

Content and Form Chapter 5

The instructor needs to be clear and concise on what he wants and expects.

Angela, junior in Psychology

It's a little nerve-racking to begin a research paper, but once it is started it's amazing how things just work out. I wish when instructors assigned research papers they would have a framework/time table for us to go on, instead of leaving that to us.

Jessica, senior in Psychology and Communication Disorders

I sometimes wish professors would talk more about what they wanted and how they want it done so that there are no grading surprises at the end, when there's nothing you can do about it.

Lora, senior in Psychology

Using writing in the classroom, either as an instructor or student, requires a clear understanding of its purpose and the subsequent form it should take. A conscientious instructor should outline the requirements for a paper, especially if that paper will be graded based upon those specific guidelines. Without a clear understanding of expectations for the assignment, neither the instructor nor the students will be able to determine whether or not the paper has fulfilled its ultimate purpose. It is the instructor's responsibility to discuss and illustrate writing expectations, whether it is for a physical science such as biology or chemistry, a social science such as sociology or psychology, or a humanities course such as writing or philosophy.

All too often instructors shy away from assigning writing projects because of the time commitment necessary to grade them or the ease of administrating multiple choice exams that can be scored by a computer. Instructors may be reluctant to assign projects if what is expected of students cannot be conveyed clearly; students may be intimidated by assignments when they do not understand the purpose, audience, or structure of the writing project. The purpose of this chapter is to equip instructors with better abilities to articulate and demonstrate the characteristics of scientific and analytic writing. With this in mind, examples will be given from various disciplines typically encountered in a university setting. The chapter will address the following topics:

- Establishing a Purpose and Audience in Writing
- Collaborative Authoring
- Recognizing Different Forms of Writing
- Teaching Specific Forms: Two Examples
- Empirical Papers: Definitions and Ideas for Teaching
- Analytical Essays: Definitions and Ideas for Teaching
- Additional Resources and Recommended Readings

Integrating Form and Function

Content refers to the information or ideas being reported, analyzed, or argued within a writing assignment, irregardless of that writings' purpose. Form refers to the decisions authors make about how to report, analyze, or argue that information.

Establishing a Purpose and Audience in Writing

Before writing a paper, one must first consider its purpose. When writing in order to fulfill course requirements, students are typically writing for academic purposes in which the work will be read by researchers and/or instructors. While instructors generally focus their teaching on their specific field of expertise, students do not have that same luxury. Students are required to negotiate multiple disciplines with various instructors who feel their approaches to teaching and course requirements are the most beneficial and important. Often, instructors may forget that students are faced with many writing assignments, all with a different focus and purpose. It is the job of the instructor to realize this and to be clear and specific about the requirements, as well as purpose, of an assignment.

Related to considering the purpose of writing is understanding exactly who the audience will be. Is a paper being written to convey information to individuals who would be familiar with the topic, such as course instructors? Perhaps the writing will read by laypeople who may not be familiar the content of the paper. This will determine whether or not jargon will be used, the amount of detail described, as well as whether or not the writing contains a more personal perspective on the part of the writer. If language is being used within a paper that only a small percentage of readers will understand, the work will be seen as unapproachable by most readers. I always ask of my students never to assume anything of me as I read the paper. This forces the writer to write clearly and with great detail. If a student writes with the assumption that an instructor will know what he or she is writing about, critical information may be left out of the paper. It is not an instructor's responsibility to piece together a student's argument or theory in their writing.

It is acceptable to show passion for a topic in order to convey to others why something is personally important or socially relevant, particularly if writing for the general public. A research paper about the chemical properties of an element should be written objectively and will be found interesting when read by scientists who already display an interest in that particular topic. Instructors should ask students to always be conscious of who will be reading the paper or writing assignment while trying to place themselves outside of the work as they ask if it is fulfilling its purpose for the intended audience.

Collaborative Authoring

Collaborative learning presents an ideal situation for the understanding of the use of writing in its various forms and purposes. Students can collectively identify the form,

purpose, and effectiveness in writing samples, as well as create new writing projects of their own. Collaborative writing does suffer from a few shortcomings such as the need for more time to complete group work, dependence upon all group members for exercise completion, and the potential group conflicts. However, group work allows for more creative and thorough analysis of previous work and a more beneficial interpretation of writing and its purpose.

Deciding between collaborative authorship and individual authorship is related to purpose and learning objectives. Often, an individual may not possess the experience or knowledge to write about a specific topic that must be included in a writing project. Perhaps it would be possible to find an individual with this experience who can contribute to the breadth and richness of the writing. A writing project can be designed by an instructor with the ultimate goal of producing some form of writing perhaps describing an experiment or an interpretation of a literary work from a multi-disciplinary perspective. Collaborative work can also lead to the development of positive interactions and exchanges that help each of the writers on a social level. Assignments that document the functioning of the group and encompass a participant's analysis of the group processes can be a component of the group's final product or grade.

Recognizing Different Forms of Writing

Once the purpose and audience of a writing assignment or project has been made apparent, it becomes necessary to decide on the form that the writing will take. This is not to say that these are all independent processes or methodical steps; they should be considered simultaneously in order to attain the best final product possible—a product which fulfills the requirements of the instructor as well as purpose of the writing. We choose among various forms of writing in order to ascertain a purpose in our writing. That purpose can be as short-sighted as getting a good grade on an assignment, but is often much larger in scope. Writing can be used to express strong opinions about a topic, convey intimate experiences to a reader, present new research findings and theory, or demonstrate an understanding or familiarity with a particular subject. The following table provides a summary of various types of writing, their purposes, and example forms used by instructors.

The most basic form of writing is similar to what would be seen during a news report. News reports are generally intended to present a problem or information about a particular topic. The information is presented in a very approachable manner, with very limited, if any, use of jargon. News reports are intended to inform the public, and therefore information is presented in a way that most people can understand and often begin to think about it critically. Often, news reports are intended to garner interest in a topic

Writing Forms and Functions				
Writing Type	Audience	Purpose	Process	Forms
Reflective	Academics Public	To have students draw upon and describe personal experiences and opinions.	React Reflect Respond	Journal entries Reaction papers
Drawing Upon Sources	Academics Policy-Makers Professionals Public	To have students summarize and synthesize opinions, ideas, theories, and data.	Compile Paraphrase Summarize	Abstracts News reports Research Summaries
Interpreting	Academics Policy-Makers Professionals	To have students analyze, infer causality, reach a conclusion, form an opinion.	Interpret Think/Write Critically	Documented Arguments
Observing Experiment- ing Testing	Academics	To have students design experiments, collect and analyze data, make observations, present information, offer conclusions and/or new theory.	Observing Synthesize/ Analyze results Think critically	Lab reports Observation logs Scientific reports

(Adapted from Longman's Writer's Companion).

or perhaps spur on debate about a socially important issue, so writing must be understandable by the vast majority of readers.

The next form of writing maintains a practical focus while implementing more of a theoretical perspective, both in its writing as well as its ultimate purpose. Professional reports present a theoretical focus for researchers and a practical focus for policy-makers and practitioners. Often professional reports take the form of summary papers pertaining to the same topic, combining work from several different authors. Professional reports present information in a manner similar to that of news reports, but are written for a specific audience using language particular to a specific field.

Academic papers ask questions, reframe histories, explore philosophical questions, propose new theoretical ideas, and present novel research findings. A writer may be able to put forth new theory, or at least general ideas related to the focus of the research through the presentation of data, research findings, previous theory, etc. For example, a course

See Chapter 7 for more on evaluation of different forms of writing. in research methodologies in psychology may require an empirical paper while an African American studies class might require a critical analysis. In either case, previous theory must be discussed and findings or conclusions stated and supported. Often, however, these papers do not display the detail and intricacies of full reports.

Full reports provide the reader with sufficient information literally to replicate a study. Furthermore, full reports are typically those papers submitted for review by professional colleagues. Therefore, these papers display great attention to detail and deeper understanding of theoretical implications, as well as research design limitations, which could be called into question by peer reviewers. A paper written at this level is not often expected in undergraduate courses.

It is important to remember that the use of writing must not be limited only to disciplines such as social science or humanities. The understanding of mathematics and physics can greatly be enhanced through the use of well-designed writing projects. For example, students can be asked to describe a formula or a law in their own words. This use of a more familiar language can help a student to better understand the meaning and purpose of a formula or law. Students can be asked to write about their observations of a naturally occurring phenomenon, or of a carefully controlled laboratory experiment. Have students express in their own words what they see and why it is occurring, based upon formulas or laws. Viewing formulas and laws as unbending may spark great creativity when an observation or experiment does not occur just as it should. Students can write creatively and offer possible explanations for what is occurring around them. Too often natural occurrences go unnoticed. Requiring students to reflect upon these events through writing may help to foster greater understanding of more rare or complicated phenomenon.

Teaching Specific Forms: Two Examples

Through careful planning and attention to detail, an instructor can give appropriate guidance to students and subsequently alleviate students' anxiety about the writing process. Focus will be placed upon the writing of empirical research papers and analytic essays. These are merely general categories or writing and are by no means offered as descriptors of all forms of academic writing. They are offered as a starting point for describing and teaching the writing process and can be modified for your own discipline.

Empirical Papers: Definitions and Ideas for Teaching

The next portion of this chapter will be devoted to describing the typical parts of a research, or empirically based, paper. The guidelines that will be presented are merely suggestions, but they can contribute to the creation of an interesting and well written research paper. This will provide a framework for both instructors as well as students. For instructors, these ideas will aid in the teaching of what should be accomplished by each section of a paper. For students, these criteria will aid in the writing of a research paper and may serve to take some of the anxiety out of the process of presenting often complicated material.



When Teaching Empirical Papers . . .

Remind students to:

- Keep in mind the purpose of each section as well as the overall goal and purpose of the paper. Remember: Form follows function.
- Use proper formatting APA, MLA, etc., as applicable.
- Assume nothing of the audience or instructor. Just because the instructor may know the field, students should not ignore or neglect detail in their writing.

Remind yourself as the teacher to:

- Remember what it was like to be a student.
- Make the expectations for the paper clear to your students.
- Make the process of writing clear and approachable to instill a sense of comfort and confidence in students.
- Reinforce the idea that quality of writing is enhanced by a clear understanding of assignments.
- Be confident that students' understanding of the purpose and form of the paper will improve the quality of their writing.

The Abstract

The abstract serves as a very short summary of what is presented in the paper. Constructing a brief and interesting synopsis can be quite challenging. The abstract should provide readers with just enough information to decide whether they should continue to read the work.

An abstract should:

- Be written last—it is a summary of the entire paper.
- Be no more than 200 words (or length specified by publications, etc.).
- Include brief theory, hypothesis, methods, results and conclusions.
- Serve as a teaser for what is about to be read

The Introduction

The introduction of a research paper includes a review of the research in which the study is grounded, the researcher's hypotheses, and a rationale for the research. Students often want to know exactly how many references are needed in the introduction, and it is helpful to emphasize quality, rather than quantity of sources. It is also important for instructors to discuss whether or not sources such as websites, Internet journals, or magazines can be used. While this might not necessarily be a good idea when submitting work for publication, I always ask my students to convey to me their interest in the particular project. They should be able to articulate why they are conducting a particular project and why they think it is important and interesting to do.

An introduction should:

- Display synthesis of previous research, not summation.
- Typically put forth a single cohesive theory based on interpretation of pertinent research.
- Provide theoretical background for the research.
- Clearly state the hypothesis or hypotheses.
- Articulate why a project is being conducted or a review of the literature is being performed.

The Methods Section

The methods section should include enough detail for readers to be able to evaluate and replicate the study. Of course, the level of detail provided may depend on the purpose and audience of the writing project. Scientific advances based on study replication depend on readers being able to reproduce the same study exactly. Again, I always tell my students to assume nothing of the reader or of me as the instructor. I may know the purpose of their work, the design of the study, and the methods used, but I ask them to forget that they have spoken with me about these topics. This is not to say that they should write out every detail that happened during data collection, but the audience should be able to reproduce the study if so inclined.

A method section should:

- Be detailed.
- Allow for precise study replication.
- Justify the methodology used.
- Outline elements of the study's design (sampling procedures, statistical analyses, etc.).
- Be specific about materials and equipment used (paper-and-pencil questionnaires, computers, statistical or data management software, etc.).

The Results Section

See Chapter 4 for more stragtegies for incorporating evidence in analytical papers.

The results section of empirical research papers should present data. For some empirical papers, this means numbers, with words around them. It is not quite this simple, but you get the idea. Students often provide interpretation or opinion of results in this section, when it is intended for the reporting of statistical conclusions in numerical form or other concise representation of findings. It may be helpful to discuss with students different ways to represent data (text, tables, etc.).

A results section should:

- Provide data or proof or findings.
- Avoid additional interpretations or conclusions.

The Discussion Section

The discussion section of a paper can be considered, at a basic level, to be the opposite of the results section. The discussion is a presentation of the study's conclusions, supported numerically. Relevant theory and pertinent studies are revisited and the new results are presented in comparison to them. Writers are faced with the challenge of trying to describe the place of their work within previous work in the field. A discussion section should conclude with an offering of the limitations of and problems with the current work. Students may be uncomfortable pointing out the potential shortcomings of their own work, so you might point out that it is better for them to acknowledge these issues themselves than to wait for instructors or reviewers to do it for them! Finally future directions or questions for future research may be described.

A discussion section should:

- Provide conclusions supported with data.
- Relate the current study to relevant literature.
- Provide theoretical or methodological limitations of the research.
- Offer future directions and goals of the project.

The most beneficial method for teaching how to write each of these sections is to have students actually do it. Instructors can provide numerous good and bad examples of each, but the only way to teach, for example, synthesis versus summation, is to have students actually practice this type of writing.

Analytical Essays: Definitions and Ideas for Teaching

Analytical essays are very different structurally from empirically based papers. However, some of the intellectual tasks—evaluating a claim, using supporting evidence, situating a question in a larger body of literature—are similar to what is done in the sections of research papers. Just as in a research paper, analytical papers have recognizable components. However, the structure of these papers varies according to disciplinary conventions and the purpose of the writing activity.

There are some common elements to analytical writing. The introduction should include a thesis statement as well as the central points that will be explored in support of the thesis statement. A thesis statement is a sentence that summarizes the writer's primary argument or contention. The body paragraphs will address, in detail, each of the supporting arguments for the thesis statement. These arguments should included an explanation of the argument or point, as well as detailed illustrations and examples, all while clearly relating each point back to the thesis statement. The limitations of the author's position should also be addressed.

See Chapter 3 for more on teaching analysis.

The conclusion should advance the thesis and supporting points in a new way, a way that clearly and concisely ties everything together. The conclusion should demonstrate exactly how your analysis has enabled you to reach your general conclusions about the topic as well as the implications of these conclusions.

See "Strategies for Deepening Analysis" on the next page.

Teaching

Strategies for Deepening Analysis

Any argument or analysis is strengthened by acknowledging the limits of one's own position and the merits of alternative claims or interpretations. Students can practice critical analysis of their own positions through peer and self-assessment of their work and through structured discussion of the positions being presented. Of course, this is easier when their positions are clear.

Critical reading exercise: From a collection of readings (perhaps on a related topic), ask student to select the article they most disagree with and identify the claims in an article in brief sentences. Ask students to write on the merits of the arguments identified by addressing questions such as: When would the author's suggestions work? To whom does the author's argument apply? What is the "kernel of truth" in which the position is grounded?

Debates: Ask students to debate in groups the merits of alternative positions on an issue. Effective debates require teams to anticipate what the other groups will say. You might assign students to position they would not ordinarily take so that they work to accurately represent different perspectives

Peer review: Have students exchange papers and critique each others arguments. Feedback may be given through comments on drafts, one-on-one questioning, or comments on a feedback form.

Visual representation: Some claims can be presented in visual forms (flow-charts, idea maps, etc.) that enable us to look critically at the structure and application or limits of an argument. Ask students to map out the various perspectives of their sources, identifying similarities and differences.

Staking a claim: Before students begin researching their papers, have them write a one-page statement describing their topics and their current positions/beliefs. These essays can later be used to examine the differences between their opinions and claims supported by evidence.

Form Follows Function

This chapter can be summarized as "form follows function." Various forms of writing have been described, all of which serve a specific purpose and are intended for a certain audience. Once an instructor has clearly outlined the purpose of writing and for whom that writing is intended, the form that the writing will take should ultimately lead to fulfilling that function or purpose. However, this cannot happen until an assignment or project is clearly presented to students. I have heard numerous instructors complain that a writing assignment was not completed correctly, or did not fulfill its purpose. I always wonder if it truly was the fault of the student or perhaps poor direction and instruction on the part of the instructor. When a student understands why and for whom something is written, the final product will almost always come closer to reflecting the expectations of the instructor and result in a more interesting and concise piece of writing.