these skills] in support of improving student preparation, for instance by gaining greater understanding of the disjuncture [between these two domains], as well as the need for a metacognitive framework for instruction and assessment of [these skills], as we discuss later in the paper.

Much to their credit, the authors who drafted this complex sentence graciously acknowledged the problem, once pointed out by reviewers, and submitted a revision that was much more reader friendly.

10. Location matters. The exact location of a particular word or phrase can often be as important as the words themselves. Sometimes the placement of a specific word can make a world of difference with respect to the meaning it conveys, as Groucho demonstrated at the outset of this note. “Only” gets my nomination for the most frequently misplaced single word. This minor infraction may be mainly an idiosyncratic pet peeve of mine, for it usually doesn’t hinder meaning significantly. Typically, it’s merely a small, momentary distraction. Here is an example: “For our study, we *only* selected experienced teachers.” Reading further on, it becomes clear that the writer had intended to say that “We selected only experienced teachers [instead of inexperienced teachers or people who were not teachers at all].” What the writer *actually* implied, however, was that “We only *selected* experienced teachers [but we did not do anything else to them, like withhold their pay or subject them to electric shocks].” It’s possible though that I have incorrectly flagged this sentence: Perhaps the author intended the description as written in order to reassure an institutional committee that is too zealous in safeguarding the rights of research study participants. In any case, it’s probably best to be as clear as possible in cases like this, lest readers falsely ascribe nefarious motives to innocent researchers.

11. I’ve adopted as my golden nonrule of research report writing the following dictum: For the sake of your readers, *please read what you have written* … at least once … carefully! If you are at all like most of us, writing doesn’t come easily. It generally requires considerable effort, and sometimes our tanks are nearly empty after completing a first draft, leaving little energy for reflection and revision, much less careful editing. If, however, time permits, it may improve a writer’s perspective by temporarily setting aside the first draft before launching full bore into revision mode. In any case, it behooves us at some point to read thoroughly what we have written. If our words don’t deserve our own attention, why should we expect them to command the attention of those for whom we have written them? And don’t assume that copy editors and word processing tools will automatically vanish all errors. Sometimes spell checkers and autocorrection tools can be a mischievous team. For example, one author seemed to be advocating “the *deification* of …aberrant responses.” I have always tried to respect people’s religious preferences, but my tolerance is severely

tested by the notion of worshipping aberrant responses. I think it's best only to *identify* these atypical rascals, not to elevate them to such a lofty status.

In closing, I would like to dedicate this little "valentine" to all the authors who graciously accepted, or at least considered and tolerated, my humble suggestions for making their papers even better. It has been a privilege and an honor to have had so many wonderfully kind and incredibly capable colleagues during my nearly 50-year career at ETS. Stay safe, keep writing, and above all, remain alert for elephants in your pajamas.

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