A Manual for Writers of Research Papers, Theses, and Dissertations

Chicago Style for Students & Researchers

Eighth Edition

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You do research every time you ask a question and look for facts to answer it, whether the question is as simple as finding a plumber or as profound as discovering the origin of life. When only you care about the answer or when others need just a quick report of it, you probably won’t write it out. But you must report your research in writing when others will accept your claims only after they study how you reached them. In fact, reports of research tell us most of what we can reliably believe about our world—that once there were dinosaurs, that germs cause disease, even that the earth is round.

You may think your report will add little to the world’s knowledge. Maybe so. But done well, it will add a lot to yours and to your ability to do the next report. You may also think that your future lies not in scholarly research but in business or a profession. But research is as important outside the academy as in, and in most ways it is the same. So as you practice the craft of academic research now, you prepare yourself to do research that one day will be important at least to those you work with, perhaps to us all.

As you learn to do your own research, you also learn to use—and judge—that of others. In every profession, researchers must read and evaluate reports before they make a decision, a job you’ll do better only after you’ve learned how others will judge yours. This book focuses on research in the academic world, but every day we read or hear about research that can affect our lives. Before we believe those reports, though, we must think about them critically to determine whether they are based on evidence and reasoning that we can trust.

To be sure, we can reach good conclusions in ways other than through reasons and evidence: we can rely on tradition and authority or on intuition, spiritual insight, even on our most visceral emotions. But when we try to explain to others not just why we believe our claims but why they should too, we must do more than just state an opinion and describe our feelings.

That is how a research report differs from other kinds of persuasive writing: it must rest on shared facts that readers accept as truths independent of your feelings and beliefs. They must be able to follow your reasoning from evidence that they accept to the claim you draw from it. Your success as a researcher thus depends not just on how well you gather and analyze data but on how clearly you report your reasoning so that your readers can test and judge it before making your claims part of their knowledge and understanding.

1.1 How Researchers Think about Their Aims

All researchers gather facts and information, what we’re calling data. But depending on their aims and experience, they use those data in different ways. Some researchers gather data on a topic—stories about the Battle of the Alamo, for example—just to satisfy a personal interest (or a teacher’s assignment).

Most researchers, however, want us to know more than just facts. So they don’t look for just any data on a topic; they look for specific data that they can use as evidence to test and support an answer to a question that their topic inspired them to ask, such as why has the Alamo story become a national legend?

Experienced researchers, however, know that they must do more than convince us that their answer is sound. They must also show us why their question was worth asking, how its answer helps us understand some bigger issue in a new way. If we can figure out why the Alamo story has become a national legend, we might then answer a larger question: how have regional myths shaped our national character?

You can judge how closely your thinking tracks that of an experienced researcher by describing your project in a sentence like this:

1. I am working on the topic X (stories about the Battle of the Alamo)
2. because I want to find out Y (why its story became a national legend)
3. so that I can help others understand Z (how such regional myths have shaped our national character).

That sentence is worth a close look, because it describes not just the progress of your research but your personal growth as a researcher.

1. “I am working on the topic …” Researchers often begin with a simple topic like the Battle of the Alamo, perhaps because it was assigned, because something about it puzzles them, or because it merely sparks an interest. But inexperienced researchers too often stop there, leaving themselves with nothing but a topic to guide their work. They mound up hundreds of notes but have no way to decide what data to keep and what to discard. When it comes time to write, they dump everything into a report that reads like a grab bag of random facts. If those facts are new to readers who happen to be interested in the topic, they might read the
Because I want to find out how or why …” More experienced researchers usually begin not with just a topic but with a research question, such as Why has the story of the Alamo become a national legend? And they know that readers will think their facts add up to something only when those facts serve as evidence to support its answer. Indeed, only with a question can a researcher know which facts to look for and which to keep—not just those that support an answer but also those that test or even discredit it. When he thinks he has enough evidence to support his answer and can respond to data that seem to contradict it, he writes a report first to test his own thinking, then to share his answer with others so that they can test it too.

... so that I can help others understand …” The most successful researchers, however, realize that readers want to know not only that an answer is sound but why the question was worth asking. So they anticipate that readers will ask a question of their own: So what? Why should I care why the Alamo story has become a legend? That So what? can vex even the most experienced researcher, but every researcher must try to answer it before it’s asked: If we can find that out, we might better understand the bigger question of how such stories shape our national character.

But a shrewd researcher doesn’t stop there. She anticipates her readers’ asking So what? again by looking for another, still larger answer: And if we can understand what has shaped our national character, we might understand better who we Americans think we are. And before you ask, when we know that, we might better understand why others in the world judge us as they do. The most successful researchers know that readers care about a question only when they think that its answer might encourage them to say not So what? but That’s worth knowing!

In short, not all questions are equally good. We might ask how many cats slept in the Alamo the night before the battle, but so what if we find out? It is hard to see how an answer would help us think about any larger issue worth understanding, so it’s a question that’s probably not worth asking (though as we’ll see, we could be wrong about that).

1.2 Three Kinds of Questions That Researchers Ask

Experienced researchers also know that different readers expect them to ask and answer different kinds of questions. The most common questions in academic work are conceptual. The ones most common in the professions are practical.

1.2.1 Conceptual Questions: What Should We Think?

A question is conceptual when your answer to So what? doesn’t tell readers what to do but helps them understand some issue:

1. I am working on the topic X
2. because I want to find out how/why/whether Y (So what if you do?)
3. so that I can help others understand how/why/whether Z.

If you were explaining your research, the conversation might go like this:

I’m working on the topic of risk evaluation.

Why?

Because I want to find out how ordinary people evaluate the risk that they will be hurt by terrorism.

So what if you do?

Once I do, we might better understand the bigger question of how emotional and rational factors interact to influence the way ordinary thinkers think about risk.

Researchers in the humanities and the social and natural sciences work mostly on conceptual questions, such as How did Shakespeare’s political environment influence his plays? What caused the extinction of most large North American mammals? What are comets made of? The answers to those questions don’t tell us how to change the world, but they do help us understand it better.

To be sure, the answer to a conceptual question often turns out to be unexpectedly relevant to solving a practical problem. And before we can solve any important practical problem, we usually must do conceptual research to understand it better. But in most of the academic world, the primary aim of most researchers is only to improve our understanding.

1.2.2 Practical Questions: What Should We Do?

You pose a different kind of question—call it a practical one—when your answer to So what? tells readers what to do to change or fix some trouble-some or at least improvable situation:

1. I am working on the topic X
2. because I want to find out Y (So what if you do?)
3. so that I can tell readers what to do to fix/improve Z.

You would explain your work on a practical question like this:

I’m working on the topic of communicating risk effectively.

Why?

Because I want to find out what psychological factors cause ordinary Americans to exaggerate their personal risk from a terrorist
Practical questions are most common outside the academic world, especially in business. In academic fields such as health care and engineering, researchers sometimes ask practical questions, but more often they ask a third kind of question that’s neither purely practical nor purely conceptual: call it an applied research question.

1.2.3 Applied Questions: What Must We Understand Before We Know What to Do?
Often we know we must do something to solve a practical problem, but before we can know what that is, we must do research to understand the problem better. We can call that kind of research applied. With this middle kind of question, the third step raises a question whose answer is not the solution to a practical problem but only a step toward it.

I want to find out how Americans have changed their daily lives in response to the terrorist attacks on 9/11.

Then we can understand the psychological factors that cause ordinary Americans to exaggerate their personal risk from a terrorist attack.

Then perhaps the government can use that information to communicate more effectively the real risk from terrorism.

Applied questions are common in academic fields such as business, engineering, and medicine and in companies and government agencies that do research to understand what must be known before they can solve a problem.

1.2.4 Choosing the Right Kind of Question
Some new researchers dislike purely conceptual research questions because they think they’re too “theoretical” or irrelevant to the “real” world. So they try to cobble an implausible practical use onto a conceptual answer: When we know how race shaped the political impact of the Alamo stories, we can understand how racism has been used to foster patriotism and thereby eliminate racist appeals to patriotism in relation to conflicts in the Middle East.

That impulse is understandable. But unless you’ve been assigned an applied or practical problem, resist it. You are unlikely to solve any significant practical problem in a class paper, and in any case, most of the academic world sees its mission not as fixing the problems of the world directly but as understanding them better (which may or may not help fix them).

1.2.5 The Special Challenge of Conceptual Questions: Answering So What?
With most practical questions, we don’t have to answer So what? because the benefit is usually obvious. Even most applied questions imply the practical benefits of their answers: few readers would question why a researcher is trying to understand what causes Alzheimer’s. With conceptual questions, however, the answer to So what? is often not obvious at all, even to an experienced researcher: So what if Shakespeare had Lady Macbeth die offstage rather than on? So what if some cultures use masks in their religious rituals and others don’t? Why is it important to know that?

For a research paper in an introductory course, your instructor may be satisfied with any plausible answer to So what? So if early in your research career you find yourself struggling with that question, don’t take it as a sign of failure, much less as evidence that you’re not ready to do the work. In fact, you might not discover the answer to So what? until you’ve drafted your report, maybe not even until you’ve finished it. And even then, maybe the answer will matter only to you.

But if your project is a thesis or dissertation, it’s not just an advisor that you have to satisfy. Your answer must also satisfy those in your field (represented by your advisor), who will judge your work not just by the quality of your answer but by the significance of your question. Experienced researchers know that some readers, perhaps many, will read their report and think, I don’t agree. They accept that as an inevitable part of sharing research on significant issues. What they can’t accept is I don’t care.

So as hard as it will be, the more often you imagine others asking So what? and the more often you try to answer it, if only to your own satisfaction, the more confident you can be that eventually you’ll learn to succeed at every experienced researcher’s toughest task—to convince your readers that your report is worth their time. (In chapter 10 we discuss how to write an introduction that motivates your readers at least to start reading your report.)