

Teaching Argument Writing, Grades 6–12

Teaching Argument Writing, Grades 6–12

*Supporting Claims with Relevant Evidence
and Clear Reasoning*

George Hillocks, Jr.

Foreword by Michael W. Smith

HEINEMANN
Portsmouth, NH

Heinemann

361 Hanover Street
Portsmouth, NH 03801-3912
www.heinemann.com

Offices and agents throughout the world

© 2011 by George Hillocks, Jr.

All rights reserved. No part of this book may be reproduced in any form or by any electronic or mechanical means, including information storage and retrieval systems, without permission in writing from the publisher, except by a reviewer, who may quote brief passages in a review, and with the exception of reproducibles (identified by the *Teaching Argument Writing* copyright line), which may be photocopied for classroom use.

“Dedicated to Teachers” is a trademark of Greenwood Publishing Group, Inc.

The author and publisher wish to thank those who have generously given permission to reprint borrowed material:

Cartoon from *Crime and Puzzlement 2: More Solve-Them-Yourself Picture Mysteries* by Lawrence Treat, illustrations by Kathleen Borowick. Copyright ©1982 by Lawrence Treat, illustrations by Kathleen Borowick. Reprinted by permission of David R. Godine, Publisher, Inc.

Cartoon from *Crime and Puzzlement 3: 24 Solve-Them-Yourself Picture Mysteries* by Lawrence Treat, illustrations by Paul Karasik. Copyright © 1988 by Lawrence Treat, illustrations by Paul Karasik. Reprinted by permission of David R. Godine, Publisher, Inc.

Cartoon from *The Case of the Dead Musician* puzzle by Marc Furigay. Reprinted by permission of the author.

University of California, Santa Cruz *Banana Slug* logo. Used by permission of the University.

Freeport High School *Pretzels* logo. Used by permission of the Freeport School District, Freeport, Illinois.

“Teaching Argument for Critical Thinking and Writing: An Introduction” by George Hillocks, Jr., originally appeared in the *English Journal*, Vol. 99, No. 6, July 2010. Copyright © 2010 by the National Council of Teachers of English. Used by permission of the publisher.

Library of Congress Cataloging-in-Publication Data

Hillocks, George.

Teaching argument writing, grades 6–12 : supporting claims with relevant evidence and clear reasoning / George Hillocks, Jr. ; foreword by Michael W. Smith.

p. cm.

Includes bibliographical references and index.

ISBN-13: 978-0-325-01396-1

ISBN-10: 0-325-01396-9

1. English language—Rhetoric. 2. English language—Grammar. 3. Persuasion (Rhetoric). 4. Report writing. I. Title.

PE1417.H495 2011

808'.0420712—dc22

2011001313

Editor: Lisa Luedeke

Production editor: Sonja S. Chapman

Typesetter: Cape Cod Compositors, Inc.

Cover and interior designs: Palmer Creative Group

Manufacturing: Steve Bernier

Printed in the United States of America on acid-free paper

15 14 13 12 11 VP 1 2 3 4 5

In memory of

Larry R. Johannessen

1947–2009

Excellent student, colleague, and friend

Contents



Foreword by Michael Smith	ix
Acknowledgments	xiii
Preface: Teaching Argument for Critical Thinking	xv
Introduction: Planning for Powerful Learning	1
PART I: Teaching the Basics of Argument Writing	13
1 Whodunit? Solving Mysteries to Teach Simple Arguments of Fact	15
2 What Makes a Good Mascot—or a Good Leader? Teaching Simple Arguments of Judgment	41
3 Solving Problems Kids Care About: Writing Simple Arguments of Policy	67
PART II: Teaching Students to Write More Complex Arguments	99
4 How Are Judgments Made in the Real World?	101
5 Answering Difficult Questions: Learning to Make Judgments Based on Criteria	113
6 What Is Courage? Developing and Supporting Criteria for Arguments of Judgment	144
7 Argument and Interpretation: Teaching Students How to Make Literary Judgments	177
Appendix A: Definitions of Murder in the United States	201
References	209
Study Guide for <i>Teaching Argument Writing</i>	215
Index	223

Foreword

By Michael Smith



LET ME START WITH A CONFESSION. I STARTED WORKING WITH George Hillocks thirty-six years ago. (Yikes!) He has been by far the most powerful influence on my thinking and teaching for all of those years. You know in cartoons sometimes how a character is pictured with a miniature self standing on his or her shoulder and acting as a conscience? I don't have a miniature version of myself standing on my shoulder. No, my teaching conscience has always been George. He's been whispering in my ear the whole time, even when I've wanted him to shut up.

George's genius as a teacher is his ability to create contexts that push his students to do more serious and significant work than they thought possible—and to take pleasure in the doing. I remember how, week after week, after a three-hour seminar my fellow master's students and I would stand in the hall continuing the discussion of a problem George had posed, unwilling to give up our conversation. I've thought long and hard about how he did it. George is not a flashy teacher. He doesn't dress up in costumes and give passionate

and eloquent lectures. He doesn't lecture at all. What he does is think about the questions most worth asking, develop activities to encourage his students to grapple with those questions, and then listen hard and respectfully to the results of his students' grappling. I've come to think that that respect is at the heart of George's teaching. He listens to his students harder and better than anyone I know. I've experienced how much of an incentive it is to come up with something worth listening to.

And what's especially amazing is that George's model of instruction works not only with graduate students at the University of Chicago but also with the middle and high school students George continued to teach throughout his entire career as a university professor. We see those kids in this book. We see their deep engagement in high-level thinking. We see the passion that they bring to their writing. We see just how much fun those kids and their teachers (George included) must have had working together on such complex and engaging problems. As I read, I was carried along with George's carefully observed narration of classroom vignettes. As I read, I witnessed the intellectual growth of the students in a way that resembles how I experience the growth of a character in a riveting short story.

Ironically, the strength of the narratives is the cause of my only real worry about the book. I fear that the pull of the stories is so strong that readers may think, "How could it be otherwise?" But the truth is, it is otherwise in most writing classrooms around the country. So I want to highlight what I see as the four central components of George's radical educational agenda, an agenda that I hope will be more fully realized because of the power of this book.

Perhaps most significantly, this book displays the power of what George (1986) has called *environmental* instruction, that is, a kind of instruction in which the students, teacher, and curricular materials are equally important as instructional resources. It seems to me that discussion of literacy education often features critiques of teacher-centered instruction. George himself cites foundational research that demonstrates that in so many classrooms students are bored and apathetic observers of their teachers' activity. What's offered up in its stead is student-centered instruction. George has been a champion for students for his whole career, but as he clearly establishes in this book, simply providing the opportunity for student activity is not enough. Students must be supported in taking on their central role by teachers who systematically analyze their students'

needs, who carefully articulate specific goals so students can reflect on their success in achieving them, and who devise engaging and carefully sequenced instructional materials that both teach students crucial procedural knowledge and reward them for employing that knowledge in meaningful social activity.

Another commonplace aspect in contemporary discussions of teaching writing is that the only way for a student to learn to write is to write. And indeed, in the classrooms that George portrays in this book students do plenty of writing. But what those portrayals also make clear is that students can learn to write by talking together while working through problems that provide rehearsals for the kind of thinking they will have to do when they are composing. The importance of this insight is hard to overstate, especially in the urban contexts in which George has done so much of his work. It has always baffled me to read findings of the National Assessment of Educational Progress that say that American adolescents can't argue effectively. Have they ever spent any time with adolescents, I've wondered. They're arguing all the time. What George clearly demonstrates in this book is that that ability to talk can be—no *must* be—a crucially important resource teachers deploy in service of students' academic writing. Over the years I've heard many teachers say, "My kids can't write." I have yet to hear a teacher say, "My kids can't talk." What that means is we have no excuse. If our kids can't write, it's on us, for they bring to our classes their incredibly valuable experience as effective talkers. What we need to do is make good use of it.

If kids are to be engaged in their writing, they have to write what they care about. I think George would agree. The way that this idea most often plays out is through exhortations to let kids choose their topics and through suggestions that personal narratives hold the most promise for fostering interest. If you've read George's latest book (2006), you know how deeply he cares about narratives. I think he'd agree that kids enjoy writing about their lives. But what this book proves is that teachers can create interest. That is, students do not have to be interested in a topic before one begins to teach it. Instead George believes that we can foster students' interest through our teaching. That's important because it allows teachers to engage students in flow experiences in the present even as they are preparing students do the kind of writing they need to do to be successful on future high-stakes tests and academic assignments.

Finally, as I read, I was struck by the length of the engagements students had with a particular kind of argument. When I taught high school, I taught a senior writing class whose curriculum focused on describing a process in week one, writing a personal narrative in week two, writing a comparison/contrast paper in week three, and so on and so on. I don't think that my experience is too far from the norm even today, except in the amount of writing the course required students to do. How many schools require students to do a single research paper, for example? What we see in this book is what happens when students get extended practice in doing particular kinds of thinking and writing. I can't think of a single time in my life when I've learned something complex in a single go-round. I've been playing tennis for nearly fifty years and I still double-fault too darn often.

Remember when I said that George has been standing on my shoulder for the last thirty-six years whispering into my ear? This is what he's been saying: "Have you thought hard enough, Michael, about just what you want your students to do? Have you collected enough data to help you understand them and to reflect on your teaching? Have you written activities that engage them in doing the particular kinds of thinking they'll need to do when they write? Are you listening to them hard enough? Are you having fun together? Have you given them enough practice?"

And this is what I hope: that your reading this book will cause him to whisper in your ear as well.

Acknowledgments



THE IDEAS IN THIS BOOK HAVE BEEN DEVELOPING FOR NEARLY fifty years, since I first tried to teach argument to my seventh and ninth graders in Euclid, Ohio, in 1958. At that point, I concentrated on supporting generalizations with concrete evidence. My classes and I worked out definitions of what we were working on (courage, justice, the hero, satire, comedy, tragedy, and so forth). I worked on helping my students to use these definitions in support of their contentions that a character was not courageous or was indeed just, or that a work was or was not satiric or tragic. At the time, I did not realize how important definitions were in the support of arguments of judgment.

When I moved to the University of Chicago, I worked on putting together sets of data from which students could draw conclusions and the support for them. Some of these were sets of texts or pictures, some were sets of statistics, and some were combinations of all of these. One set, for example, consisted of a set of profiles of murders during a single week in Chicago that

included the ages, occupations, and educational status of both killers and victims along with addresses of the murders, the time of day, and the apparent motives. It turned out to be a good tool for helping students learn to examine a set of data about which they were to write before developing the famous thesis statement that so many teachers demand without preparing students for the task. A number of such data sets appear in this book, many of which were brought to my attention by my Master of Arts in Teaching English (MAT) students at the University of Chicago. One of the best of these was brought to my attention by Elizabeth Kahn and Larry Johannessen, “Slip or Trip,” which plays a prominent role in Chapter One.

I did not have a good grasp of argument until Michael W. Smith introduced me to Stephen Toulmin’s book, *The Uses of Argument* (1958). It was a great fit with what I was already trying to do, and more importantly it filled out several gaps in my little, underdeveloped theory of argument. My work with my MAT students and our mutual work with many high school students enabled me to enrich that theory so that I can bring together Toulmin’s theory, Aristotelian theory from *The Art of Rhetoric*, and even the theory of Socratic reasoning into a unified whole, a unification that has made our teaching of argument much more productive and robust.

I owe a very deep debt of gratitude to all of the MAT students who helped in these processes and to all of our middle and high school students who helped us to learn from our mistakes and our successes. Without the latter, we would be no farther ahead in this effort. I am particularly grateful to those who have helped spread the ideas involved in this book: Seth MacLowry, Sherri Koeppen, Thomas McCann, Jenni Roloff, Kiersten Thompson, Sarah Spachman, Marc Furigay, Sarah Ruth Levine, and Tim Pappageorge. In addition, I owe a very special note of thanks to Vera Wallace for her patience and forbearance during the writing of this book, for her help in presenting several workshops based on the material herein, and for her charm and good cheer even when I do not deserve it.

Thanks also to the editors at Heinemann for their help in producing this book, particularly to Lisa Luedeke, who signed the project and helped to shape it from the beginning.

Preface

Teaching Argument for Critical Thinking



“Literacy education lies at the center of achieving our stated goals of fostering critical thought, critical dialogue, and a circumspect and vigilant American citizenry . . . [and] has particular value and potential in a culture increasingly unable to distinguish fact from fiction, truth from lies.”

—Alsup et al. 2006, 281

THIS BOOK IS ABOUT THE TEACHING OF ARGUMENT, THE CORE of critical thinking. Argument is not simply a dispute, as when people disagree with one another or yell at each other. Argument is about making a case in support of a claim in everyday affairs—in science, in policy making, in courtrooms, and so forth. As such, this book is intended for teachers at any level who wish to help students become critical thinkers.

The activities in this book, designed for middle and high school students, will help enable students to write strong arguments, but they will also

“The activities in this book, designed for middle and high school students, will help enable students to write strong arguments, but they will also help students evaluate the arguments of others.”

help students *evaluate* the arguments of others, arguments they hear every day—a skill critical to participating in a democratic society. The activities have been used in diverse classrooms, including high-poverty inner-city schools in Chicago, where the students were fully engaged in the process, as demonstrated in the pages of this book. When they are through, students will be able, as the Common Core Anchor Standards ask, to “Delineate and evaluate [an] argument and specific claims . . . including the validity of the reasoning [and] the relevance and sufficiency of the evidence.”

Aristotle divides substantive arguments into three kinds: *forensic*, *epideictic*, and *deliberative*. I have found it useful to designate these as arguments of **fact**, **judgment**, and **policy** and approach them in that order, moving students from the simpler to the more complex. If we begin with arguments of fact, as I do in this book, students will be able to use the knowledge they already possess to derive warrants and to use the evidence they perceive to develop basic arguments about the facts of a case. In this way, they will learn the structure of arguments in general and how to draw conclusions that are defensible.

This book deals with simple arguments of **fact** in Chapter One, simple arguments of **judgment** in Chapter Two, and simple arguments of **policy** in Chapter Three. In the various activities, students solve murder mysteries, consider what makes a good leader, and work through the process of trying to solve a school-related problem that matters to them.

In Part Two of the book, we turn to more complex arguments. In Chapter Four, I discuss arguments of judgment and policy in which warrants usually must be defended explicitly. This chapter explains the relationships of warrants and backing in various areas in some detail and gives you the background you will need to teach the chapters that follow.

Chapters Five through Seven deal with how to teach students these more complex arguments. I do this through laying out step-by-step activities that ask students to consider high-interest questions such as, *What is murder?* and *What is courage?* The final chapter lays out teaching students how to make literary judgments.

Because the skills taught in the activities build upon one another, chapter by chapter, I suggest you teach the activities and the chapters in the order in which they are presented.

What Is the Difference between Persuasive Writing and Writing Argument?

The most advanced secondary textbooks for English do not teach students to think critically or to write argument. Rather, they opt for vague discussions of “persuasive writing.” One significant text of over 1,100 pages devotes 45 pages to persuasive writing and only 1.5 pages to “logical appeals” (Kinneavy and Warriner 1993), which are the essence of argument. Kinneavy and Warriner tell us that “In a persuasive essay, you can select the most favorable evidence, appeal to emotions, and use style to persuade your readers. Your single purpose is to be convincing” (305). The same might be said of propaganda and advertising. Argument, on the other hand, is mainly about logical appeals and involves claims, evidence, warrants, backing, and rebuttals, terms I’ll explain in more detail later. Argument is at the heart of critical thinking and academic discourse; it is the kind of writing students need to know for success in college and in life—the kind of writing that the Common Core State Standards puts first. (See National Governors’ Association.)

“In a persuasive essay, you can select the most favorable evidence, appeal to emotions, and use style to persuade your readers. Your single purpose is to be convincing. The same might be said of propaganda and advertising.”

What Students Need to Know for Success in College

Those of us who know the needs of college writers and who are familiar with the new ACT and SAT writing samples know that persuasive writing will not suffice. For college and career one needs to know how to make an effective case, to make a good argument. Gerald Graff was recently cited in *Education Week* as giving the following advice to college students: “Recognize that knowing a lot of stuff won’t do you much good,” he wrote, “unless you can do something with what you know by turning it into an argument.”

In 2009, the National Governor’s Association Center for Best Practices and the Council of Chief State School Officers put a document on the Internet titled *College and Career Ready: Standards for Reading, Writing, and Communication*. It says this of writing argument:

The ability to frame and defend an argument is particularly important to students’ readiness for college and careers. The goal of making an argument is to convince an audience of the rightness of the claims being made using logical reasoning and relevant

evidence. In some cases, a student will make an argument to gain access to college or to a job, laying out their qualifications or experience. In college, a student might defend an interpretation of a work of literature or of history and, in the workplace, an employee might write to recommend a course of action. Students must frame the debate over a claim, presenting the evidence for the argument and acknowledging and addressing its limitations. This approach allows readers to test the veracity of the claims being made and the reasoning being offered in their defense. (p. 2B)

This statement has been adopted in the Common Core Standards which, at this writing have been adopted by more than 39 states and the District of Columbia. This book is about paying heed to these calls for attending to critical thinking and argument.

What Kind of Logic Can We Teach?

There is currently a widespread notion that we cannot know anything with certainty. Given this, the question we must ask is: What can count as logic in arguments? If argument demands logic, and if we are going to teach it, then we must have an answer.

The kind of logic taught in schools since the time of Aristotle and through the early twentieth century focuses on the syllogism, thought to be the most important, if not the only path to truth (See Aristotle 2007).

The syllogism derives a conclusion from a set of statements called premises, which are thought to be true and which have a common term in each. For example,

Major premise:	All men are mortal.
Minor premise:	Socrates is a man.
Conclusion:	Therefore, Socrates is mortal.

In most disciplines (with the exceptions of mathematics and sometimes physics) and in most everyday problems and disputes, we do not have premises that we know to be absolutely true. We have to deal with statements that may be true or that we believe are probably true—but not *absolutely* true.

Even Aristotle recognized that the syllogism was not appropriate for the problems that he saw being debated in the senate and elsewhere. These

“What can count as logic in arguments?”

were arguments of probability, arguments that were not amenable to syllogistic reasoning. His response to that problem was his *Rhetoric* (1991), the work long recognized as one of the most important texts in the subject that deals with arguments of *probability* of three kinds: forensic, epideictic, and deliberative, or, as noted earlier, what I like to call arguments of **fact, judgment, and policy**.

In the past two or three decades, colleges and universities have turned to a newer treatment of arguments of probability, that by Stephen Toulmin in *The Uses of Argument*.

The Elements of Argument

Toulmin's basic conception of argument includes several elements:

- » a **claim**
- » based on **evidence** of some sort
- » a **warrant** that explains **how the evidence supports the claim**
- » **backing** supporting the warrants
- » **qualifications** and **rebuttals** or counter arguments that refute competing claims.

Figure P.1 provides a representation of these elements and their relationships.

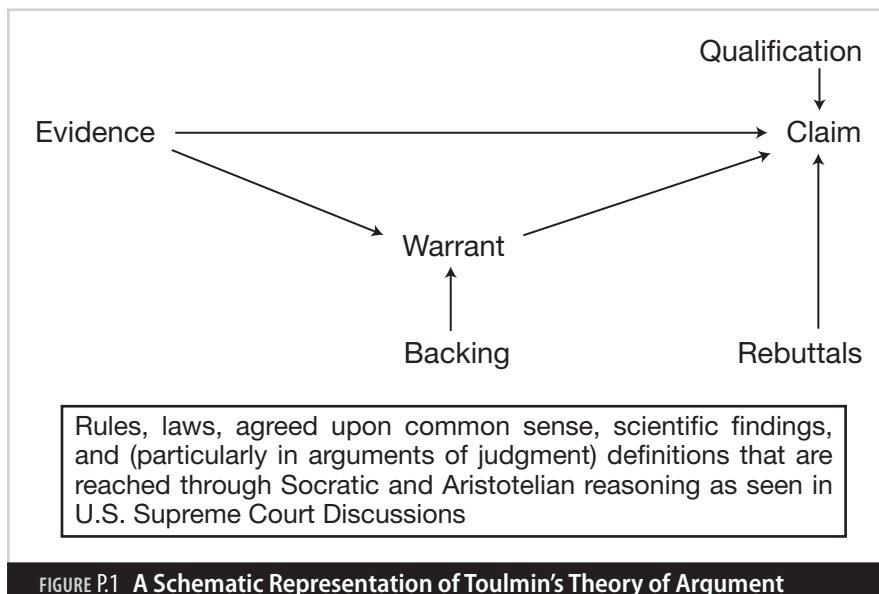


FIGURE P.1 A Schematic Representation of Toulmin's Theory of Argument

Claims

Every day we are inundated in electronic and print media with claims about products and what they can do for us, how they can make us happy, healthy, attractive, productive, or popular. Almost without exception, these are never substantiated. Yet we are being asked to spend our earnings to obtain the product purported to make us happy or productive. And people do spend, usually without questioning the claims.

In my experience and in my research, teenagers, including college freshmen, see no reason to question or substantiate claims in any context. In testing situations, the prompts for persuasive essays usually call explicitly for support. For example, the 1993–94 Texas writing assessment offered the following prompt for its “persuasive task”:

Some people believe that all teenagers should be required to perform one year of unpaid service for their community right after they graduate from high school. This community service might include helping to clean up parks, delivering food to the elderly, or working in a hospital.

What is your position concerning this issue? Write a letter to your senator in which you state your position and support it with convincing reasons. Be sure to explain your reasons fully. (Texas Education Agency 1993, G5)

The students had as much time as they wished during a school day to respond.

Here is a response that the scoring guide included as an example of “passing level”:

As a teenager about to graduate from high school, I think it is rather unfair to do these services without being paid for it. Therefore, I believe we shouldn’t have to do these services right when we get out of high school.

First of all, when people graduate from high school, a majority of the people will either go to a junior college or college. During the summer break, most of them will get jobs to help pay for college. Another reason is, it takes money to drive around town and do these services.

“In my experience and in my research, teenagers see no reason to question or substantiate claims in any context.”

Personally, I think you all should use all of the unemployed people that receive unemployment checks because they're the ones that have nothing to do.

These are the reasons why I think we shouldn't have to do these services. (G14a)

This response is made up entirely of claims. The first and second sentences are the governing claims of the argument. The second paragraph provides two reasons in support of the main claims, but both are sub-claims that remain unsubstantiated. What evidence, for example, is there that a “majority of people will either go to a junior college or college”? The third paragraph states an alternative to the drafting of teenagers, but it too is unsubstantiated.

Here's the scoring guide's commentary on the paper:

This controlled, organized response takes a clear position against requiring community service. The section discussing the necessity of working for pay is somewhat elaborated while the solution adds elaboration by offering a ready alternative (the unemployed) to employing high school graduates. In total, a *minimally sufficient amount of evidence is provided*, and the response demonstrates minimal success with the persuasive task. (G14a, italics added)

This commentary suggests that the test makers do not know what constitutes evidence any more than our youngsters do. In fact, there was no evidence presented at all. (For details on state writing assessments and their impact, see Hillocks 2002.)

Evidence

Although many teachers begin to teach some version of argument with the writing of a thesis statement (a claim), in reality, good argument begins with looking at the *data* that is likely to become the *evidence* in an argument and which gives rise to a thesis statement or major claim. That is, the thesis statement arises from a question, which in turn rises from the examination of information or data of some sort.

This year, I had an opportunity to examine a set of lesson plans that began with the writing of thesis statements. There was no mention of data of

“In reality, a good argument begins with looking at the data that is likely to become the evidence in an argument.”

any kind. Students were supposed to find problems somewhere and make some claim about them. However, without analysis of any data (verbal and nonverbal texts, materials, surveys and samples), any thesis is likely to be no more than a preconception or assumption or clichéd popular belief that is unwarranted and, at worst, totally indefensible.

For that reason, my graduate students and I have approached the teaching of argument from the examination of data, as a first step. We have tried to find data sets that require some interpretation and give rise to questions. When the data are curious and do not fit preconceptions, they give rise to questions and genuine thinking. Attempts to answer these questions become hypotheses, possible future thesis statements that we may eventually write about after further investigation. That is to say, *the process of working through an argument is the process of inquiry*. At its very beginning is the examination of data, not the invention of a thesis statement in a vacuum.

Data sets do not have to be dry or boring to adolescents. In Chapter Three in this book, students conduct their own research into a schoolwide problem involving chewing gum stuck to school furniture and come up with their own data to support an argument that a school policy be changed. They had chosen the problem to research and were thoroughly engaged in the process of accumulating and examining their data.

Once we have examined data to produce a question and have re-examined the data to try to produce an answer to the question, we may have a claim or thesis worthy of arguing. If the data support our answer to the question, it becomes evidence in support of the claim we make. Laid out step by step, it looks like this:

“When the data are curious and do not fit preconceptions, they give rise to questions and genuine thinking.”

1. Examine data
2. Ask questions based on data
3. Reexamine data
4. Try to answer the questions
5. Data that supports our answer = Evidence

Evidence, to be useful, must be relevant and verifiable. In some disciplines and fields of work, such as science and criminal justice, special procedures must be followed so that evidence will not be impeached. But basic to any kind of argument is the verifiability of the evidence. A literary critic must cite the works discussed and quote from the texts to prove a claim. A historian must carefully note the artifactual or documentary evidence basic

to the argument being made. A scientist must explain the nature of observations or experiments, the collection of data, the conditions, so that the study can be replicated.

Occasionally, our readers or listeners are willing to simply accept our data as appropriate support for our answers to the question posed, but, more often, especially in serious arguments, readers will want explanations of *why* the data we produce support the claims we make and are trying to demonstrate. This is the job of the warrant.

"The process of working through an argument is the process of inquiry."

Warrants

Warrants may be simply common sense rules that people accept as generally true, laws, scientific principles or studies, and thoughtfully argued definitions. In contemporary crime scene investigation programs on TV, considerable time is devoted to establishing warrants. Most viewers of such programs are likely to be fully aware, for example, that fingerprints at a crime scene may lead to an arrest of the person to whom those prints belong because any given person's prints are unique, and therefore indicate the presence of that person at the scene.

Similarly, we also know that pistols and rifles leave distinctive markings on bullets fired from them. Thus, a bullet found in a victim or at a crime scene may become the evidence that links a gun owner to the shooting of the gun and the commission of the related crime. The prints and the markings on bullets are the evidence that indicate the identity of perpetrators by way of warrants concerning their uniqueness.

As an activity for teaching Chicago high school students to write argument, Marc Furigay, one of my students at the University of Chicago, invented a problem scenario including a sketch of a dead man's body hanging from a chandelier, his feet dangling a distance above a stool on which the dead man had presumably stood before hanging himself. The sketch is accompanied by a note explaining the man's reasons for committing suicide. Students were encouraged to examine the evidence of the sketch and the note to determine what had occurred.

"In contemporary crime scene investigation programs on TV, considerable time is devoted to establishing warrants."

In Chapter One, I have simplified this scenario a bit. As you will see, when students began their discussion in small groups, they attended to the note and seemed to examine the picture only cursorily. Before long, however, one boy proclaimed to his group that it could not be a case of suicide.

“Look where his feet are,” he explained. “If he hanged himself, his feet would’ve been below the top of the stool. They’re not. They’re way above it.” The young man had hit upon an important warrant. He explained it as follows. “When a person hangs himself, he has to drop from some height so that the noose will tighten and strangle him. See, look where his feet are, a couple of feet above the stool. He couldn’t have jumped up, fastened the rope, put the noose around his neck, and hung himself.” These were statements of evidence and a warrant that the class could accept.

Backing

Anyone familiar with the criminal investigation programs on TV will know that warrants may be challenged. In Toulmin’s terms, the backing is the support for the warrants. In the case of fingerprints and ballistics, there have been many studies that can be cited in the support of the warrants as to the uniqueness of fingerprints and bullet markings. However, in the TV shows themselves, sometimes considerable time is devoted to developing the backing for warrants. One frequently visited kind of backing in one program has to do with studies of the development of beetles in corpses. This is used as the backing for warrants for assertions or claims concerning the length of time a corpse has been dead. Sometimes we see the criminalist studying the development of beetles from larva to adult to establish a time line for the development of the insect through its various stages. This study will be the backing for the warrant for claims about how long a corpse has been deceased.

When serious arguments of **judgment** are challenged, the warrants will likely need to be backed by extended definitions of the abstract qualities involved. For example, my own studies have shown that students have widely diverse ideas of what constitutes courageous action. Boys tend to believe that bank robbers are acting courageously when they try to rob a heavily guarded bank; most girls tend to think they are not. Some believe that just putting on a fireman’s uniform and going to a fire is a courageous act; others believe that the determination of courage depends on the dangers a fire presents. The warrant in such arguments will be backed by some criterion based on an extended definition of the nature of courageous action. In Chapter Six, I show how to teach students how to develop this kind of criteria.

Arguments of **policy** involve warrants about what is permissible and appropriate in certain circumstances. These also involve extended defini-

tions as backing. For example, court cases often turn on definitions of the principles underlying the right to freedom of speech or the right to privacy.

In more complex arguments of judgment and policy, the most crucial arguments pertain to the warrants and their backing. Platonic dialogues often deal with the backing for warrants. For example, in the *Euthyphro*, Socrates questions Euthyphro concerning his claim that he is justified in prosecuting his own father for the death of a slave. The United States Supreme Court's discussions of cases are debates about the warrants used in lower court cases that have been appealed. In *Harris v. Scott*, for example, the argument concerns whether a police officer may use lethal force to stop a driver doing on average 90 mph on a two-lane road and crossing the double yellow line even in the face of on-coming traffic. Harris claimed that the officer's ramming of his car was a violation of his Fourth Amendment right protecting him against unjust seizure. Arguments over backing underlie the most important principles of our democracy.

"The United States Supreme Court's debates are about the warrants used in lower court cases."

Qualifications and Counter Arguments

In addition, because these are arguments of probability, two other elements are necessary: qualifications and counter arguments. Simply because we are dealing with statements that cannot be demonstrated to be absolutely true, qualifications are necessary in stating both claims and warrants. For claims, I like to encourage the use of words such as *probably*, *very likely*, *almost certainly*, and so forth. Some instructors refer to these as *hedge terms*. But they are not.

Because arguments deal with probabilities, they must be *qualified*. Medical, agricultural, educational, and social science research use statistical procedures to determine the probabilities of a certain claim's being true in fairly precise terms. When statistical procedures are not appropriate or possible, the qualifications take the form of statements such as *probably*, *in all likelihood*, *as a rule*, *beyond reasonable doubt*, and so forth.

"Because arguments deal with probabilities, they must be qualified."

The very idea that we are dealing with arguments of probability suggests that differing claims are likely to exist. For example, for over a hundred years, available evidence has shown that the teaching of traditional school grammar does not contribute to increasing the quality of student writing (see Braddock et al., 1963; Hillocks 1984; and Graham and Perin 2007). Despite what I regard as massive evidence, many teachers and writers con-

tinue to argue for the teaching of traditional school grammar, the teaching of the parts of speech, parts of sentences, and concepts of grammar such as gerunds, appositives, and introductory adverbial clauses through the exercises presented in grammar books such as Kinneavy and Warriner (1993). If I wished to make an argument as to the folly of teaching grammar again, I would have to make a counter argument. Because arguments deal with probabilities, they must be *qualified*.

In the course of this book, you will find a series of activities that students find highly engaging, activities that will teach them to understand the elements of argument and how to use them to make effective substantive arguments of their own. In the course of this work, they will also learn to identify a sound argument when they hear one—and how to be thoughtfully skeptical when they hear one that is *not*. These are skills that are essential in college, to be sure, but they are also essential if we are to educate students to become productive citizens in a civil society.

Introduction

Planning for Powerful Learning



THE MOST COMPLEX QUESTION I HAVE EVER TRIED TO ANSWER has been with me for more than fifty years. Since the early sixties, I have been trying to capture in words what I mean by *effective teaching*, the kind of teaching in which students learn to do, with support, what they cannot do or do not already do by themselves, the kind of teaching in which students learn happily, willingly, even enthusiastically.

Under these conditions, when students reach a particular point in their learning, they want to learn more because it is fun and rewarding and makes them feel good about themselves. Learning becomes an adventure, something to look forward to every day. And the teacher looks forward to class, even to reading student work, because it is fun to see what progress students have made. Even when the progress is far less than the teacher hoped—indeed, even when the failure to learn reaches catastrophic proportions—she knows what the goals are and can think about the difficulties students are having and how to overcome them. The difficulties are never insurmountable. They

only require some hard thinking, persistent questioning, and creative imagining, perhaps over a period of many hours or even days, before they are solved and learning moves back to its happy state.

Reading over what I have just written, I recognize that I have missed once again. I have described what good teaching feels like to students and teachers, but I have failed to pinpoint its essence. Those reading what I have written will not be able to put such teaching into action, especially with a topic so complex as teaching critical thinking and argument. Worse, many will jump to the conclusion that good teaching is simply a matter of ensuring that students have a good time in the classroom. Perhaps that's preferable to ensuring that they are completely bored out of their skulls, as so many research reports indicate they are most of the time in American schools (Csikszentmihalyi and Larson 1984; Goodlad 1984; Nystrand 1997; Hillocks 1971, 1999). Nevertheless, having a good time does not necessarily result in learning anything meaningful. Kids can have a good time talking about what happened last night.

My notion of a good time in learning is inherent in the joy of learning how to do something successfully and then using those skills to accomplish something new. People take pride in that. When youngsters learn to play a new game, they are usually delighted with themselves. But when the game becomes too easy, they lose interest and move on to other things. A few weeks ago, my fourteen-year-old grandson and I played chess. In each of three games, he checkmated me in seven or eight moves (at least it seemed that few to me). Of his own accord, he showed me his attack, how it worked, and how I should defend against it. Rather than play against me again, he suggested I play against his six-year-old brother. Clearly I was not enough challenge to make the game enjoyable. It's fun to demolish Grandpa once or twice; after that, not so much.

“My notion of a good time in learning is inherent in the joy of learning how to do something successfully and then using those skills to accomplish something new.”

Experiencing the Flow

Psychologist Mihaly Csikszentmihalyi (1990) calls the kind of experience I am talking about *flow* or *optimal experience*. Experience like this is based not on simple fleeting pleasure but on more complex enjoyment. Csikszentmihalyi explains that pleasurable experiences such as “sleep, rest, food, and sex provide restorative, *homeostatic* experiences that return con-

sciousness to order after the needs of the body intrude and cause psychic entropy to occur. But they do not produce psychological growth. They do not add complexity to the self” (46). Enjoyable experience, however, is characterized by a sense of moving forward or beyond what one might expect of oneself. “After an enjoyable event we know that we have changed, that our self has grown: in some respect, we have become more complex as a result of it” (46).

Here is Csikszentmihalyi’s description of flow experience, which is based on thousands of interviews with and questionnaires completed by people in many widely diverse cultures, in relation to activities ranging from motorcycling to mainstream scientific research to meditation:

When people reflect on how it feels when their experience is most positive, they mention at least one, and often all, of the following. First, the experience usually occurs when we confront tasks we have a chance of completing. Second, we must be able to concentrate on what we are doing. Third and fourth, the concentration is usually possible because the task undertaken has clear goals and provides immediate feedback. Fifth, one acts with a deep but effortless involvement that removes from awareness the worries and frustrations of everyday life. Sixth, enjoyable experiences allow people to exercise a sense of control over their actions. Seventh, concern for the self disappears, yet paradoxically the sense of self emerges stronger after the flow experience is over. Finally, the sense of the duration of time is altered; hours pass by in minutes, and minutes can stretch out to seem like hours. The combination of all these elements causes a sense of deep enjoyment that is so rewarding people feel that expending a great deal of energy is worthwhile simply to be able to feel it. (49)

In the midst of such experience, one loses track of time and other responsibilities, even certain needs. It is as though everything else disappears from the radar of our conscious state. Most of us have experienced these feelings on at least some occasions.

Flow Among Adolescents

To study flow as it is experienced by adolescents, Csikszentmihalyi and his colleague Larson (1984) conducted research with high school students. In

“Csikszentmihalyi (1990) calls the kind of experience I am talking about flow or optimal experience. Experience like this is based not on simple fleeting pleasure but on more complex enjoyment.”

“Enjoyable experience is characterized by a sense of moving forward or beyond what one might expect of oneself.”

“Researchers found that students had relatively high motivation in academic arenas on the few occasions when students were taking part in group work or discussion.”

one study, seventy-five students in the same school carried beepers for a week. During that week, they were beeped randomly, eight to ten times a day. When beeped, they wrote about where they were, what they were doing, and what they were thinking. They also rated their emotional state on semantic differential scales (for example, alert to drowsy, happy to sad, active to passive).

Positive ends of the scales represented flow experience and negative ends indicated the opposite. An examination of over 4,600 student responses revealed that class time in school was largely entropic, time when individuals felt passive, bored, sad, disaffected, and generally wished they were doing something else. In activities such as sports, music, and art, students reported much more often that they felt active, interested, happy, and pleased to be doing what they were doing. The researchers also found relatively high motivation in academic arenas on the few occasions when students were taking part in group work or discussion.

The authors conclude that “schools are essentially machines for providing negative feedback. They are supposed to reduce deviance, to constrain the behavior and the minds of adolescents within straight and narrow channels” (198–99). For the most part schools, especially in academic areas, do not provide flow experience, the kind that results in high levels of pleasure, confidence, and absorption in the tasks at hand. These results are confirmed by the many other studies that show schools to be places in which students are surrounded by deserts of ennui.

“For the most part schools, especially in academic areas, do not provide flow experience, the kind that results in high levels of pleasure, confidence, and absorption in the tasks at hand.”

Learning and Flow

Is it possible for critical thinking to become an experience students want to engage in and look forward to? Can we plan activities that have flow characteristics? To answer these questions, it helps to separate the characteristics of flow experience into two categories (see Figure I.1). Items 1–4 and 6 in the figure have to do with the circumstances of the experience, its character and nature. The remaining items describe its effects once it is underway. As teachers, we can control items 1–4 and 6 in fairly direct ways, with the hope that if these characteristics are in place, they will create the conditions that generate the remaining three items. For example, a sense of control is the product of appropriate activity, clear objectives, feedback, and the freedom to act, a freedom that only teachers can ensure is present.

FIGURE I.1 Csikszentmihalyi's Characteristics of Flow Experience

1. The experience usually occurs when we confront tasks we have a chance of completing.
2. We must be able to concentrate on what we are doing.
3. Concentration is usually possible because the task undertaken has clear goals.
4. Concentration is usually possible because the task provides immediate feedback.
5. We act with a deep but effortless involvement that removes from awareness the worries and frustrations of everyday life.
6. The experience allows us to exercise a sense of control over our actions.
7. Concern for the self disappears, yet paradoxically the sense of self emerges stronger after the flow experience is over.
8. The sense of the duration of time is altered; hours pass by in minutes, and minutes can stretch out to seem like hours.

Planning for Active Engagement and Flow

Below is a list of things we can do to increase the likelihood that students will be actively engaged and experience flow:

1. Choose activities that allow participants to exercise some *control*.
2. Select tasks that have *clear goals* and objectives.
3. Select tasks that students can concentrate on because they are *appropriately complex* for their present abilities. (Problem selection is crucial, and I'll talk more about that later.)
4. Select tasks that *provide clear feedback*.
5. Plan learning experiences around tasks that our students have a chance of completing in the time available.

Following, I will discuss the first four in more detail.

A Sense of Competence and Control

Study after study has shown that teachers typically constrain their students' freedom to act by talking most of the time available for instruction (Csikszentmihalyi and Larson 1984; Goodlad 1984; Nystrand 1997; Hillocks

"A sense of control is the product of appropriate activity, clear objectives, feedback, and the freedom to act, a freedom that only teachers can ensure is present."

1971, 1989, 1999). When teachers talk, student experience is necessarily limited to listening or daydreaming, or simply messing around. Csikszentmihalyi's idea of flow experience is clearly related to far more active experience than the passivity of listening to a teacher talk. The experience for optimal learning and flow must be active, most of the time. Students are not simply engaged in learning information to be recalled on some test or other, they are engaged in learning *how* to do things, *how* to write an essay, *how* to make an analysis, *how* to make an argument, and so forth. When students learn how to *do* something, it provides them a sense of competence and control.

"Csikszentmihalyi's idea of flow experience is clearly related to far more active experience than the passivity of listening to a teacher talk."

Clarity and Specificity of Goals and Objectives

Clear goals are fundamental to a flow experience. When goals are unclear or very general, too many attempts miss the mark. Too much energy is wasted on unsuccessful moves. Feedback to students is likely to be obscure and unhelpful, perhaps not even to the point. Teachers will be unlikely to rethink their instruction to produce better results. Poorly conceptualized objectives undermine the entire process of teaching and lead to poor learning or nonlearning.

In the community of English education professionals, there is little agreement about the nature and utility of clear objectives. Some renowned writers of books on teaching English virtually ignore objectives, suggest vague objectives, and even warn of the dire consequences of having clear objectives. When objectives do appear, they tend to be general statements of tasks students will do in class. They describe how class time may be spent, not what students will learn how to do.

- » Students will write a persuasive essay about a school problem of concern to them.
- » Students will explore the imagery of "Stopping by Woods on a Snowy Evening."
- » The class will discuss the various conflicts that Trueson faces in *Light in the Forest*.
- » Students will study the meanings of twenty vocabulary words.
- » Students will write an essay analyzing Mark Antony's funeral speech over Caesar's body.

These objectives are all either assignments or stipulations of how class time will be spent. They do not stipulate what students are to learn.

Furthermore, they do not indicate how the learnings, whatever they are, will be assessed. Consider the final objective, “Students will write an essay analyzing Mark Antony’s funeral speech.” My guess is that this is either an assignment or a test item for students after they have read the speech alone or in the classroom.

More importantly, we need to ask *what instruction prepared students to make the required analysis of Antony’s speech*. If the instruction simply involved some classroom talk about the speech, talk that supplied some analysis, then the objective is merely about recall. Can the students remember what the teacher said about the speech and how it uses irony to undercut Brutus as an “honourable man”? Such objectives are not conducive to flow experience. They offer no opportunity to learn how *to do* something new.

If, on the other hand, the objective is really concerned about how to interpret irony, then it might be phrased differently:

Given an *unfamiliar passage*, such as Mark Antony’s speech at Caesar’s funeral, students will write an essay identifying the uses of irony and interpreting its impact on the meaning of the passage.

This objective requires a totally different instructional sequence. The passage that students must analyze for the assessment will be unfamiliar. It cannot be used to prepare students for the assessment. Rather, other passages also employing irony will be used to prepare students for this task. The focus will be not on remembering the teacher’s interpretation of a passage but on learning how to interpret irony.

The sequence might begin with cartoons that use irony to make their point. A cartoon that I used many years ago depicted a beach with waves rolling in the background. In the foreground stood a line of rubbish bins stretching into the distance with signs that read “Keep our beaches beautiful.” The students had no difficulty recognizing the incongruence of the ugliness of the bins contrasted to their message. From this, we moved to more complex cartoons and then to simple texts using irony to make a point that was not expressly stated (see Booth 1974). The teaching moved from teacher-led discussion in which students learned to recognize contrasts between uses of language that signal ironic intent and speculation on meaning to small-group discussions of more complex texts with reports on their findings to the class to independent reading and analysis.

“These objectives are all either assignments or stipulations of how class time will be spent. They do not stipulate what students are to learn.”

“How will what we do in class today help students become more expert in dealing with specific tasks tomorrow?”

Shaping objectives in this way demands a reconceptualization of teaching and even the curriculum. Neither can be any longer simply a matter of covering topics or works and making assignments and hoping that some of it rubs off on students. It becomes necessary to ask, *How will what we do in class today help students become more expert in dealing with specific tasks tomorrow?* When students write an essay or a narrative, they use whatever skills they have available to write it. When they read a story or poem, they use whatever skills they have to interpret it. Skill levels do not change by osmosis or magic. Some new learning has to intervene. That new learning is not likely to occur just because the teacher hopes it will. It must be specified and planned.

This book is about how to plan for the learning necessary to write effective arguments independently. Accordingly, the objectives for the sets of lessons will be of the following type. This one is for arguments of fact (Chapter One):

After independently examining a set of data concerning a certain problem, students will write an argument about what the facts of the matter are. The argument must provide a claim with support including four to five pieces of evidence, warrants explaining how the evidence supports the claim and is relevant, qualifications about the limitations of the claim and warrants, and counter arguments dealing with possible opposing views.

This objective includes criteria for judging what will count as an effective argument and implying what the instruction must include: work on evidence, warrants, qualifications, and so forth.

Appropriate Task Complexity

For us to develop learning activities that may produce the flow experience, we need to have clear goals. At the same time, we need to realize that the goals for neophytes must be simpler than the goals for more experienced writers or the problems to which they are applied must be simpler. Thus, it is simpler to find the evidence in “The Lunchroom Murder” sketch (see Chapter One) than in a complex literary text (see Chapter Seven). However, gaining expertise in any area requires beginning with problems that are manageable for the learner. As neophytes become more and more experi-

enced, we need to raise the complexity of the problems. There are examples of manageable problems with clear goals for students to address in every chapter in this book.

Providing Clear Feedback

I recently observed a teacher who had her inner-city ninth graders write a description of a favorite place. Her goals, she said, were to help students write more elaborately and in greater detail. She showed me their efforts, with her comments written at the top of the first page. Typical comments included “word choice,” “sentence structure,” “usage,” “spelling,” and “commas,” with no elaboration. The teacher explained that the terms identified the writer’s problem areas and were reminders of what they needed to be careful about in their future writing. That these terse lists of words had any beneficial effect on the writing of these inner-city students is highly unlikely. They only reminded students of their lack of competence.

The complexity of the problem, the clarity of the objectives, and the expertise of participants are all related to useful feedback. Experts and experienced participants will understand and respond to feedback better than neophytes still learning what feedback is. The characteristics of flow listed by Csikszentmihalyi are described by people who have experienced flow. By definition, they have some level of expertise (“effortless involvement” and “control over their actions”). In learning situations, if we are working with neophytes, we need to focus our feedback on no more than two or three related dimensions of the task at a time and emphasize what the learners have done well.

Rather than remind our students of their lack of competence, we need to ask them to be experts, even at the beginning of learning something new, reporting their thinking to the class and challenging one another’s interpretations and conclusions. Obviously, they are experts on their own thinking. It’s never important that our students’ interpretations agree with ours, only that they provide evidence and warrants that support their claims. Our feedback should focus on the presence of evidence and warrants, not on the correctness of their interpretation.

Last year, I received an email from a student who had been in my ninth-grade class in 1963 and had recently attended his high school class reunion. He wrote, “When we got together at our fortieth high school reunion

“Gaining expertise in any area requires beginning with problems that are manageable for the learner.”

“That these terse lists of words had any beneficial effect on the writing of these inner-city students is highly unlikely. They only reminded students of their lack of competence.”

“In learning situations, if we are working with neophytes, we need to focus our feedback on no more than two or three related dimensions of the task at a time and emphasize what the learners have done well.”

“Rather than remind our students of their lack of competence, we need to ask them to be experts, even at the beginning of learning something new, reporting their thinking to the class and challenging one another’s interpretations and conclusions.”

“It’s never important that our students’ interpretations agree with ours, only that they provide evidence and warrants that support their claims.”

last month, many of us discovered that the common thread of great experiences seemed to center around our time at Euclid Central Junior High School, and particularly focused on our time with you in ninth grade.” I recall that class as delightful. Students were energetic, committed, and willing to engage one another and me in vigorous debate.

I remember one day in particular. Small groups were interpreting *The Old Man and the Sea*, having earlier discussed whether many relatively simple fables, stories, and poems were literal, allegorical, symbolic, or surrealistic. They were the experts. Rick (the young man who wrote me the email) was his group’s spokesperson. At the beginning of the hour, he stood confidently before the class and argued articulately that the novel was allegorical. One young man in his audience promptly asked that if the novel were allegorical, what did the beach symbolize? Rick promptly responded that the beach symbolized purgatory. More than forty years later, he recalled that he “thought of that response then and there.” The rest of the class had their own ideas about the imagery of the beach, and purgatory was not among them. They peppered him with questions and challenges. But he supported his position with interpretations of specific objects Hemingway includes in the description, the members of his group coming to his aid. The talk was dense, and I hardly said a word. Before I realized it, our seventy-four-minute class had ended.

Although the interpretation was bizarre, the students had met the goals of the class. They made, questioned, and defended interpretations of imagery in a relatively complex literary work. Moreover, they seemed to enjoy it immensely. Arriving at some “correct” interpretation was not important. They were much like the boys Smith and Wilhelm describe in *Going with the Flow* (2006):

The boys in our study . . . wanted to solve problems, debate, and argue in ways through which they could stake their identity and develop both ideas and functional tools that they could use and immediately share with others. They wanted to develop the competence and capacities of experts. They wanted to be readied to do real work in the world, not just “do school.” (57)

Discussion is key to the flow, and that day, the boys and girls in my class were in it. People were listening to what they had to say and responding to their ideas—perhaps the most important feedback for literacy learning.* They were not passive recipients but rather highly engaged participants. Forty years later, Rick recalled those discussions as “exhilarating.” I could not ask for more.

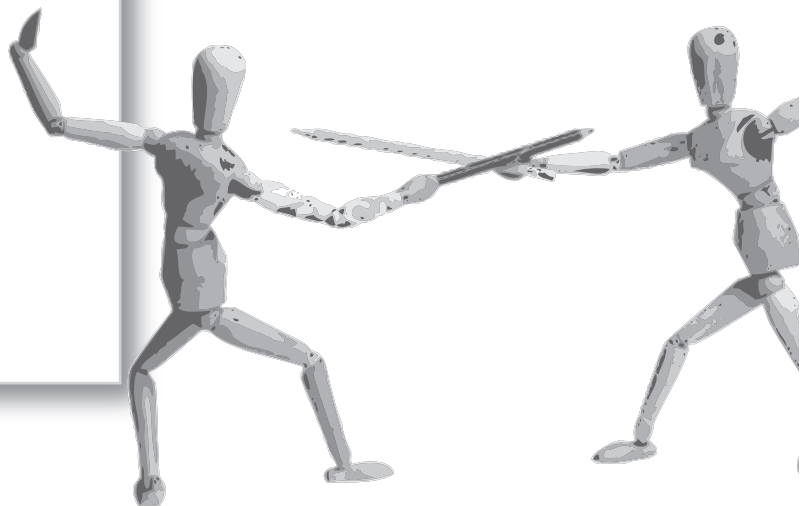
*If you want to establish lively discussion in your classroom so that students can experience flow, the best book I know to help you is *Talking in Class* by McCann, Johannessen, Kahn, and Flanagan (2006).

PART I



Teaching the Basics of Argument Writing

"Flow experience is clearly related to far more active experience than listening to a teacher talk. . . . Students are not simply engaged in learning information to be recalled on some test or other; they are engaged in learning how to do things."



Whodunit?

Solving Mysteries to Teach Simple Arguments of Fact



IT'S CLEAR TO ME FROM OBSERVING STUDENT WRITING IN various contexts that although adolescents may intend to write an argument, they often see no need to present evidence or show why it is relevant; they merely express (usually vague) opinions. Indeed, state writing tests and National Assessment of Educational Progress prompts seem to encourage writing that does not attend to evidence or show how the evidence relates to claims (Hillocks 2002).

However, the Common Core Standards (www.corestandards.org ELA Writing, Grade 6, no page) state that students, beginning in middle school, should be able to “Write arguments to support claims with clear reasons and *relevant evidence*” (emphasis mine). The high school standards expect students to be able to do this as well. I have found that if I use problems, in this case whodunit mysteries, I can encourage students to begin with the evidence and use it to determine what claims they can legitimately make in an argument.

In my inquiry approach to instruction (Hillocks 1984, 1995, 2007), my graduate students and I use the Toulmin model to help students learn to develop arguments from existing data. To do this, we begin with a specific problem—a crime that needs to be solved—that contains data about which claims may be made and for which warrants may be developed. We believe that by starting with a problem, students learn the strategies for making arguments:

- » analyzing evidence critically in light of existing knowledge
- » interpreting the evidence to explain what it shows
- » developing warrants that show why the evidence is relevant
- » using the evidence and the explanations to solve the problem

Recently, over a period of seven weeks, I presented a unit on forensic argument to a class of twenty-six ninth graders, six of whom were labeled learning disabled. Twenty-one were Latino/a, four were African American, four were white (one with Polish as her first language), and one was Asian (with Mandarin as her first language). I began with a forensic problem.

Introducing the Problem

It's the first day of real instruction (after a couple of days of pretests to determine what students already know and can do). I distribute the picture in Figure 1.1, which immediately captures the students' interest, and say, "We are investigators trying to determine what really happened at this crime scene." I read the following aloud while they examine the picture.

"Slip or Trip?"

At five-feet-six and a hundred and ten pounds, Queenie Volupides was a sight to behold and to clasp. When she tore out of the house after a tiff with her husband, Arthur, she went to the country club where there was a party going on.

She left the club shortly before one in the morning and invited a few friends to follow her home and have one more drink. They got to the Volupides house about ten minutes after



FIGURE 1.1 "Slip or Trip?"

Queenie, who met them at the door and said, "Something terrible happened. Arthur slipped and fell on the stairs. He was coming down for another drink—he still had the glass in his hand—and I think he's dead. Oh, my God—what shall I do?"

The autopsy conducted later concluded that Arthur had died from a wound on the head and confirmed that he'd been drunk.

Then I say, "We need to try to determine what happened. Our first question should be, 'Can we believe what Queenie says?' Most of you have learned, from watching various crime shows, that witnesses are not always reliable. What do you think? Is what you see in the picture consistent with what Queenie says? If you have any ideas, raise your hand."

Paper rustles and chairs squeak as students bend over their copy of the picture. Projected on the overhead is a transparency divided into two columns, the left column labeled *evidence*, the right, *rule*. Some kids are whispering to each other, but I can tell it is about the picture because they are pointing to it. After no more than fifteen seconds, Marisol has her hand in the air. I wait for a few more seconds. Soon Jorge and William have their hands in the air as well. Then Isobel and Lucita. I call on Marisol.

“He’s still got the glass in his hand. I mean, if you fell, you would drop the glass, wouldn’t you?”

“Well, I’m not sure. What do the rest of you think?”

Jorge doesn’t wait to be called on. “Yeah, you drop stuff when you fall, except maybe like a football when you get tackled.”

Dantonio says, “Yeah, but that a special thing. You drop the ball, everybody hate you. But the glass ain’t important. You drop the glass to save you ass.” The class laughs. (I let it go. Dantonio is supposedly learning disabled, and I am pleased he’s contributed. Besides, I laughed at his comment myself.)

Isobel responds, “It depends on what you’re carryin’. I was carryin’ my baby sister once, and I tripped, but I dint drop her. I tried to keep her from hittin’ the floor.”

Dantonio agrees. “That what I sayin’. It depend on how important what you carryin’.”

“Okay, how many of you think that the fact that Arthur still has a glass in his hand is important evidence?” Nearly all hands go up. In the left-hand column, under *evidence*, I write, *Arthur still has a glass in his hand*. “Now, can someone explain why that is important?”

Almost immediately, Marisol’s hand is up. I point to her. “It’s important because if you fall down stairs and die, you’re gonna drop the glass. That’s obvious.” I write Marisol’s response under *rule*.

Evidence	Rule
Arthur still has a glass in his hand.	

“Do we only drop glasses?” I ask. “Or does it apply to other things?”

Again, Dantonio jumps in. “If it be important, you hold on, like a football. But if it ain’t nothin’, you probably drop it to save yourself.”

“Does everyone agree with that?” Most heads nod in agreement. “Let’s see if we can make that into a general rule. We can work with

what Marisol said earlier and with what Dantonio just said. Take a minute to think about how to say it and write down a version of the rule.” I look around the room. Some students are trying to write something. Some are looking puzzled. A couple of students are staring off into space, perhaps thinking, perhaps not. I wait several more seconds. “Try to write something.”

Several students begin to write. I walk about the room, encouraging everyone to write something. I tell Dantonio to use what he just said to the class. I suggest that Maria begin with the word *when* and write a sentence explaining what happens when people fall down the stairs. Most students write a sentence or two, but all of them use second person, as they have done in the preceding discussion. Later I will explain how to make the rule third person so that it is more general.

I call for volunteers.

Barbara raises her hand. “When you fall down the stairs, you drop what you’re carrying unless it’s really important.”

“Very good,” I say and write Barbara’s sentence on the transparency. I call for other sentences and several students read theirs, all more or less like Barbara’s. I add Gladys’ and Roberto’s sentences to the chart. “Let me summarize what we know so far. Arthur still has a glass in his hand. We know that when people fall down the stairs, they probably drop what they are carrying to save themselves. What can we conclude from that?”

The students are silent. Do they know what I mean by *conclude*? I try again. “What do you make of Queenie’s story now?”

Marisol and five more students have their hands up. I call on Victoria.

“I think she’s lying.”

“What do the rest of you think?”

Dantonio says, “Yeah, she lyin’—probably.”

“Why did you add *probably*?”

“’Cause we don’t know for sure. But it sure looks like she lyin’.”

“That’s a very important point. The arguments we will be talking about are all arguments of probability. That simply means that we can be only fairly certain of our claims. That is why we call such statements *claims*—because we are claiming they are true.” I know this point will have to come up many times for it to be clear. But Dantonio has put the class on the road to understanding.

Next I point to the statements of rules on the overhead. “Let’s look again at these sentences from Barbara, Gladys, and Roberto. These sentences

“I suggest that Maria begin with the word *when* and write a sentence explaining what happens when people fall down the stairs.”

“All students use second person, as they have done in the preceding discussion. Later I will explain how to make the rule third person so that it is more general.”

“The arguments we will be talking about are all arguments of probability. That simply means that we can be only fairly certain of our claims.”

are important because they explain the evidence and show how it supports our claim that Queenie is probably lying. In writing them, there are a couple of things I would like you to do. First, if I say *you*, to whom does that apply? About whom am I speaking?"

Roscoe, a boy in the back, raises his hand. "You talking to us."

"Right. Now does this general rule apply only to people in this room?" There is a chorus of, "No."

"So how can we make it more general?" Silence.

Just as I decide not to play guessing games, Marisol raises her hand. "You could say, like, um, like we already did, 'When people fall down stairs, they probably drop what they're carrying if it's not important.'"

"Good. That makes the statement a little bit more formal and more generally applicable. Now I want to suggest another way to indicate that this is *probably* the case. What you have stated in that sentence is a general rule that most of us agree with, right? So we can say it that way. *As a rule, when people fall down stairs, they drop what they are carrying to save themselves.*" I write the sentence on the overhead opposite *Arthur still has a glass in his hand*. "I would like us to refer to statements like this as rules or general rules." I underline the *rule* label over the left-hand column on the overhead. "Now, who can put this whole argument together?"

Several hands go up. I call on Roberto, who is so eager he looks as though he might fall out of his seat. "Um, Arthur still has a glass in his hand. As a rule, when people fall down stairs, they drop what they are carrying to save themselves. So I think Queenie is probably lying about him falling down the stairs."

On a clean overhead transparency, I write what Roberto has said, each sentence in a separate column (see Figure 1.2). "Good. What we have here are four basic parts of a simple argument." I label the sentences *evidence*, *rule*, and *conclusion*; I underline *probably* and beneath the line I write *probably = qualification*. "I think you all have the basic idea of argument. But let's try it again. Who has another piece of evidence to talk about? What else do you see that leads you to think Queenie might be lying?"

There are a lot of hands in the air. I call on students who have not contributed already.

Desiree says, "There is something cooking on the stove."

FIGURE 1.2 Basic Argument

Evidence	Rule	Conclusion
Arthur still has a glass in his hand.	As a rule, when people fall down stairs, they drop what they are carrying to save themselves.	Queenie is <u>probably</u> lying about his falling down the stairs. probably = qualification

I write it down on the overhead, although I will avoid dealing with it. From past experience I know it leads to all kinds of speculations, none of which can be verified. Students usually want to make the case that Arthur was going up the stairs; that Queenie hit Arthur on the head with the frying pan, thus explaining the position of his body; and that she put the pan on the stove to warm hors d'oeuvres and burn off any evidence of skin and hair that could be traced to Arthur. I want to hold off such arguments until we have established that Queenie is lying.

Other hands are still up. Oscar says, "Arthur's clothes are all neat. If you fall down stairs, your clothes get messy."

As I write down Oscar's suggestion, Rebecca says, "He's lying on his back with his face up. If he fell down the stairs, wouldn't he be facedown?"

"Those are all good suggestions, and you'll work with them in your groups in a minute. For now, let's work with Oscar's suggestion. He gave us a first draft of a rule as well as a piece of evidence. So what do you think about that? When people fall down the stairs do their clothes get messy?" All the students seem to agree. "What do you mean by messy? Do you mean dirty?"

The students look back at the picture. Fidel says, "No. Look. His shirt and jacket and tie are all neat. But if he really fell down the stairs probably his clothes would be like twisted around or something."

"There's a word for that," I say, "*disheveled*. It means out of place, in disarray, not neat, out of order. If your clothes are disheveled, your shirt may be pulled out, your trousers may be twisted around, your buttons may be buttoned into the wrong holes. Who can make up a rule using that word?"

Several hands go up. I call on Rebecca, who says, "When people fall down stairs, their clothes get disheveled." I write the statement on the overhead.

“You have two good examples of rules now, so I’d like you, in groups, to work on this assignment.”¹ Two students help me distribute the sheets (see Figure 1.3). “Your group assignments are on the board. Find your name and group number. Then look at the diagram of the classroom to see where your group is to meet. For example, group 1 meets in the front of the room by the door. Group 2 meets in the front beside the windows. If you cannot find where you are to go, raise your hand. Students whose names are underlined will be group leaders and are responsible for seeing that the work gets completed and that everyone contributes. I’ll visit each group as you work to answer questions. You should each have a worksheet with the labels *evidence* and *rule* at the top. I expect each of you to write down the evidence and the rules that your group develops. You have nearly fifteen minutes until the end of the period. Find as many pieces of evidence and compose as many relevant rules as you can.”

I begin to move from group to group. The students in Marisol’s group stop talking when I arrive and look up. I ask what evidence they are working with. Marisol says they haven’t decided. Oscar says, “There is nothing on the wall messed up.” I ask why that is important. Oscar thinks for a minute. “Well, if people fall down stairs, they will be reaching and grabbing stuff to catch themselves. But see, the stuff on the wall is straight and neat.” I suggest the group work on that. Before I leave, Rebecca says, “I think the food on the stove is really suspicious, because she wouldn’t be cooking that late at night. Would she?”

“Does the food on the stove contradict what Queenie says about how Arthur died?” I ask. The students are silent, puzzled.

Marisol says, “Well, she didn’t say anything about cooking. But you don’t just start cooking at one in the morning.”

“You might if your guests were hungry,” says Rebecca.

“Well, I think she is cooking on the pan because she hit Arthur on the head with it. It looks like to me he was going up the stairs and she hit him from behind, and he fell backwards. That’s why he’s on his back, ‘cause that’s the way he’d be if he fell backward.”

¹Groups developing a piece of writing together need to be heterogeneous. An easy way to do this is to rank-order students’ writing ability on previous work. Assuming a class of twenty-eight students, I create seven groups (having more than four students in a group reduces the frequency with which each student can contribute). I place one of the top seven writers in each group; place one of the seven weakest writers in each group; and sprinkle the remaining students equally among the groups. With seventh through ninth graders, it is usually wise to avoid groups with only one boy or one girl, because the contributions of the lone boy or girl are usually minimal.

FIGURE 1.3 Group Work Assignment on Evidence and Rules

Your group is an investigative team that must determine what may have happened. You can either agree or disagree with Queenie's version.

1. Do you think Queenie is telling the truth?
2. Find all the evidence you can that indicates whether or not Queenie is telling the truth. Make a list of all the evidence. Evidence includes concrete, observable information; personal testimony; written documents; and material objects and their condition or appearance.
3. Next explain how each piece of evidence supports your claim that Queenie is or is not telling the truth. Each explanation will be a generally accepted rule, which may begin with a phrase such as, "As a rule. . ." If other members of your team disagree with you, find evidence that will convince them.
4. Be prepared to explain why your evidence supports your case. Eventually you will write a report to convince the others in the class that your analysis makes the most sense.

Oscar says, "That's all maybe, maybe, maybe."

I say, "Marisol, if you can prove that, you can present that to the class. But for now, I want you to stick to what you can prove with the kind of argument we've already made. You have a theory of what may have happened, but you'll need some very direct evidence to prove it. Save those ideas, though. Later we will speculate about the case. Right now, concentrate on whether or not Queenie is lying. Because if she is, we need to ask why she is. I think that is what you're trying to answer."

I look around the room, checking how other groups are doing. They all appear to be discussing the problem. I hear Roberto say, "That's stupid." I approach his group with a smile. "What's up?"

Roberto says, "Anna says he could have twisted around while he's falling and that's why he is on his back. That ain't right. People just don't twist around while they're falling. They fall straight."

Anna says, "Yes, he could have twisted around, and that's why he's on his back looking up."

"What do the rest of you think?" Margaret and Fidel look down at the picture. Roberto and Anna look at me. I wait.

"If you can prove that, you can present that to the class. But for now, I want you to stick to what you can prove with the kind of argument we've already made."

Finally Fidel says, “I don’t think he could probably twist around like she says.”

“You mean, if he were coming down the stairs and fell forward, you do not think it’s likely that he would land on his back?” I ask.

“No, it ain’t likely.”

“I’m just saying he could have,” says Anna.

Roberto says, “Well, would you say that when people fall down stairs, they usually twist around and land on their backs?”

“No, not really.”

“Well, okay then. We’re just saying that he probably would not for the same reason.”

“Keep working. Remember to make your argument based on what you think is most likely. I am going to visit another group.” Looking at my watch, I see there are only three minutes left. I visit two more groups before the bell rings. No one packs up before the bell rings, which is a good sign. I ask for the worksheets, telling students to be sure to put their names on the sheets. Immediate inspection of student work is invaluable because:

1. I can verify the observations I have made in class.
2. I can determine specifically who has understood what.
3. I get a clear indication about what to do the following day.

Here are Desiree’s evidence and rules:

Evidence	Rule
1. His feet are on the stairs.	<i>If one falls down the stairs, their feet shouldn’t be on the stairs.</i>
2. Everything is on the wall.	<i>As a rule, if one falls, they will try to hold on to something to break his fall.</i>
3. There’s food on the stove.	<i>As a rule, why should the stove be on?</i>
4. The carpet is neat.	<i>As a rule, if one falls and lands on the carpet, the carpet will be pushed and unneat.</i>

In general, she seems to have the idea. The evidence and rules or warrants (rules are referred to as *warrants* in Toulmin logic) for 1, 2, and 4 are fairly well stated and in third person. There are obviously problems with pronoun agreement, but I will model those uses later. Number 2 requires more explanation to connect it more solidly to the evidence. Number 3 is problematic, because all the thinking is not expressed and even if it were, it still wouldn’t

explain how the fact that the stove is on reveals anything about whether Queenie is telling the truth.

Twelve of the twenty-six students produced work at this level or better, but other groups have not done as well. Ana's worksheet is typical of the weaker work and the kinds of problems some students are having:

Evidence	Rule
1. The stove is on.	[No rule is provided. Several other students have listed the stove being on as evidence but are unable to explain it.]
2. She wouldn't had planned on going home ten minutes before her friends.	<i>She had enough time to kill him.</i>
3. Everything on the wall was straight.	<i>Something had to be broken or messed up.</i>
4. Supposedly he slipped and fell with something.	<i>If he had slipped something must have been on the stairs.</i>

Number 2 is difficult to interpret; Ana's thinking isn't clear, and I'll have to ask her. Number 3 comes closest to what I'm hoping for, but it lacks the important clause explaining why something on the wall had to be "messed up." Ana's fourth piece of evidence is hypothetical and unclear. Queenie's statement says nothing about something on the stairs that might have caused Arthur to slip and fall.

Nearly all the students have at least one piece of evidence and have made an attempt to state a warrant or rule, but only about half are able to produce two or more appropriate warrants. I have my work cut out for me. Still, when I first began teaching the Toulmin framework to graduate students at the University of Chicago, the success rate was similar. Understanding and developing warrants is tough.

Reviewing Evidence and Writing General Rules

On day 2, I return the worksheets with brief comments on individual efforts. (For example, I compliment Desiree for her three warrants and the three pieces of evidence she presented.) I ask students to review the rules for the pieces of evidence we worked on the day before: the glass in Arthur's hand and the neatness of his clothes. Everyone seems to know these. But Roberto wants to add another rule about the glass in Arthur's hand. "When you're

dead, your muscles relax and you drop what you're holding." I write that on the overhead.

"Good. How can we revise that to make it a general rule?" There is silence for a moment. "Who remembers how to do that?"

Aneta raises her hand. "You have to make it third person, right? So you have to say, like, um, when people die, their muscles relax and they drop what they are holding." I revise the original statement on the overhead, using carets and striking out the second-person pronouns and inserting Aneta's words.

I ask for other evidence. Dantonio says, "The glass in his left hand, but if he drunk, he would hold the banister when he come down the stairs."

"Okay, but what does that have to do with the fact that the glass is in his left hand?"

"Well, if he comin' down stairs, the banister be on the left. He have to have the glass in his right hand to hold on."

"What do the rest of you think about that?"

Most other students nod in agreement. Somebody says, "Wow, I didn't think of that."

"That's very observant isn't it?" There is a murmur of assent. Dantonio smiles and looks down at his paper. I write what Dantonio has said on the overhead and ask what we need to do to make it a general rule. "It cannot refer only to Arthur."

After a few attempts, we have *Drunk people usually hold banisters when they come down stairs. They carry anything in the hand opposite the banister so they can steady themselves with the hand next to the banister.*

I call for other evidence. Marisol says, "He is lying on his back."

"Anything else?" I ask.

Someone adds, "Faceup." Another student says, "His feet are on the stairs."

"Let's see if we can put all of that into one sentence." I know these students do not use absolute modifiers and that I will have to help. But it turns out to be easy. "What shall we call him? *He* or *Arthur*?" There is a chorus of *Arthur*. On the overhead I write, *Arthur is lying on his back.* "How can we add the other information?"

"You could add a comma and say *faceup*," Silvia says. I add that on the overhead.

“How about the feet-on-the-stairs part?” I ask.

Sylvia says, “You could just put another comma and add *feet on the stairs*, couldn’t you?”

“Absolutely,” I say. “Now, I am coming around to make sure you are all copying what we have written so far on your sheets.”

After a moment someone says, “We ain’t got no more space. I need a new sheet.”

Fortunately, I have extra copies of the worksheet and distribute them. I also say, “If you do not have enough room on the back of the worksheet, use a new sheet of notebook paper. Be sure to put your name on it.” I move around the room until I see that most students have written versions of what we have developed on the overhead. Then I ask if anyone has more evidence to talk about.

Marcella raises her hand. “Nobody said nothin’ about the glass is still in one piece.”

“You’re right. What do you make of that?”

“Well, if you fall, and even if you don’t drop the glass, wouldn’t it break when it hit the floor?”

“That’s a good question,” I say. “What do the rest of you think?” Several hands are up. “Okay, Roberto first, then Angelina, then Dantonio.”

Roberto says, “Well, we already said that when people fall, they usually drop what they’re carrying. So it would break.”

Angelina says, “But even if you didn’t drop it, if you fell down the stairs and if you was holding the glass in your hand, it would probably break when it hit the floor. Wouldn’t it?”

I note the tentative quality of these responses and the adverbial conditional clauses and hope the same qualities will appear in the statements they write down.

Dantonio cuts in. “I thinkin’ if Arthur hit the floor hard enough to bust his head, that would be hard enough to break the glass, wouldn’t it?”

“Okay, you guys have introduced two more conditions. In the first place, we think he probably would have dropped the glass to save himself. But in the second, if he fell hard enough to die from the fall, the glass would have hit the floor with enough force to break it. I like this complex thinking. Let’s see if we can write it up.” Students propose more or less what I have just suggested, including the transitions.

The final piece of evidence the class suggests is that all the items on the wall along the stairs are straight and neat on the wall. We come up with the following rule, or warrant: “When people are falling down the stairs, they are very likely to reach out for support and, in the process [*my suggestion*], dislodge something on the wall.”

I think my students get the idea, but I know it’s difficult. We are not simply learning about evidence (which they seldom used on their pretests) and warrants (which were even rarer) but about conditional clauses (especially *if* and *when* clauses). Although the conventions for this kind of writing for the most part exclude the second person, especially in warrants, the students’ conversations about rules and warrants is in the second person. I wonder whether using second person avoids the confusion of third person, in which they typically interchange singular and plural (Desiree’s “If one falls down the stairs, their feet shouldn’t be on the stairs,” for example). More likely it is simply a matter of using common vernacular.

“We are not simply learning about evidence (which they seldom used on their pretests) and warrants (which were even rarer) but about conditional clauses (especially if and when clauses).”

I spend so much time on these discussions because I want my students to rehearse these conventions and structures and finally use them on their own. Some teachers feel all the groping around students do is a waste of time, that simply *telling* students what to do is enough. But the students in my education classes and I know that the discussion and the social construction of meaning that go on among our learners jump-start and empower learning. We know that if we don’t allow youngsters to explore the problems and make some errors along the way, far less learning takes place. On the initial activities, we work together so that we can provide careful support for difficult thinking.

Writing a Report

After our discussions are over, we write a report that includes the full argument. I begin by asking, “If we were really an investigative team and if this were a real crime, to whom would we have to write a report?” Students suggest the boss, the chief inspector, the district attorney, or the chief of police. We settle on the chief of police. “What would we need to explain to the chief?”

I list their suggestions on the overhead (if they miss any, I ask a leading question: “Should we explain when we arrived on the scene?”):

- when we arrived
- what we found
- what Queenie said

what the autopsy found
whether the evidence supports what Queenie said
our conclusion and/or recommendation
explanation of evidence supporting our conclusion and recommendation

Next, I write on the overhead as the students dictate. With the outline above, organizing the major sections is not a problem. We begin with when we arrived on the scene: *We arrived at the home of Arthur and Queenie Volupides at about 2:15 A.M. on February 6, 2007.* After that, students tend to continue with general statements (for example, the first response to “What did we find?” is often, *We found Arthur dead on the floor*). As a result of my asking a lot of questions to help them clarify their thinking, we finally arrive at:

We found Arthur Volupides lying at the bottom of the main stairs on his back, faceup, his feet on the third step. He was still holding a glass in the fingertips of his left hand. His clothes were neat. Nothing on the wall beside the stairs was disturbed. The carpet where he lay was undisturbed. Queenie said that Arthur slipped and fell on the stairs. He was coming down for another drink. He still had the glass in his hand.

Next we have to present our thinking about the situation. By this time, students have given up any claim that Queenie is telling the truth. A few questions lead to: *We believe Queenie is not telling the truth. The evidence does not support what she says happened.*

At this point, because students have worked through all the evidence pretty thoroughly, I ask them individually to write out the evidence and the rules (warrants) that allow them to interpret the evidence. They need to include at least five pieces of evidence, each with an appropriate warrant and any necessary explanation. Here is Marisol’s presentation of evidence:

We believe that the evidence does not support her claim. First, the cup is in his hand. When people fall down the stairs, they let go of what they are holding to try and get a grip of something to stop. Second, the way Arthur is facing is weird. When someone falls down the stairs, their body would be facedown. Arthur, though, is faced upwards. Third, she waited too long to call the police or ambulance. She waited for her friends to do anything. When someone sees another person hurt they automatically call the police for help.

“Some teachers feel all the groping around students do is a waste of time, that simply telling students what to do is enough. But the discussion and the social construction of meaning that go on among our learners jump-start and empower learning.”

“We know that if we don’t allow youngsters to explore the problems and make some errors along the way, far less learning takes place.”

The last reason I believe she is lying is because the things on the wall are all straight. They seem like if they hadn't been disturbed. If someone falls down the stairs, they will try to hold on to anything. Especially if they you see things in the wall you will try to brake your fall.

Marisol's first language is Spanish. She makes several errors in this passage, but her basic grasp of the syntax of argument is sound. She needs to learn how to punctuate introductory adverbial clauses, but she uses them appropriately. Note also that she slips from third person to second in her final warrant. She needs to learn to proofread for spelling, unnecessary words, and other minor problems. But this essay, written with a good deal of support after only four days of instruction, makes me happy. In teaching any sort of process, when the process is new to learners, it is important to provide as much coaching and modeling as necessary.

Moving Students Toward Independence

When learners reach a level of proficiency, it's time to increase the difficulty of the work and provide less support. How quickly to withdraw support depends on the learners' needs, abilities, and proclivities. Withdraw support too soon and they become frustrated. Maintain support too long and they become bored. It's a judgment call.

In my sequence of activities for developing simple arguments, I use several other forensic-like cases. One for group work is "Peacock's Poser," or as some of my colleagues call it, "What Happened to Winston?" It's adapted from Treat's *The Clue Armchair Detective* (1983) and is a bit more complex, because it is more ambiguous. As with "Slip or Trip," students receive a picture and a narrative. The picture shows a man, Winston Peacock, lying on the floor; the narrative reveals that he is dead, discovered on January 2, when the woman who delivers papers to his house looks through his window. Students must evaluate whether he was murdered or committed suicide. Because the solution cannot be reasonably inferred from the picture, we do not give students the "correct" answer, even though they often demand to know. Our concern is whether they can use evidence to make a case for one or the other possibility. There is evidence on both sides of the problem.

"In teaching any sort of process, when the process is new to learners, it is important to provide as much coaching and modeling as necessary."

For example, when the police arrive at the home, they find the doors and windows locked from the inside. They have to break a window to enter. Winston has a revolver in his right hand, one of a pair of revolvers that had been mounted on his wall (its mate is still there). From this evidence, students deduce that Winston must have committed suicide, because no one else was there. The warrant is that, for a murder to have been committed, there must have been someone else in the room.

On the other hand, Winston is wearing an apron, which suggests he had been doing something in the kitchen, perhaps preparing a New Year's Day dinner. He had also made a list of things to do: "ring" his broker, pay his phone bill. These acts are not in keeping with someone contemplating suicide. The text tells us that everyone in town suspected that Winston had a fortune hidden in his house. The carpet near Winston's body has been rolled back. Students take this as evidence that someone had been searching for the treasure. A suicide intent on ending his life would not bother to roll a rug back.

"When learners reach a level of proficiency, it's time to increase the difficulty of the work and provide less support. Withdraw support too soon and they become frustrated. Maintain support too long and they become bored. It's a judgment call."

"The Lunchroom Murder"

Another puzzle is called "The Lunchroom Murder," from Lawrence Treat's *Crime and Puzzlement*. This one is less ambiguous, but it includes several distracting clues. Here's the introduction and the scene:

On an otherwise uneventful Thursday afternoon police heard a shot inside Ernie's Lunchroom, rushed in, and found the scene shown in Figure 1.4.

They identified the body as that of a prominent racketeer named Fannin. Ernie, who is both the owner and only employee, had only one fact to tell: the murderer had leaned against the wall while firing at point-blank range. The imprint of his hand is in clear view. The cash register has just been rung up at \$8.75.

This is a difficult case. Your investigative team must attempt to determine which of the people in the lunchroom killed Fannin. You will have to observe the details carefully. There is enough evidence to help you explain most of what happened. In working out the solution, consider the following questions.

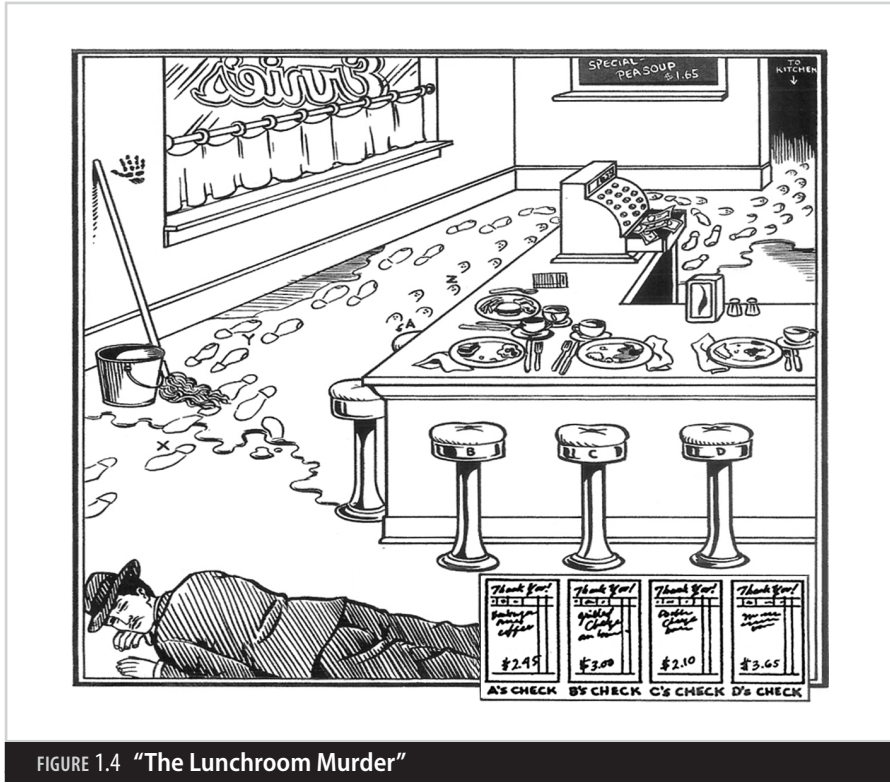


FIGURE 1.4 "The Lunchroom Murder"

1. With what hand did the shooter fire the gun? What is the evidence? What is the warrant?
2. Did customers B, C, and D know each other? What are the evidence and warrants?
3. How do the three customers differ in their habits or ways of doing things? What is the evidence and what is the warrant?
4. Which set of footprints are Ernie's? What is the evidence? What is the warrant?
5. To whom do the set of footprints marked X belong? How do you know?
6. Who killed Fannin? How do you know? Outline all the evidence and all of the warrants necessary to support this claim.

The set of questions originally published with the drawing focused on the footprints, so students also focused on the footprints and failed to notice the placement of customer C's cup and flatware. I believed the students in this class needed the more direct questions above. If you use it, you may want to eliminate question 1 to make the puzzle more challenging. Or you may want to ask directly which customer is left-handed to make it simpler. When students work together on these projects, I sometimes have each group turn in a single piece of writing for which all members receive a grade. Other times, I have individual group members submit their own piece. For the "Lunchroom Murder" puzzle, everyone submitted their own solution based on their own and their group's thinking. Here's Olivia's:

When I arrived at the lunchroom, the first thing I noticed was the dead body on the floor. Not only that but there were footprints on the floor and a handprint on the wall. Dishes were on the counter and the cash register was open with money still in it. It was hard to figure the question everyone wondered about, "Who killed Fannin?" After long analyzing it hit us. The handprint on the wall was right-handed, because the thumb pointed to the left. Ernie had only one thing to say, the murderer had leaned against the wall while firing at point-blank range. Since it is a right-hand print, the killer must be left-handed.

So knowing that, we looked at where the customers were eating. Customer C is the only left-handed one, because his utensils and cup were on the left side of his plate. So customer C is the killer of Fannin.

Customer A had tiptoed out into the kitchen. We know because of the footprints. They show him going out to the kitchen, and he wouldn't have been able to put his right-hand print onto the wall because the wall was to his left.

Olivia has done well making a tricky argument. Her final paragraph suggests that she was thinking about how to eliminate the other customers. However, she stopped with A. (When I asked, she confirmed this intention

but said she wasn't sure how to eliminate customers B and D.) I was pleased with her work because she cited both key pieces of evidence and the warrants governing that evidence.

Most other students also did so. A few omitted one piece of evidence or one warrant. I made comments on the papers about the content that was missing and asked students to revise their paper for a final grade. I corrected misspellings and asked students to add the correctly spelled words to a personal spelling list. Because so many students did so well, I decided to move on to the individual stage.

"The Case of the Dead Musician"

The puzzle I chose was invented by Marc Furigay, a student in the University of Chicago Master of Arts in Teaching English program some years ago. The drawing shows an old man, a musician, hanging from a chandelier, dead. To the right of the hanging body is a grand piano from which several strings have been ripped. (See Figure 1.5.)

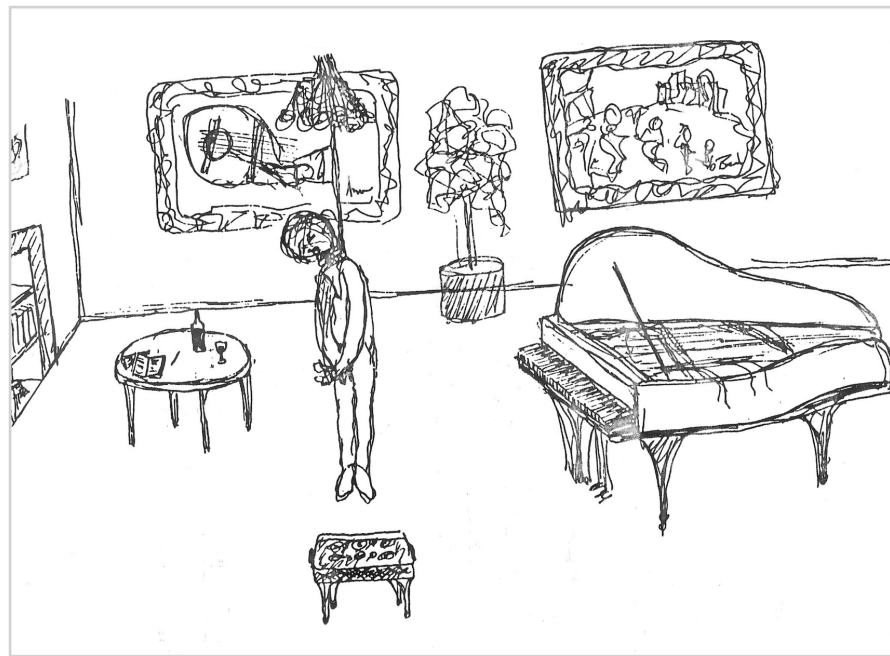


FIGURE 1.5 "The Case of the Dead Musician"

Here's a slightly modified version of Marc's narrative:

The Case of the Dead Musician

Anton Karazai had amassed a great fortune in his seventy years as a world-famous pianist, performing for presidents and parliaments, kings and queens, in all the greatest cities' concert halls and children's hospitals. Anyone who watched Mr. Karazai perform understood immediately that he loved his music above and beyond anything else. Music—playing the piano—was his life.

Yesterday evening, May 16, 2006, however, Mr. Karazai's only son and sole heir phoned the police and reported that his father had hanged himself from the chandelier in the piano room at his estate. When the police arrived, they took several pictures of the scene. One of those pictures appears in Figure 1.5. The police noted that Karazai had been hanged by a cord taken from the set of drapes in the corner window of the room and that his feet hung about two feet above the stool beneath him. They also noted that several pieces of steel wire had been ripped from the piano.

The coroner's report confirmed that Mr. Karazai died from asphyxiation. Inspection of his neck revealed a single, thin, skin-breaking line with a small amount of blood across the Adam's apple.

Since it is too small to read in the picture, here is Mr. Karazai's last journal entry in its entirety:

May 16, 2006. Have been sad for weeks now. My strength diminishes every day. It is even difficult for me to play the piano. Sometimes, even piano fails to cheer me. Sometimes my failing ability makes me angry. Yesterday I actually kicked my piano! But my ninety-year-old legs could hardly hurt a little

bird. Only my son remains, my only son and the sole heir to all that I have earned and collected over this incredible but lonely life. I wonder if he knows what he will be getting when I die. Perhaps. But perhaps not. I will try to play something simple to cheer me before I retire for the evening—perhaps something from Debussy’s “Children’s Corner,” a wonderful collection of happy, beautiful melodies.

The Assignment

You are the investigator reading the reports above and inspecting the picture of the scene. Mr. Karazai’s son claims that his father hanged himself. What do you think is the truth? From the evidence available, make a case for what you think really happened. If you believe that other evidence is necessary, make a recommendation about what other evidence might need to be collected. Before you begin to write your report, list the evidence and warrants you will use in making your case.

Students did this work in class. They had two days to consider the material and write the essay, but on the second day I encouraged them to rethink the case they were making and to revise their papers according to the following checklist:

Checklist for Revisions

1. Have you described what was found at the scene and what the autopsy revealed?
2. Have you incorporated at least three pieces of evidence?
3. Have you provided the rules or warrants that explain why the evidence is important to your claim?
4. Have you made a recommendation about what should happen next or what more evidence is needed?

This is Jorge’s second draft:

I have read the police reports and inspected the pictures of the scene. The picture shows Mr. Karazai hanging from the chandelier

in the piano room of the house. The grand piano is behind him and to his right. There is a large coffee table in the room to the left of the body. It has a bottle of wine and a glass partly filled. Mr. Karazai's journal is also on the table. The journal was open to the page of the last entry with yesterday's date, May 16, 2006. Mr. Karazai was hanging from the chandelier by a velvet rope, which was apparently the sash for a set of drapes on the corner window of the room. But the coroner's report indicates that Karazai died of asphyxiation and that there is a thin cut on his throat at the Adam's apple.

I believe that Mr. Karazai's son is not telling the truth. There are several pieces of evidence that do not fit with the idea that he hanged himself. First, his journal entry don't seem so depressed that he would kill himself. He says that he will play some happy melodies "to cheer himself up before he retires." People who are going to hang themselves do not decide to play happy melodies. I mean, that would be really weird.

Second, he is hanging from the chandelier by a velvet rope. But the coroner says that there is a thin cut across his Adam's apple. The thin cut would not be made by a thick velvet rope. But piano wire could make a thin cut. I looked at the wires in the music room piano. They are very thin, way thinner than a velvet rope. I think the cut must of been made with the wire used to strangle him. Then somebody, namely the son, hung him from the chandelier with the velvet rope. I am saying that is probably what happened.

But the third piece of evidence is the most important. If you hang yourself, you have to stand high enough to put a rope around your neck and jump off what you are standing on. The stool is too low for Karazai to stand on, put a noose around his neck, and jump off. It is way below his feet. Therefore, he could

not of hanged himself as the son said. The son is lying because he wanted to inherit the money.

I recommend that the police should arrest the son immediately and put him to trial. We don't need no more evidence. He is guilty. His father was alone in the house when the son came in. The son pulled wire out of the piano and strangled his father with it. Then he put the rope around his neck and hung him from the chandelier. He did it for the money. In my opinion, that is the worst crime to kill your parent. He should get the death penalty.

Jorge's is one of several good pieces produced by the members of this class. It includes several minor errors in usage and diction, but my instruction was aimed at using evidence and warrants, so I evaluated the paper on that basis. (It is counterproductive, if not unethical, to teach toward one specific target of learning and grade learners on another.) The paper also provides some clues about what kinds of usage instruction might be useful. For example, the warrant for the third piece of evidence is in second person, with which I sympathize, because it is much more difficult—and awkward—in the third person. I need to continue instruction on that syntactic problem. Several other students use *of for have*, so I also need to teach the correct usage more deliberately.

It is important to realize that this is the way the teaching goes. There is always something more to teach. For me, that has been as true for graduate students as for ninth graders. I have encountered teachers who have argued that because their students cannot write correctly punctuated sentences, they must spend time with teaching from the grammar book. I firmly believe that such a move destroys learning. It is deadly, wastes time, and does not accomplish the goal of correctly written sentences. But in only a few days of working on the problem above, most of my twenty-six students were using more sophisticated conditional sentences in the expression of warrants. A majority used third person in the warrants instead of the ubiquitous second person. And most presented evidence and linked it to their claims with warrants, which none had done on the pretests of argument writing.

"It is important to realize that this is the way the teaching goes. There is always something more to teach. For me, that has been as true for graduate students as for ninth graders."

A Note on Pretesting

Before we teach students how to do something new, we need to know what students already know how to do in relationship to the task. In the case of argument, I want to know if students can do the following:

- » Look at available data in order to develop a claim.
- » Make at least a reasonable claim, if not an insightful one.
- » Support it with evidence.
- » Supply rules (warrants) tying the evidence to the claim, thus demonstrating that the evidence is relevant.
- » Qualify the claim and warrants as necessary.
- » Provide backing for warrants when necessary.

To determine if students can do these things, I provide them with a scenario involving a change in the security policy at a high school. The change, according to the scenario, is about to be put in place because of what officials see as an unacceptable rise in the crime rate. The scenario describes both the current and proposed security policies with the proposed policy increasing monitoring of hallways, restrooms, and lounging areas; instituting unannounced locker searches and weapons searches upon students' entering school; and increased penalties of infractions of the school rules. The data sets include statements, in the case of the high school, from the principal, counselors, teachers, concerned parents, and students who have been victims of theft, physical or sexual abuse, and so forth. The data set also includes a chart listing the number of each type of crime over the past ten years and the increase in student population in the same time period.

Students are asked to write a letter to the Board of Education carefully arguing their points of view about the proposed policy change. It is possible to argue against or in favor of the new policy.²

²An article in the *New York Times* on September 3, 2010 ("U.S. Asks Educators to Reinvent Student Tests, and How They Are Given") states that this kind of performance exam will be part of the new national testing programs being currently developed under the auspices of large government grants. The article explains that "In performance-based tasks, which are increasingly common in tests administered by the military and in other fields, students are given a problem—they could be told, for example, to pretend they are a mayor who needs to reduce a city's pollution—and must sift through a portfolio of tools and write analytically about how they would use them to solve the problem." I believe that this kind of testing will be far superior to what is now available and will demand huge changes in the way teachers teach.

The data permit the argument that there is no need to change the policy because there is no real change in the crime rates. The increase in crime is in proportion to the increase in the population of the school. Our students typically do not make that argument, and in our instruction, we have discovered that most of them cannot deal with proportions or even percentages, an argument pointing to the need for our being more interdisciplinary. In the pretest writing, we find that overwhelmingly students do not bother much with evidence, not even the expert testimony provided. They simply choose to voice their opinions, usually in opposition to any move toward a more restrictive policy. They tend to provide a series of claims about the restrictive policy and why it is evil, writing tantamount to screams of outrage.

It was our findings on this pretest that led to the teaching I described in this chapter.

Advantages of Using Pretests

- » You can document what students already know and do not know about what you are planning to teach.
- » You can measure progress from a point before instruction to a point after it is complete.
- » You can demonstrate to administrators precisely what students have learned and thus defend what you have taught in fairly precise ways.
- » You can examine the effectiveness of your teaching in order to make improvements in the future.
- » You can use the pretests in combination with later work to help students see what they have learned.
- » When you can examine student progress precisely, you will find that your own experience of flow³ as a teacher will increase.

³See Introduction: Planning for Powerful Learning.