Three Modules on Clear Writing Style: An Introduction to The Craft of Argument, by Joseph M. Williams and Gregory Colomb

By:
The Cain Project in Engineering and Professional Communication

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Online:
< http://cnx.org/content/col10551/1.1/ >

C O N N E X I O N S

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Chapter 1

Writing Module Introductory Note: Common Objectives[1]

Each of the three modules in this series introducing the Little Red Schoolhouse principles aims to do several things:

- Present an overview of the Little Red Schoolhouse method;
- Review key LRS topics and terminology;
- Examine one aspect of the writing and editing process more closely, working through selected examples

Writers often lack useful terms for talking about their writing with peers, editors, and collaborators. Developing a vocabulary for talking about good writing simplifies the composition, editing and review processes. These Modules introduce the Little Red Schoolhouse (LRS) method and terminology and discuss some of the major strategies of the LRS approach.

The Little Red Schoolhouse curriculum originated at the University of Chicago and was developed by Joe Williams, Greg Colomb, Frank Kinahan, Peter Blaney and others. The LRS curriculum has been adopted and adapted at, among others, the University of Chicago, Duke University, the University of Illinois, the University of Virginia, and the Georgia Institute of Technology. The approach formulates practical solutions to common difficulties of writing experienced by students across disciplines.

LRS Helps Writers

- recognize and solve common problems;
- achieve better writing through better reading and revision;
- gain increased awareness of what makes their writing readable and persuasive.

1.1 Writing for the Reader

As readers, we respond to writing that is clear, direct, and coherent. As writers, we need to learn how to produce these qualities in our own work. Sometimes we lack the vocabulary for talking about writing – especially about matters of style—with our peers, editors, and collaborators. Learning new ways to talk about good writing simplifies the composition, editing and review processes. LRS provides writers with the tools to see and solve common problems.

My introductions ramble→ Focus on topic sentences

My paragraphs lack structure→ Learn to use transition sentences

My audiences never seem convinced → Increase authority with well-chosen evidence and acknowledgement and response

[1] This content is available online at <http://cnx.org/content/m17221/1.1/>.

Chapter 2

Writing Module One: Clear Narrative, "Characters" and "Actions"[1]

2.1 The Importance of Story

Storytelling is fundamental. Since our earliest experiences listening to bedtime stories and fairy tales, we have instinctively sought out key information in narratives:

- Who is this about?
- What is he or she doing?
- Why?

In fact, all sentences tell stories. Although the format and details vary widely, professional and academic narratives are not nearly as different from fairy tales as they may first seem. In each case, our basic expectations for information and action operate in similar ways:

- we look for clear subjects as our new "characters"
- we look for strong verbs as our new "actions."

Stories work through structure. We understand story better when we can easily recognize **characters** and **actions**. Until we know what is happening and to whom, we are likely to feel lost

Story structure is apparent on both the sentence and the paragraph level. Whereas good storytelling makes important characters and actions clear from the outset, inadequate storytelling:

- takes a long time to convey a sense of what's being described or explained;
- doesn't make the problem clear;
- doesn't give readers reasons to be invested in reading;
- doesn't offer a solution to the problems it dramatizes for the reader.

By contrast, fairy tale structure is an example of the type of narrative that readers find easy to understand because it satisfies **certain fundamental expectations**. If asked to retell a fairy tale, even very young children can tell us "who," "what," and even "why." Complex professional prose can be this clear if it follows a few key principles.

[1] This content is available online at <http://cnx.org/content/m17222/1.1/>.

2.1.1 Story and Professional Prose

Some of the same reasons we might cite for enjoying a movie or a novel also hold true for a scientific report or a legal argument. We are motivated to read, and we feel we understand the point of an argument, when we quickly grasp a) who is concerned and b) what is at stake. For example:

> **Example 2.1**
> The suggestion of recent evidence has been a role for nanobacteria in a growing number of human diseases, including renal stone formation, cardiovascular diseases, and cancer. Promoted by this large body of research studies is the view that nanobacteria are not only alive but that they are associated with disease pathogenesis. (Martel and Young, 5549)

Contrast with:

> **Example 2.2**
> Recent evidence [noun] suggests [verb] a role for nanobacteria in a growing number of human diseases, including renal stone formation, cardiovascular diseases, and cancer. This large body of research studies [noun] promotes [verb] the view that nanobacteria are not only alive but that they are associated with disease pathogenesis. (Martel and Young, 5549)

In the example above, a few simple improvements lead to a much more readable statement of the problem. Notice how the published sentences

- lead with a clear subject
- follow immediately with a descriptive verb.

The parts of the sentence that satisfy the reader's basic needs are strongly positioned to give them the information they need as quickly and concisely as possible. The character, "recent evidence," and the action, "suggests" appear within the first three words of the first sentence. Similarly, the second sentence begins right away with the character "this large body of research studies," and follows up immediately with the verb "promotes" to describe the action of those studies. We know the main characters and actions RIGHT AWAY, and we are able to grasp the important subject and activity that the sentence describes without searching around for clues.

2.2 Characters and Actions- Structuring Information, Managing Expectations

In talking about sentences that tell stories, we've already begun to realize the importance of two key terms—Character and Action. We understand narrative best when it is easy to identify the important characters and actions (and along with them, the important subject and verb of the sentence). The character is the main subject or "doer" in your sentence." (Remember: It is not always a person). The action is the thing done. Usually, the action is the verb. All too frequently we bury the most important action in nominalizations. We'll discuss nominalizations in more detail a little later on. For now, it requires no special terminology to see how, in order to make it easy for readers to understand your writing, you should:

- match important actions to VERBS; and
- make important characters into SIMPLE SUBJECTS (see Style 33).

These crucial alignments often dictate changes in the order in which characters and actions appear in a sentence. Instead of:

"Our loss of funding prevented continuation of the research program."

We can write:

"Because **we** lost funding, **we** could not continue the research program."

In the first sentence, "loss" and "continuation" are used as nouns instead of describing what the main character does through the more active "we lost" and "we could not continue" (see Style 36).

2.2.1 Choose Concrete Characters Over Abstract

Notice how difficult it can be to identify the main characters and actions in an introductory sentence:

Shifts in position in recent decades in three bands of fast-moving wind known as jet streams came from a new analysis of weather data that were collected between 1979 and 2001.

Here, by leading with "Shifts in position," an author would effectively emphasize "shifts" as the main character of the sentence. Similarly, the verb that modifies "shifts," "came," appears as the main action of the statement (see Craft 244). Compare this to the sentence as it actually appeared in publication:

"**Three bands of fast-moving wind** — known as jet streams — have shifted position in recent decades, according to a new analysis of weather data that were collected between 1979 and 2001" ("Atmospheric science: Jetting away").

Notice how the important subjects and verbs a) appear early, and b) occur close to each other (see Craft 244).

2.3 Applying the Lessons of Story- The Sentence Level

Readers expect for sentences to deliver information using a certain predictable structure. When writers fulfill readers' expectations, they make it easy for them to process important pieces of information efficiently and effectively. What if it isn't immediately clear what your main subject should be? Ask yourself what the most important action of the sentence really is. Now determine who or what is responsible for that action.

When you put your main character first, you give the reader essential information about the main actors in the drama they will be asked to follow. You also create a context in which the reader can understand what you will go on to say about that character.

2.3.1 On Characters and Actions

In an ideal world, the subject of your sentence will be its main character, and the action of your sentence will be the main verb. Why is this so important? When these two things don't line up, readers experience certain negative effects of the mismatch.

- Readers will judge your prose to be indirect, abstract, complex, dense, and unclear
- Readers have to work harder to translate your words into a story that they can remember
- Readers will have to fill in any missing story elements from their own knowledge
- Readers are more likely to interpret your sentence in a way you did not expect or want

(*LRS 2008 Curriculum*, Actions)

2.3.2 Clear Sentences

Easy-to-understand sentences are not the product of some subtle mystery. We prefer them because we can recognize their key information:

- "As **John** [character] **remarked** [action] earlier..."
- "As **Mary** [character] **argued** [action] . . . "
- "As **our results** [character] **demonstrate** [action]. . . "

This is not to say that your main character must always be the subject of your sentence, or that character's action is always represented by the verb. However, if readers find your writing confusing or unclear, it's a safe bet that one of these things is throwing them off. If your most important character is not the main subject of your sentence, and if that character's most important action is not represented by the sentence's main verb, a good first step is to locate each of these and align them with one another!

2.4 Choosing Characters and Emphasizing Actions

Achieving optimal placement of characters and actions in your sentences is as much about diagnosis and revision as it is about drafting or composition. As Joseph Williams explains in Style: *Ten Lessons in Clarity and Grace*, to transform characters into subjects, you have to know three things:

1. When you haven't;
2. Where to look (for characters); and
3. What to do when you find them (or when you don't) (Style 53).

Williams and Colomb present a step-by-step system for finding and relocating characters. They teach us to

- Skim the first seven or eight words;
- Identify the main characters;
- Locate actions involving those characters;
- Organize your new subjects and verbs into a sentence using conjunctions such as if, although, because, when, how, and why (Style 53-54).

We'll walk through the process using an example here.

2.4.1 Step One: Skim the first seven or eight words.

The introduction of a novel thermal convection cell consisting of half a soap bubble heated at the equator enables the study of thermal convection and the movement of isolated vortices. **Development of thermal convection** at its equator is noted in the soap bubble, which is subject to stratification.

2.4.2 Step Two: Identify the main characters

The introduction of **a novel thermal convection cell** consisting of half a soap bubble heated at the equator enables the study of thermal convection and the movement of isolated vortices. Development of thermal convection at its equator is noted in **the soap bubble**, which is subject to stratification.

2.4.3 Step Three: Locate actions involving those characters

The introduction of **a novel thermal convection cell** consisting of half a soap bubble heated at the equator enables the study of thermal convection and the movement of isolated vortices. Development of thermal convection at its equator is noted in **the soap bubble**, which is subject to stratification.

Above, the main characters are hard to identify, buried among other nouns and not clearly emphasized as the "doers" of the actions.

2.4.4 Step Four: Organize your new subjects and verbs so that the actions are expressed in verbs.

Introductionbecomesto introduce

Developmentbecomesto develop

In the published version from which our less elegant example was derived, the main characters appear early and are described by the main verbs:

"**A novel thermal convection cell** consisting of half a soap bubble heated at the equator is introduced to study thermal convection and the movement of isolated vortices. **The soap bubble**, subject to stratification, develops thermal convection at its equator" (Seychelles, F., et al.).

2.5 Naming a Problem: Nominalizations

Nominalizations are abstract nouns that are derived from either verbs or adjectives.

They often end in suffixes like -tion, -ment, -ence, among others. For example, calculation (from 'to calculate'), finding (from 'to find'), and dependent (from 'to depend') (Style 36).

Verb < Nominalization	Adjective < Nominalization
DISCOVER < Discovery	CARELESS < Carelessness
RESIST < Resistance	DIFFERENT< Difference
REACT < Reaction	PROFICIENT< Proficiency (see Style 36)

Table 2.1

2.6

Your Turn:

As you read the following example, ask yourself:

- How quickly are you able to identify characters and actions?
- What makes it easy or difficult?

"There is disagreement among many experts about the utility of emissions cap-and-trade policies."

Now notice how much easier it is to understand the sentence when we change the order of the main characters and verbs to read:

"**Experts** [important character/"doer"] **disagree** [important verb] about whether **emissions cap-and-trade policies** [second important character] are useful." [a verb and an adjective replace the nominalization "utility"]

Similarly, observe how it clarifies the sentence when we take a nominalization like:

"Our **request** [noun/nominalization] **is** [weaker verb] that you review the data."

And change it to:

"**We** [subject/character] **request** [stronger verb] that you review the data."

2.6.1 The Bottom Line-Writing for the Reader

In order to make your sentences clear and easy to understand, align the main character and action with the main subject and verb.

The moral of the story is: Make sure readers get the story! Characters and actions should

occur early in the sentence. Whenever possible, character and action should correspond with subject and verb. Target and eliminate nominalizations to ensure precise, descriptive verbs, and highlight characters and actions to add impact and increase understanding.

Examples taken or adapted from:

- "Atmospheric science: Jetting away." *Nature*, Vol. 453, No. 7191. (1 May 2008): 5-5. doi:10.1038/453005c. Retrieved 5/6/2008 from http://www.nature.com/nature/journal/v453/n7191/full/453005c.html[2]
- Martel, J. and John D. Young. "From the Cover: Purported Nanobacteria in Human Blood as Calcium Carbonate Nanoparticles." *Proceedings of the National Academy of Sciences*, Vol. 105, No. 14. (8 April 2008): 5549-5554. Retrieved 5/6/2008 from http://www.pnas.org/cgi/content/abstract/105/14/5549[3] .

[2] http://www.nature.com/nature/journal/v453/n7191/full/453005c.html
[3] http://www.pnas.org/cgi/content/abstract/105/14/5549

- Seychelles, F.,Y Amarouchene, M Bessafi, and H Kellay."Thermal Convection and Emergence of Isolated Vortices in Soap Bubbles." *Physical Review Letters*, Vol.100, No. 14. (2008). Retrieved 5/6/2008 from http://scitation.aip.org/getabs/servlet/GetabsServlet?prog=normal&id=PRLTAO001000000141445010000001&idtype=[4]
- Williams, Joseph. *Style: Ten Lessons in Clarity and Grace*. 8th ed. New York: Longman,2005.
- Williams, Joseph and Colomb, Gregory. *The Craft of Argument*. Concise Ed. New York: Longman, 2003.

[4] http://scitation.aip.org/getabs/servlet/GetabsServlet?prog=normal&id=PRLTAO001000000141445010000001&idtype=cvips&gifs=yes%20

Chapter 3

PowerPoint Version of Writing Module One[1]

This Module presents techniques for achieving effective and elegant communication and becoming a better reader of one's own work. The lesson introduces key vocabulary for talking about writing and reviews fundamental principles for editing for coherence and cohesion. Topics include sentence-level editing techniques and focus on the importance of clear narrative, characters, and actions.

Writing Module One: Clear Narrative, "Characters," and "Actions"

This is an unsupported media type. To view, please see
http://cnx.org/content/m17215/latest/WritingModuleOne.ppt

Figure 3.1: Please click on the above link to download the PPT file

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[1] This content is available online at <http://cnx.org/content/m17215/1.4/>.

Chapter 4

Writing Module Two: Problem Statements, Introductions, and Issues of Audience[1]

4.1 Module Two Objectives

- Introduce Problem Statements
- Learn the Five Parts of the Problem Statement
- Apply tips to Introductions, Issues, and Audience

4.2 What is a Problem Statement?

Problem statements lead the reader from a shared context to the perception of a **problem**, and on to a proposed **solution**.

The following examples, though certainly potentially problematic, are not problem statements:

- "The confinement of water molecules in sub-nanometre channels"
- "Insufficient evidence"
- "Difficulty in explaining"

A problem statement does combine elements of the examples above to introduce and approach to a given problem. For example:

The properties of water at the nanoscale are crucial in many areas of biology, but the confinement of water molecules in sub-nanometre channels in biological systems has received relatively little attention. Advances in nanotechnology make it possible to explore the role played by water molecules in living systems, potentially leading to the development of ultrasensitive biosensors. (Mertens, J., et al.)

4.2.1 Recognizing the Parts of a Problem Statement

The example cited above can be broken down into several distinct parts.

- **Status Quo**: "The properties of water at the nanoscale are crucial in many areas of biology
- **Destabilizing Moment**: but the confinement of water molecules in sub-nanometre channels in biological systems has received relatively little attention...

[1] This content is available online at <http://cnx.org/content/m17223/1.1/>.

- **Solution**: Advances in nanotechnology make it possible to explore the role played by water molecules in living systems, potentially leading to the development of ultrasensitive biosensors."

The Craft of Argument emphasizes that Problem Statements are **not**:

- a topic or "subject," i.e. "DNA" or "Clean Energy";
- a summary of what is already known;
- a statement of fact or opinion;
- an explanation, definition, invention, or solution alone.

4.2.2 Acknowledging Problems, Framing Solutions

Don't forget, if you are introducing an **argument**, you are **making a case** for something.

We make arguments to solve problems. Problems can be either conceptual or pragmatic, but they always ask us to **think** or to **act differently**. A concise problem statement motivates the reader and sets the stakes for the argument to follow. Williams and Colomb teach us that problems have a familiar structure:

Problem = Destabilizing Condition + Cost [Negative Effect] or Consequence

In other words, before we can approach a solution, we need to understand and accept that we have a problem.

4.2.3 The Destabilizing Moment

The Destabilizing Moment or Destabilizing Condition is the place where the problem becomes apparent. It often asserts the difference between what **is** – and – what **should or can be**. A good Problem Statement introduces a question and makes us aware of the costs that might result from it. Framed another way:

Problem = Question + Costs or Benefits

In order to acknowledge a problem, we need understand it to have costs and benefits that affect us. As readers and interlocutors, we must be motivated and influenced by those costs-we must accept the problem as something relevant to our lives and concerns. A powerful problem statement will be one for which we want, need, and are able to imagine a solution.

4.2.4 Recognizing Costs

Costs are negative effects that impact or influence your intended audience. Costs can be monetary, but they can also be abstract, emotional, social or logistical. We call it a cost when bad things happen as a result of a certain course of action. Arguments should also consider as potential costs those missed opportunities that can result when decision makers fail to pursue new options and ideas.

4.3 Two Types of Problems- Pragmatic and Conceptual

The problems addressed by argument can be divided into two categories: Pragmatic Problems and Conceptual Problems. Pragmatic problems outline and encourage action. They seek to effect changes in things we do, see, or touch. Pragmatic problems are often the topics of professional proposals, business dealings, or engineering and design solutions. Conceptual Problems introduce, interpret, or investigate an issue or idea. They seek to change the way we think or how we understand the world around us. Conceptual problems are often the topics of academic research, theoretical discussion, and philosophical analysis.

4.3.1 A Pragmatic Argument:

- Recommends a course of action or change in behavior
- Gives evidence to support a certain view of the problem
- Defines shared priorities and common ground between writer and audience
- Provides calculations, and examples
- Asks: What should we do?
- Defines a problem
- Shows what the problem is, does, or means
- Emphasizes the costs or benefits of action
- Proposes a solution

4.3.2 A Conceptual Argument:

Shows the costs or benefits of changing our point of view. The evidence in a conceptual argument often demonstrates how a given approach to the issue can change our perception of the problem. For example:

We usually think of climate change as a bad thing, but global warming could substantially lower heating costs.

Such a framing of the problem of global warming asks not "what should we do?" but rather "What should we think?" To be successful, a conceptual argument needs to demonstrate that something is missing from our understanding. Conceptual argument also has to show that there are costs if we fail to change – or benefits if we succeed in changing— our ideas.

4.4 Revealing Costs and Benefits

Problem Statements should always give readers a clear answer to the question "So what?" Without an explicit statement of why we should care, we cannot get down to the issue of what we should do.

4.4.1 Pragmatic Costs

Pragmatic costs answer the question "So What?" The answer always points to some form of negative effect or undesirable outcome. Readers are motivated by costs when the benefits of action or change outweigh the problems or difficulties of the status quo.

Examples: Pragmatic Costs

- An economic cost
- An intellectual, moral or spiritual cost
- A cost of time or resources
- A loss of power, prestige, or potency
- A disadvantage (real or perceived) that affects an individual, group, company, or population

4.4.2 Conceptual Costs

The consequences of a conceptual problem also answer the question "So What?" In contrast to pragmatic costs, however, they may simply demonstrate that not knowing, understanding, etc., is unacceptable.

Examples: Conceptual Costs

"We will fall behind in the space race."

"We will never know what happened to the dinosaurs."

Notice that in each of these cases, a conceptual problem could easily become a pragmatic problem if the author were to link the lack of knowledge (of the universe, of the dinosaurs) she describes to a practical consequence (compromised missile defense, gaps in understanding of prehistoric times, etc.) of not knowing.

4.5 Structuring Your Problem

You know what you want to write about: DNA, Clean Energy, Climate Change, etc. Now you need to transform your topic into a problem statement. To begin, you can focus the problem by asking yourself the same questions as those to which your audience will also need answers. We'll begin with some pragmatic topics, and use *The Craft of Argument* method to organize them into some problem statements.

I am working on the issue of _____.

- DNA
- Clean Energy
- Climate Change

Why This Topic?

in order to find out how to change _____.

- the diagnosis and treatment of disease
- high levels of damaging emissions
- the rate at which average temperatures are rising

But we still need to know, so what? In the next step, we need to make the cost or benefit clear:

so that you/they/someone can avoid the cost/gain the benefit of_____.

- a disease-free life
- environmental deterioration
- dwindling natural habitats

We can use a similar procedure to develop problem statements for some conceptual topics.

I am working on the issue of _____.

- Nanoparticles
- The Jet Stream
- Primate Behavior

Why this (conceptual) topic?

in order to find out about (why/how/when/what) _____.

- the basic structure and properties of materials
- determining factors in weather
- the social patterns of apes

Here too, we still need to know, "**so what**?" That is, why should we pursue these problems? Whereas pragmatic problems have tangible, "real" costs that we can see or touch, conceptual problems require another step in motivating audiences. For conceptual problems, we need to answer the question "so what?" with an appeal to the reader's **knowledge** or **understanding**. In the case of pragmatic problems, the costs and benefits are likely to be concrete. In the case of conceptual problems, the consequences are usually abstract. In the examples above, this means that the final answers to the question "so what?" appeal to the need to **think** differently:

so that I/we can **understand** better _____.

- the manifold substances that surround us
- cloud patterns and their causes
- family resemblances between humans and our evolutionary predecessors

In the case of conceptual problems in particular, the slippery nature of that all-important question, "So what?" still requires that you find an audience that cares about knowing more, understanding better, or thinking more deeply about an idea or a problem. Depending upon your audience, further support or persuasion may always be necessary.

It is with this in mind that we turn to the five parts of the problem statement. LRS encourages thinking about the parts of argument in order to produce logic that is both easy to understand and easy to acknowledge or accept. By understanding what a given audience will be looking for in the presentation of a problem, we can begin to map out the criteria for what will count as a successful solution.

Your Turn:

Before we move on, take a moment to construct a problem statement using the Craft of Argument formula.

1. I am working on the issue of...
2. in order to find out...
3. (So What?)
4. so that you/they/someone can avoid the cost/gain the benefit of...

4.6 The Five Parts of a Problem Statement

The parts of a good problem statement are linked by logical connections. Those parts break down into the five main elements of

- Status Quo
- Destabilizing Moment
- Question
- Consequences
- Solution or Claim.

Each part of the Problem Statement fulfills key expectations of the audience you hope to persuade. The parts of your problem statement are related to each other in predictable ways, and each part establishes important information upon which your audience will base its judgments.

4.6.1 I. The Status Quo

The Status Quo refers in general **to things as they are**. To persuade people to change their minds or their actions, you must first convince them to reexamine the Status Quo. Stating the Status Quo creates common ground between the writer and the reader and

establishes certain shared information and assumptions. It also helps readers and listeners to place the problem you introduce in the context of your larger argument and their larger experience.

4.6.2 II. The Destabilizing Moment

In general terms, the Destabilizing Moment

- expresses a question or predicament
- motivates a change in thought or action
- introduces a cost
- demonstrates a need
- reveals inadequacies
- assesses difficulties; and/or
- projects benefits (see Craft 48).

The Destabilizing Condition varies slightly in pragmatic and conceptual problems. For a pragmatic problem, the destabilizing condition often introduces a tangible cost. Examples include unforeseen events, changing conditions, or new situations. You can often find the destabilizing condition introduced by words like "but," "however," "actually," "in fact," "alternatively," etc. In the case of a conceptual problem, the destabilizing condition takes the form of something your audience doesn't know or would like to understand better. For readers to care about a conceptual problem, they have to perceive a cost to not thinking or understanding differently. Because conceptual costs are abstract as opposed to tangible, Williams and Colomb refer to them as "consequences."

4.6.3 III. Questions

Questions motivate argument by raising relevant costs. Imagine facing a topic or issue like the one below:

> *"Light absorbers available at present provide far from optimal black-body performance" (Teperik, T.V. et al.).*

You might respond:
"So what? I'm not particularly concerned with "optimal black-body performance."
"Why is that my problem?"
The search for a persuasive and relevant approach to the problem in relation to the needs of a given audience is guided by just such a voice as that which intones the reader's persistent "So What?" In this case, the writer responds:

> *"The need for more efficient absorbers is particularly acute on the microscale, where they can play a significant role in preventing crosstalk between optical interconnects, and also as thermal light-emitting sources" (Teperik, T.V. et al.).*

To which you reply:
"So what? I'm not motivated by those needs, so I'm still not convinced that this is important."
Having failed to find the answer that will satisfy the reader, the writer must try again to present the problem statement in a way that persuades the reader of the urgency of his argument. Remember, this involves establishing the status quo, unsettling it with a destabilizing condition, and proposing an answer or solution. Imagine that the writer responds by adding:

> *"Several efforts have been made in this context to achieve near-total but directionally dependent absorption using periodic grating ... However, the ability to absorb light completely for any incident direction of light remains a challenge" (Teperik, T.V. et al.).*

To which you reply:
"So what?"
And so on, ad infinitum...
Unless the writer can establish a set of stakes—an accounting of the costs and benefits—that can satisfy the reader of the importance of his problem.

> *"Here we show that total omnidirectional absorption of light can be achieved in nanostructured metal surfaces that sustain localized optical excitations. . . . We suggest that surfaces displaying omnidirectional absorption will play a key role in devising efficient photovoltaic cells in which the absorbed light leads to electron–hole pair production" (Teperik, T.V. et al.).*

If I am passionately involved in "devising efficient photovoltaic cells in which the absorbed light leads to electron-hole pair production," then this formulation of the problem has finally convinced me to read further. All of this goes to show that a problem statement cannot be considered finished until the author has established costs and benefits appropriate to the reading audience. We have given a convincing answer to the question, "So what?" when we identify the kinds of consequences that will matter to our readers and illustrate how the potential costs (or benefits) render the status quo unacceptable.

4.6.4 IV. Costs and Benefits as Consequences

We evaluate the potential costs and benefits of our choices and actions every day. As we saw in the previous example, for an argument to sway audiences, readers need to recognize their own priorities and concerns in the costs, consequences, or benefits you present to them. Readers recognize as persuasive consequences those effects that would cause them either to benefit or to suffer in some way.

4.6.5 V. What is the Solution?

The solution is your response to the problem introduced by your claim. It can be a resolution or a proposed resolution of the issues introduced by the problem statement. Especially in business, professional, and technical situations, if you have stated the consequences in terms of costs, the solution should present the benefits of your proposed course of action. You need to answer the question, "How does this solution eliminate the perceived problem?"

Think:

- What does your audience need to know to appreciate the solution you propose?
- What makes it easy or difficult to accept?

Remember: LRS helps you to know what readers need by teaching you to question your own argument!

4.7 Applications for Introductions, Issues, and Audience

As we have seen, good problem statements perform not one but several functions for your argument. They provide background or context for your discussion, they

supply necessary old information and prepare readers for new revelations, they produce audience agreement or "buy-in," and they establish criteria upon which audience will be asked to accept proposed solutions.

4.7.1 Problem Statements and Revision

Even though arguments begin with Problem Statements, we don't always start with a clear idea of how to express the problem. Problem statements themselves benefit from a process of revision. The step-wise development of the problem statement modeled in this discussion is designed to help you take your topic and gradually refine what you want to argue.

4.7.2 Problem Statements and Introductions

The five parts of the problem statement also supply many of the requirements of a good introduction, mapping out the issues and solutions that will later guide the choice of evidence and the course of discussion. For example, what serves as the Status Quo in a Problem Statement later resonates with the Common Ground you will present for your argument— the information orienting your audience to the context of your claim.

4.7.3 Audience

Fundamental to any problem statement is an awareness of what the audience needs to know to follow along with your argument. As you build effective, convincing problem statements out of your topics, you are asking yourself the same questions that your reader will need answered. Who or what? Why? So What? These elements will later guide your choice of evidence, not to mention your reasons and warrants for what you are arguing.

Good problem statements motivate good arguments

- By establishing common ground,

- By placing issues in context,
- By conditioning audience response,
- By establishing specific criteria for agreement, and
- By making the costs and consequences of your argument clear.

Examples taken or adapted from:

- Mertens, J., et al. "Label-free Detection of DNA Hybridization based on Hydration Induced Tension in Nucleic Acid Films." *Nature Nanotechnology* 3 (2008): 301- 307. Web of Science. University of Virginia, Charlottesville, VA. 6 May 2008 http://www.isiwebofknowledge.com.[2]
- Teperik, T.V., et al. "Omnidirectional Absorption in Nanostructured Metal Surfaces."Nature Photonics 2 (2008): 299 - 301. *Web of Science.* University of Virginia, Charlottesville, VA. 6 May 2008 http://www.isiwebofknowledge.com.[3]
- Williams, J. (2005). *Style: Ten Lessons in Clarity and Grace.* (8th ed.). New York: Pearson.
- Williams, J., Colomb, G. (2003). *The Craft of Argument.* (Concise ed.). New York: Addison Wesley Longman, Inc.

[2] http://www.isiwebofknowledge.com./
[3] http://www.isiwebofknowledge.com./

Chapter 5

Powerpoint Version of Writing Module Two[1]

This module presents techniques for achieving effective and elegant communication and becoming a better reader of one's own work. Lessons introduce more vocabulary for talking about writing and review fundamental principles for editing for coherence and cohesion.

Problem Statements, Introductions, and Issues of Audience

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Figure 5.1: Please click on the above link to download the PPT file

[1] This content is available online at <http://cnx.org/content/m17217/1.4/>.

Chapter 6

Writing Module Three: Five Essential Parts of Argument[1]

6.1 Module Three Objectives

- Why Argument?
- The Five Parts of Argument
- Using the Five Parts of Argument
- Assessing and Revising Your Argument

6.2 Why Does LRS View Writing as Argument?

When we disagree about an issue, care deeply about an outcome, or try to convince others of the validity of our approach, we often resort to argument. Argument as it is depicted on television and experienced in times of stress or conflict carries with it many negative connotations of anger, high emotion, and even irrationality. But each of us also makes arguments every day, and in settings that help us become more rational, better informed, and more clearly understood. Arguments help us to gather information from our own experience and that of others, to make judgments based on evidence, and to marshal information toward sound conclusions. Argument is appropriate when we seek understanding or agreement, when we want to solve a problem or answer a question, and when we want others to act or think in ways we deem beneficial, suitable, or necessary. Argument also comes in handy when we seek to convince, persuade, or produce change in our audience, and when circumstances require trust, respect, belief in our evidence or agreement with our reasoning.

Argument is everywhere—on television and radio, in politics and publications, and also in our day-to-day decisions about what to have for dinner, when to schedule the next meeting, and who should walk the family dog. As Colomb and Williams point out, the common notion that argument must be combative is built into our very language: opposing sides "attack," "defend," "hold off," "triumph," "struggle," "crush" objections and "slaughter" competitors. On the other hand, in order to use argument as productive and collaborative communication, we must certainly find a way to transcend the vocabulary of argument-as-war. We must negotiate the audience's needs along with the speaker's agenda.

Argument is also about conversation. Although sometimes we forget, the best arguments are a forum for:

- Obtaining and expressing information
- Airing and sharing assumptions and reasons

[1] This content is available online at <http://cnx.org/content/m17224/1.1/>.

- Establishing common ground
- Coming to mutual agreement

Productive argumentation starts with a problem. It makes us realize why we have an interest in seeing that problem solved. It also claims a solution, convincing its audience of the validity of that solution with evidence and reasons that it will accept.

6.3 Writing and Argument

The LRS focus on argumentation raises writers' and readers' awareness of:

- the importance of audience;
- the intersecting languages of information and persuasion; and
- the reading process through which we share the tasks of critical thinking and decision-making.

Argument structure also helps writers to avoid:

- the formulaic "Five Paragraph Essay" that is often assigned in high school ("Scientific progress is good. Here are several reasons why scientific progress is good. In conclusion, scientific progress is good.");
- the default structure of chronological order (First I set up the lab, then I opened my notebook, then performed the first step in my experiment...);
- simple summary with no "So what"; and
- binary structures where two issues or ideas are described without connection to each other.

6.4 Preparing Your Argument

To prepare to make an effective argument you must first:

- translate your topic into a Problem Statement;
- frame a situation that is debatable or contestable;
- formulate a question about which reasonable people might disagree; and
- find a claim your analysis has led you to assert.

Now you can begin to imagine what it will take to convince your audience. What evidence, methods, or models do they expect? What conventions must you follow to win approval?

6.4.1 Sketch Your Approach

- What do you want to show?
- Why should readers agree?
- Based on what evidence?
- What are some possible alternatives or objections?
- What conclusion will you offer, and why should your readers accept it as valuable?

6.5 The Five Parts of Argument

The questions that lead to your topic, broadly conceived, also steer you toward what *The Craft of Argument* formalizes in the Five Parts of Argument.

- Claims
- Reasons
- Evidence
- Warrants
- Acknowledgement and Response

6.5.1 These correspond to the Williams' and Colomb's Five Questions of Argument:

- What are you claiming?
- What reasons do you have for believing your claim?
- What evidence do you base those reasons on?
- What principle connects or makes your reasons relevant to your claims?
- What about such-and-such potential disagreement/difficulty?

6.6 Constructing Claims

We learn that, at bottom, an argument is just a claim and its support:

REASON therefore CLAIM

or

CLAIM because of REASON.

Your claim is your main point. It should either be clearly conceptual (seeking to change how we think) or clearly pragmatic (seeking to change how we act). Claims should, by definition, require good reasons. Audiences should be able to disagree with your claim and, by extension, to be convinced and converted by your evidence.

6.6.1 More About Claims

- Make sure your readers can recognize why your claim is significant
- Ensure that your claim is clear and concise. Readers should be able to tell what is at stake and what principles you intend to use to argue your point
- Confirm that the claim accurately describes the main tenets of the argument to follow
- Moderate your claim with appropriate qualifiers like "many," "most," "often," in place of "all," "always," etc.

6.6.2 Evaluating Good Claims

- Your solution is possible.
- Your solution is ethical (moral, legal, fair, etc.)
- Your solution is prudent– it takes into consideration both the problem you seek to resolve and the possible ramifications of your proposal.

6.6.3 Reasons and Evidence

Most arguers know from experience that reasons and evidence help to convince audiences. In the simplest terms, reasons answer the question: "Why are you making that claim?" Evidence offers tangible support for reasons. When stating reasons, always be aware of your audience. You will need to choose the reasons that support your evidence that are **also** the most likely to convince your specific readers or listeners. Knowing the general values and priorities of your readers will help you to determine what **they** will count as compelling reasons. Knowing **what kind** of arguments and evidence they will expect from you will guide you in choosing reasons that meet those expectations. Tailor your appeal to the specific needs and acknowledged concerns

of your reading community, because arguments are always audience specific. Evidence should be reliable and based upon authoritative and trustworthy research and sources. It should be appropriately cited, and ample enough to convince. Evidence should also be designed to appeal to your target audience's values and priorities.

6.6.4 When arguing through evidence

- Present evidence from general to specific
- Build on what readers know
- Don't rehearse your own work process; instead, support your conclusions
- Use diagrams, graphs, and other visuals
- Keep support appropriate and simple
- Make sure data is authoritative/expert
- Help the audience to know what is important

6.7 Warrants

The words "reason" and "evidence" are much more familiar to most students of written and oral argument than the term "warrant." But reasons and evidence are most powerful when they are utilized within the structure of argument we have been discussing. To be convincing, the reasons and evidence you present in support of your claim need to be connected through warrants. Warrants express a general belief or principle in a way that influences or explains our judgments in specific cases.

Take, for example, the old saying:

> *"Measure twice, cut once."*

Expressing as it does a general belief or principle— that when you take the time to do a thing properly, you don't make mistakes— the saying provides a viable warrant for an argument like:

> *"It is never a good idea to hurry a task. [Reason]* ***[Connected by the beliefs and assumptions expressed by the warrant to the supporting evidence that]*** *Careless mistakes take longer to fix than it would to do things right the first time." [Evidence]*

Warrants express justifying principles, shared beliefs, or general assumptions. They are the spoken or unspoken logic that connects your reasons to your evidence. Warrants take many forms, but Williams and Colomb emphasize that they always have or imply two parts:

- one articulating a general belief or circumstance
- one stating a conclusion we can infer from applying that circumstance to a specific situation.

Warrants often take the form: Whenever X, then Y. For example, take the commonly held belief expressed by the old saying "When it rains, it pours." The same sentiment and set of assumptions could be described by the general truism "If one thing goes wrong, everything goes wrong." Whether implied or explicit, and whether it takes the form of a general observation or a cultural belief, a warrant states a broader principle that can be applied in a particular case to justify the thinking behind an argument.

6.7.1 More on Clear Warrants

Warrants connect your Reasons to your Claim in logical ways. Whether a warrant is assumed or implied, it is still crucial that the audience be able to recognize your warrant and be able to determine that they agree with or accept your warrant.

6.7.2 Questions for Determining Good Warrants

- Do readers know the warrant already?
- Will all readers think it is true?
- Will they see its connection to this circumstance or situation?
- If they think it is both valid and appropriate, will they think it applies to their family, corporation, or community?

6.7.3 Warranting: A Specific Case

Consider a case when an audience might not accept your argument unless it first accepts your warrant. Take, for example, the following discussion between a mother and her child.

Child (To mother): "I need new shoes."

Mother: "But why, what are your reasons?"

Child:"Because all the other kids have them" X

Child: "Because red is "in" this season and my shoes are blue." X

Mother: "Sorry, but I don't accept your argument that you need new

shoes."

Above all, warrants require common ground. In the example above, the success of the child's argument depends upon his mother's sharing the values and assumptions upon which the argument for new shoes is based.

Productive argument will require that the child find, and address, some common belief or assumption about what constitutes "need." While his mother might not be influenced by peer pressure or style trends, she probably does share a set of values that would ultimately lead to agreement (Common Ground).

Consider a situation in which the child's previous reasons had not convinced his mother to accept his argument, and we can see how compelling reasons and evidence can be developed alongside shared warrants.

Child: "I need new shoes because these ones have holes in them and it's the rainy season." $\surd$

Mother: "Well why didn't you say so?! I agree that you shouldn't be walking around with wet feet!"

We are most likely to accept an argument when we share a warrant. In this case, it is unstated, but implied:

Warrant= When shoes no longer protect the feet from stones and weather, it is time to buy new ones.

There is another way to look at warrants that don't necessarily fit a certain mold. If you believe in a general principle stated about general circumstances (for example, "People who fall asleep at work probably aren't getting enough sleep at home."), then you are likely to link a specific instance (of nodding off at your computer) with a specific conclusion (that you haven't gotten adequate rest). Warrants here can be defined as general truths that lead us to accepted conclusions.

6.8 Acknowledgement and Response

Acknowledgement and Response can be included in your argument in order to

- produce trust
- mediate or moderate objections
- limit the scope of your claim
- demonstrate experience or immersion in a wider field or discipline

Brainstorm useful concessions to potential dissenters by thinking about the difficulties or questions your argument is likely to produce. Within your argument, acknowledgements and responses often begin with: "To be sure," "admittedly," "some have claimed," etc. Concessions allow the writer to predict problems that might weaken an argument and respond with rebuttals and reassessments. Acknowledgement and response frequently employs terms like "but," "however," "on the other hand," etc.

6.9 Using the Five Parts of Argument

After you have sketched out your full argument, and even after you have drafted the entire piece of writing, you should revisit your claim. Ask yourself: Does the claim still introduce and frame the discussion that follows? Are there elements of the claim that need to be revised? Built upon? Eliminated? Explained?

Think:

- Is your claim clear and concise?
- Is it contestable?
- Is there good evidence for your solution?
- Will your audience agree?

6.9.1 Evaluate and Revise Reasons

Consider the specific needs and perspectives of your audience and select reasons that will connect to their priorities and motivations. Make sure that you provide ample reasons for each claim or subclaim you assert. Order your reasons in a way that is logical and compelling: Depending on your argument, you may want to lead with your best reason or save your strongest reason for last. Finally, ask yourself whether any essential evidence is missing from your discussion of the problem.

Think:

- Do your reasons make a strong case for the validity of your claim?
- Can you imagine other reasons that would appeal more strongly to your audience?

6.9.2 Assess and Improve Evidence

If there are authorities to appeal to, experts who agree, or compelling facts that support your argument, make sure you have included them in full. Whether you are speaking from experience, research, or reading, make sure to situate yourself firmly in your field. Create confidence in your authority and establish the trustworthiness of your account.

- Have you consulted reputable sources?
- Have you conducted your research and formatted your findings according to accepted standards?

Think:

- What does your audience need to know to appreciate the solution you propose?
- What makes it easy or difficult to accept?
- What further support might you offer?

6.9.3 Scrutinize Your Warrants

If you can't articulate the connection between what you claim and why you believe the audience should accept your assertion, your readers probably can't either! Good warrants often take the form of assumptions shared by individuals, communities or organizations. They stem from a shared culture, experience, or perspective. If understanding your claim means sharing a particular set of beliefs or establishing common ground with your reader, make sure your argument takes time to do so.

Think:

- Can your audience easily connect your claim to your reasons?
- Are your warrants shared? Explicit? Implied?
- What unspoken agreements do your conclusions depend upon?

6.9.4 Concede and Explain

Gracefully acknowledge potential objections when it can produce trust and reinforce the fairness and authority of your perspective. Try to anticipate the difficulties that different types of readers might have with your evidence or reasoning

Think:

- Where are my readers most likely to object or feel unsettled?
- How can I concede potential problems while still advancing the authority of my claim?

6.10 Assessing and Revising Your Argument

By way of conclusion, we can revisit the issue of method. LRS encourages thinking about the parts of argument in order to produce logic that is

- easy to understand, and
- easy to acknowledge or accept.

Argument structures comprehension by giving readers a framework within which to understand a given discussion. Argument supplies criteria for judgment, and connects reasons with claims through implicit or explicit warrants. Sometimes, crafting a good argument is as simple as asking yourself three basic questions:

- What do you want to say?
- Why should readers care?
- Why should readers agree?

When you set about answering these questions using the five parts of argument, you will hone introductions and thesis statements to make clear and precise claims, make relevant costs and benefits explicit, and connect reasons and evidence through shared and compelling warrants.

Examples taken or adapted from:

- Williams, J. (2005). **Style: Ten Lessons in Clarity and Grace.** (8th ed.). New York: Pearson.
- Williams, J., Colomb, G. (2003). **The Craft of Argument.** (Concise ed.). New York: Addison Wesley Longman, Inc.

Chapter 7

PowerPoint Version of Writing Module Three[1]

This module presents techniques for achieving effective and elegant communication and becoming a better reader of one's own work.

Writing Module Three: Five Essential Parts of Argument

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