

# 1 Getting Started

Bob, the senior author of this book, always thought of himself as a reasonably good communicator. When he started graduate school, he was proud of the papers he had written as an undergraduate. As a new graduate student, he thought he would get an edge in with his new graduate adviser by showing the adviser (Professor Gordon Bower at Stanford) his favorite paper he had written as an undergraduate. He asked Professor Bower to give him comments on the paper, figuring that Bower would be impressed that he had a terrific new student to advise.

Bower handed him back the paper a couple of weeks later. Bower said that he had crossed out the parts of the paper that he didn't think added much. Unfortunately, Bower had crossed out most of the paper. The experience was not the start to his graduate career that Bob had been hoping for. Bob realized that his communication skills were not what he thought they were.

Many students go through college never learning, in any reasonably formal way, how to communicate, at least in psychology and related disciplines. They receive no explicit instruction in how to write a paper, how to give a talk, or how to create a poster. (When Bob gave his first talk in graduate school, one of the senior professors fell asleep during the talk.) The purpose of this book is to give you the guidance you need to be effective in communication and to attain professional success.

In this chapter, we would like to help you get started. To get started, you need just five basic tips. Once you master these tips, you are ready to read the rest of the book and, more importantly, to get going in doing all the writing and speaking you need to do to achieve success.

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When you communicate in psychology:

- **Always have a thesis – an argument – in mind.** What is your goal in writing a particular paper or giving a talk or doing a poster? What are you trying to accomplish? You should be able to state this goal in one sentence. For example, one of Bob's first papers as a psychology student was written to show that individual differences in children's intelligence could not be explained by genetic factors alone. Sure, he reviewed the literature on inheritance of intelligence. And of course he reviewed the literature on environmental effects on intelligence. But he had no thesis. When you communicate, you should have a thesis. Good papers do not merely review literature and then say something like "there are many different points of view, all of which have something useful to say." When you communicate via a paper, talk, or poster, be clear about what you want to show, and show it! Never leave it to your readers to figure out what your thesis is. State it and state it early, clearly, and as boldly as possible.
- **Always review all important literature, regardless of whether it agrees with your point of view.** Readers or listeners will not be impressed if you "cherry-pick" citations so that you cite only those that agree with you. You need to review the entire relevant and important literature. You need to cite those publications that have had an impact on the field. When you discuss the literature, you should use the opportunity to point out the strengths and weaknesses of that literature, perhaps showing why those who have disagreed with you have missed important arguments!
- **Make your thesis the strongest you can that is supported by the existing literature (or your own review).** Weak statements may be true, but they also may be boring and obvious. Make your thesis the strongest it can be, given the available data. *Do not over-claim.* Few things annoy readers and listeners more than people who make claims that go beyond their data.
- **Tout the strengths but also acknowledge the weaknesses of your argument.** Do not assume that people will see why your argument is strong. Show them without seeming to brag. But also acknowledge weaknesses – what phenomena your data cannot account for, or the phenomena that seem to contradict your thesis. Psychology, at least today, does not achieve certainty. There are no perfect theories. So it is fine if your thesis has weaknesses.

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Just make sure that you point them out and discuss them rather than leaving it to your readers to see them for you.

- **Outline your paper, talk, or poster in advance.** Having an outline will help you organize your thoughts and make sure that you will present them logically. If you cannot do an outline, then you are not ready to communicate your thoughts. You can always change the outline as you go along, but the outline will prevent you from becoming disorganized or fractured in your communication.

That's it! Now you are ready to get started!

## 2 Eight Common Misconceptions About Psychology Papers

Students often have misconceptions about the writing process and characteristics of good papers that effectively prevent them from writing as good a paper as they possibly could. Here are eight common misconceptions you should be aware of before you even begin writing:

1. Writing the psychology paper is the most routine, least creative aspect of the scientific enterprise, requiring much time but little imagination.
2. The important thing is what you say, not how you say it.
3. Longer papers are better papers, and more papers are better yet.
4. The main purpose of a psychology paper is the presentation of facts, whether newly established (as in reports of experiments) or well established (as in literature reviews).
5. The distinction between scientific writing, on the one hand, and advertising or propaganda, on the other hand, is that the purpose of scientific writing is to inform, whereas the purpose of advertising or propaganda is to persuade.
6. A good way to gain acceptance of your ideas is by refuting someone else's ideas.
7. Negative results that fail to support the researcher's hypothesis are every bit as valuable as positive results that do support the researcher's hypothesis.
8. The logical development of ideas in a psychology paper reflects the historical development of ideas in the psychologist's head.

## 11 Common Misconceptions About Papers

**Misconception 1.** Writing the psychology paper is the most routine, least creative aspect of the scientific enterprise, requiring much time but little imagination.

Many students lose interest in their research projects as soon as the time comes to write about them. Their interest is in planning for and making new discoveries, not in communicating their discoveries to others. A widely believed fallacy underlies their attitudes. The fallacy is that the discovery process ends when the communication process begins. Although the major purpose of writing a paper is to communicate your thoughts to others, another important purpose is to help you form and organize your thoughts (Pinker, 2014).

Reporting your findings in writing requires you to commit yourself to those findings and to your interpretation of them, and it opens you to criticism (as well as praise) from others. It is perhaps for this reason as much as any other that many students are reluctant to report their research. But the finality of a written report also serves as a powerful incentive to do your best thinking and to continue thinking as you write your paper. It requires you to tie up loose ends that you might otherwise have left untied. As a result, reporting your findings presents just as much of a challenge as planning the research and analyses that led to those findings.

We, your authors, often have thought we knew what we wanted to say, only to find that when the time came to say it, we were unable to. The reason for this, we believe, is that in thinking about a topic, we often allow ourselves conceptual gaps that we hardly know exist. When we attempt to communicate our thoughts, however, these gaps become obvious. Organizing and then writing down our thoughts enables us to discover what gaps have yet to be filled.

**Misconception 2.** The important thing is what you say, not how you say it.

As a college student, Bob, the lead author of this book, was mystified to find that students who wrote well consistently received better grades on their compositions than did students who wrote poorly. Even in his own compositions, he found that the grades he received seemed less to reflect what he had to say than how he said it. At the time, he was unable to decide whether this pattern in grading resulted from the professors' warped value systems or from their inability to penetrate the facade of written prose. Whereas their criteria for

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grading papers might be appropriate for an English course, these criteria seemed inappropriate for courses in subjects like psychology.

As a college professor, Bob has at last discovered the secret of the mysterious grading practices. The discovery came about in two stages, each one part of the initiation rites that new college teachers must go through. The first stage occurred when he found himself with a large number of students' papers to read and very little time in which to read them. He was then sincerely grateful to students who wrote well because he could read their papers quickly and understand what they were saying. He did not have the time to puzzle through every cryptic remark in the poorly written papers, however, and he resented the authors' presenting their ideas in a way that did not enable him to understand or evaluate them properly. He also found himself with no desire to reward the authors for this state of affairs. If their ideas were good, they should have taken the time to explain them clearly.

The second stage of discovery occurred when Bob found himself with just a few seminar papers to read and plenty of time in which to read them. Now, he thought, he could be fair both to students who write well and to those who do not. He was quickly disabused of this notion. He discovered that whereas it is usually easy to distinguish well-presented good ideas from well-presented bad ideas, it is often impossible to distinguish poorly presented good ideas from poorly presented bad ideas. The problem is that the professor's comprehension of what you say occurs solely through your way of saying it. Professors can't read minds better than anyone else. If an idea is presented in a sloppy, disorganized fashion, how is one to know whether this fashion of presentation reflects the quality of the idea or merely the quality of its presentation?

The question is not easily answered. In one case, Bob had talked to a student beforehand about what that student was going to say, and he expected an outstanding paper on the basis of these conversations. During those conversations, certain details had not been clarified, but Bob expected these details to be clarified in the paper. Instead, the same ideas that had been inadequately explained in the conversations were inadequately explained in the paper, as well. Either the student was unable to clarify these ideas for himself, or he was unable to clarify them for others.

The outcome for the reader is the same: confusion and disappointment.

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In this book, we include three different kinds of boxes. Here are the first examples of each. The box “Experience is the Best Teacher” presents points we have learned over the years about careers in psychology. “What’s Wrong Here?” boxes give you a chance to apply what you know to problems that occur in the course of psychological research and communication of that research. You will also see later “Give It Some More Thought” boxes, which give you a chance to reflect on your learning.

#### **Experience is the Best Teacher**

If you look at the top psychologists of almost any era, they tend to be strong writers. This is not a coincidence. More people want to read good writing and people also are more likely to be persuaded by strong writing.

#### **What’s Wrong Here?**

“The results were significant at the  $p < .001$  level, proving that the informed group better recalled the test items than the uninformed group.”

**Answer:** The way the sentence is written, the author makes it sound as though it is possible in psychological research to “prove” something because it has a low  $p$  level. In fact, low  $p$  levels may increase plausibility of conclusions, but they cannot “prove” conclusions.

#### **Misconception 3. Longer papers are better papers, and more papers are better yet.**

Until his first year of teaching, Bob believed that longer papers were better papers. Teachers had for years told him and his classmates that they didn’t evaluate papers on the basis of length, but he viewed their remarks as a benign ruse designed to discourage length for its own sake. He changed his viewpoint when he started reading students’ papers. Evaluating papers on both quality and quantity of ideas, he found little relation between either of these two criteria and the length

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of students' papers. Sometimes students wrote longer papers because they had more to say; other times they wrote longer papers because it took them several pages to say what could have been said in several sentences. There is nothing wrong with length *per se*, so long as length is not used as a substitute for tight organization and clear writing.

When it comes to writing, longer is rarely better. Take the space you need to say what you want to say, and stop there!

### Experience is the Best Teacher

Bob has edited several psychological journals. He has from time to time received papers that are 100, 120, or even 150 pages long. He, like most editors, rarely accepts papers at those lengths. For one thing, they rarely have the informational content to justify their length. For another, they often tend to be loosely organized and rambling. But most important, very few readers have the time to read papers of such length, unless they are simply fascinated by the topic. Make the length of the paper you write appropriate to what you want to say.

**Misconception 4.** The main purpose of a psychology paper is the presentation of facts, whether newly established (as in reports of experiments) or well established (as in literature reviews).

A common misconception among the general public is that the goal of science is the accumulation of facts. Popular scientific writing sometimes fosters this misconception, emphasizing scientific findings, which may be easy to describe, at the expense of explanations of those findings, which may be both diverse and difficult to describe. Diverse explanations, however, are the hallmark of science.

Students in introductory psychology courses are prone to this misconception, and it carries over into their writing. We could cite numerous examples of this carryover, but one in particular comes to mind. Bob received some years ago a beautifully written paper reviewing the literature on the testing of infant intelligence. This was one case, however, in which flowing prose was insufficient to obtain a high grade. The paper was flawed in two respects. First, the



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author made no effort to interrelate the various attempts to measure infant intelligence. Each attempt was described as though it had been made in isolation, even though the various attempts to measure infant intelligence have drawn on each other. Second, the evaluative part of the paper consisted of a single sentence in which the author stated that it is still too early to draw final conclusions regarding the relative success of the various infant intelligence tests. This sentence is literally true: It was too early to draw final conclusions. But it will be too early to draw final conclusions as long as new data about the tests continue to be collected. Because data will continue to be collected for the foreseeable future, and because the tests date back to the early part of the twentieth century, it now seems appropriate to draw at least tentative conclusions. In writing a psychology paper, you must commit yourself to a point of view, even if you may change your mind later on. If the evidence on an issue is scanty, by all means say so. But draw at least tentative conclusions so that the reader knows how you evaluate what evidence is available.

Your paper should be guided by your ideas and your point of view. Facts are presented in service of ideas: to help elucidate, support, or rewrite these ideas. They provide a test against which the validity of ideas can be measured. You should therefore select the facts that help clarify or test your point of view and omit facts that are irrelevant. In being selective, however, you must not select only those facts that support your position. Scientists demand that scientific reporting be scrupulously honest. Without such honesty, scientific communication would collapse. Cite the relevant facts, therefore, regardless of whose point of view they support.

**Misconception 5.** The distinction between scientific writing, on the one hand, and advertising or propaganda, on the other hand, is that the purpose of scientific writing is to inform, whereas the purpose of advertising or propaganda is to persuade.

Successful advertising or propaganda need only persuade. Successful scientific writing must both inform and persuade. Writers often believe that a successful piece of scientific writing need only inform the reader of the scientists' data and their interpretation of the data. The reader is then left to decide whether the theory provides a plausible account of those (and possibly other) data. This conception of scientific writing is incorrect.

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When scientists write a paper, they metaphorically have a product to promote. The product is their set of ideas about why certain phenomena exist. Occasionally, it is the only product on the market, and they need only convince the consumer to buy any product at all. Whether or not scientists are successful will depend in part on how persuasive they are and in part on how much the product is needed. No advertising campaign is likely to sell flowers that are guaranteed not to germinate or an explanation of why people don't normally stand on their heads rather than their feet. In most cases, however, there is an already established demand for the product. Because competing salespersons are trying to corner the market, scientists must persuade the consumer not just to buy any product but rather to buy their product.

One of the most common mistakes writers make is to push the wrong product: they misjudge the contribution of their work.

A journal Bob edited received a paper that was full of good, original ideas. The presentation of these ideas, and of other people's as well, was unusually lucid. The only major problem with the paper was that the discussion of the original ideas was condensed into one paragraph buried inconspicuously in the middle of the paper, whereas the discussion of the other people's ideas spanned about 10 pages, starting on page 1. The contribution of this paper should have been in its new perspective on an old problem. But the author had de-emphasized this potentially significant contribution in favor of a relatively unimportant one, providing a well-written but unexciting review of other people's perspectives. The hurried reader will usually take the author's emphasis at face value. In this case, the reader might conclude that the paper did not have much of an original contribution to make.

There is a difference, we believe, between "selling" in scholarship and selling in the commercial marketplace. Scholars typically truly believe in the integrity of their product and believe that the ideas they have even may be the best ones out there. Much (although certainly not all) of commercial selling is for products that the salespeople know are nothing special or even not very good. And commercial sellers often are as willing to sell one product as another. In academia, most of us, at least, truly believe in the great value of our ideas.

At the opposite extreme, it is possible to dwell so heavily on the contribution of your paper that the contribution is actually muted. Bob learned this lesson the hard way. A colleague and he wrote a