Chapter 3 – Area B (Critical Thinking)

Area B of the Core Curriculum requires all students to take a Colloquium course (COLQ). Each of these courses involves the application of critical thinking to a general area of study. This is a universal requirement, regardless of a student’s area of study, which underscores the significance the University System places on it. In fact, in an informal survey of many Gordon professors, most stated critical thinking as one of the areas they want their students to be most improved.

3.1 Critical thinking

The requirement of any COLQ course involves the composition or creation of some critical thinking project. Likewise, there will be elements of critical thinking in all areas of the curriculum. That is what the COLQ course requirement is for. It is helpful, then, to understand what critical thinking really is, even before taking the COLQ course, since ENGL 1101 and 1102 require some element of critical thinking.

Critical thinking involves the establishment of some opinion or some fact, along with the justification for that opinion or fact in a manner that is effective for the readership. If it is helpful, think of it as a simple formula:

\[
\text{Critical thinking} = [\text{OPINION/OBSERVATION}] + [\text{JUSTIFICATION}]
\]

With writing, critical thinking is important because it requires a writer to think carefully about the task of writing – not only about the subject of the essay, but about how effective the essay is and how effectively it is being written. A portion of this chapter is dedicated to those universal rules for critical thinking as they apply to writing. They are applicable to any subject-area of study.

3.2 Invention

Invention is that phase of the writing process where a writer develops a generalized idea of what will go into the essay into a somewhat coherent essay.

NOTE: There is an important difference between invention and composition. An idea exists in a person’s mind and on the written page very differently. This has to do with the fact that writing and reading are linear – the words come to us one after another – whereas in thinking, our thoughts are more of a jumble. For this reason, it is the rare writer who taps her skull and says, “No, I haven’t written it yet, but it’s all up here,” who actually can write it out in a short sitting.

3.2.1 Purpose
Understanding why a writer is writing – what is the intended outcome – is an important early step. There are many factors to consider. Without purpose, the thing would not be written in the first place.

3.2.1.1 Readership

The readership is essentially everyone who will read the essay. Many writers do not take into account how the readership of an essay will affect its final form. Whether they consider the needs and wants of their reader or they don’t, the fact remains that readers think differently, and thinking of how to take advantage of those differences can make an essay more effective.

The readership could be just about anyone – someone old, someone young, someone familiar, someone unknown, one person, more than one person, etc.

| Here is one illustration that helps to understand readership and its importance. Consider the possibility that nothing has ever been written without a readership in mind. Even in that case, if a person writes reminder notes, notes for class, or even in a diary, though that person never intended them to be read, there is still the future self who will look at it – the forgetful person that afternoon, the student who means to review for a test, or the diarist looking back. |
| It is helpful to ask this question, then: If a person sits and writes “Dear Diary…,” to whom is that writer writing? What kind of a reader is that diarist envisioning? |

It can help, in writing for school, to be very practical about readership. For the most part, in college, the readership is limited to the professor. Still, there are circumstances where a student writes for fellow classmates to read. (See Section 3.6, “Collaboration,” for more information about this.)

3.2.1.2 To persuade (vs. to argue)

It is helpful to have some idea of the difference between persuasive writing and argumentative writing. Argument is a form of persuasive writing: to argue is one way available to a writer to persuade his or her reader to a certain point of view. There are other ways to be persuasive, however. One can threaten his or her readers, manipulate their fears and wishes, etc.

| One of the best methods of measuring persuasiveness is this: if, after reading an essay, the readers proceed to think and do exactly as the writer intended them to think and do, then the essay was persuasive. A good deal of persuasiveness has to do with intent |

because if the readership responds differently, then the essay is less persuasive. Either way, no writer can reasonably expect exactly what was intended. A writer might then talk about his or her writing as “particularly” persuasive or “more” persuasive than usual.

3.2.1.3 To inform

There is also a very important distinction between persuading and informing that cannot be overstated. To inform is to communicate information to a reader without attempting him or her to accept some opinion or belief connected to it.

There is an undercurrent of argument even to informing, however, especially in a college setting. Though the purpose of an essay might be to inform a professor the findings of some laboratory project, the student is still persuading the professor that he or she understood the assignment and how to do it and that a good grade is therefore warranted.

3.2.1.4 Length

The required length of an essay is important enough to consider in this section. In writing situations, it might be understood as a minimum page length, word length, or in many cases the length of time allowed to complete the assignment.

This might not seem like a very important factor, but it is actually critical when it comes to establishing a writing topic, as is explained in Sections 3.2.2-3.2.7 of this chapter.

3.2.2 Subject

It’s helpful to understand the subject of an essay. The subject will be the most generalized term to describe what the essay will be about. It is usually expressible as a word or short phrase.

For the remainder of Section 3.2, we will follow the development of a handful of subjects, from basic ideas to suitable essay topics and issues.

Steroids in baseball
Cell phone usage

Often the subject will be handed to you, and other times you will have to come up with a subject all on your own. Either way, a subject is rarely specific enough to make a suitable essay topic. It is merely a place to start. Professional writers dedicate whole books and even their careers in some cases to subjects like these.

3.2.3 Topic
The topic is a continuation of the subject toward an effective essay: it is a more specific area within the subject that is manageable in the space of an essay. Usually a topic is expressible in a phrase.

Consider the following topics as extensions of the subjects listed in Section 3.2.2. There can be many more, but these are included for the sake of discussion.

(On "steroids in baseball"):  
- Causes of steroid usage in baseball  
- Effects of steroid usage on baseball pitchers

(On “cell phone usage”):  
- Cell phone usage in moving vehicles  
- Laws governing cell phone usage

Notice the similarities between the way these potential topics are worded and the way the modes of development later in Section 3.3.1.

3.2.4 Issue

The issue is a feature of invention in argument. It is expressible as a question, and it anticipates a statement of the writer’s opinion on a debatable topic. In the Subject-Topic-Issue scheme, it is only relevant in the case of argument or persuasion.

(On “steroids in baseball”):  
- What are the true contributing causes to steroid usage in baseball?  
- Is steroid usage a problem significant enough to warrant stronger action?  
- Should Congress involve itself in baseball’s steroid problem?  
- Does steroid usage affect position players differently?

(On “cell phone usage”):  
- How should we deal with cell phone usage problems?  
- How is cell phone usage being dealt with?  
- What constitutes “cell phone usage” anyway?

These are only a few examples of the directions a writer could take to address the topics from Section 3.2.3, and the topics themselves will be further examined later in this chapter.

3.2.5 Logic
Logic is thought and reason made valid through structure rather than content. This is a statement that is direct enough and seems to make good sense…until it is carefully examined. The key hang-up for most people in this definition is over what is meant by “structure” and “content.”

The basic idea is that an argument of any kind is convincing because of the way it is “built”: there are certain ways of arranging ideas to make them compelling to any reasonable person. Primarily, logic is built upon premises and conclusions, and conclusions are reached because of the way the premises are stated.

3.2.5.1 Basic forms of reasoning

Perhaps the two most basic forms of logical statement are deductive and inductive reasoning. These forms gain their validity through the arrangement of general and specific statements, and though they are rarely stated as succinctly as they are here, close examination of almost any argument will reveal them in some form or another.

3.2.5.1.1 Deductive

Deductive reasoning involves the statement of at least two accepted ideas generally accepted as facts (two premises, in other words) and a conclusion reached from those facts that might not be generally accepted as fact necessarily.

The classic example of a deductive argument is on Socrates and mortality. It reads thus:

1. All men are mortal.
2. Socrates is a man.
3. Therefore, Socrates is mortal.

This very basic syllogism illustrates the point well enough. Statements #1 and #2 are the premises – the generally accepted viewpoint of the average person, and Statement #3 is a conclusion not as generally accepted (especially by someone like Socrates was). The strength of the argument is in its logic: if a person agrees with the premises, that all people are mortal and that Socrates is a person, then that person is compelled to accept the conclusion that Socrates is mortal. There is no other, logical choice.

3.2.5.1.2 Inductive

Inductive reasoning does not rely so much on compelling proof (because in practice it is usually difficult to get everyone to agree on two or more premises) as it relies on the cumulative effect of many unquestionable facts. It draws generalizations from smaller observations.

Inductive reasoning can be well illustrated with the following example:
1. No green rabbit has ever been observed in nature.
2. Therefore, naturally green rabbits do not exist.

This line of reasoning draws its strength from the fact that humans, in their long history of observing rabbits, have never once observed a rabbit that is green in its natural form. The strength, it must be said, of inductive reasoning is not when the conclusion is stated as absolutely proven as it is when the conclusion is presented as being overwhelmingly likely. The argument about green rabbits is compelling because of the overwhelming evidence against the possibility of a green rabbit existing. A person can read this and say, “that only proves that a green rabbit has never been seen, not that it doesn’t exist,” and that person would be justified in saying so, but it is overwhelmingly likely that green rabbits do not exist.

3.2.5.2 Logical fallacies

Logic requires that the user or writer base his or her argument upon true and positive premises and observations. Otherwise, the argument may seem logical because it is built like a logical argument ought to be built, but it is flawed in its foundation. This is where logic can become very dangerous, and it is why logic must be used responsibly and ethically.

When a writer reasons from false premises and unproven “facts,” he or she is committing a logical fallacy. Communicators have been collecting these fallacies for thousands of years. The following is a list of common logical fallacies, though not all of them nearly. There are literally hundreds.

- **Ad hominem**: attacking the arguer instead of the argument (ethos)
- **Appeal to emotion**: making emotion the foundation of an argument instead of reason (pathos)
- **Begging the question (petitio principii)**: making the conclusion or assertion of an argument its own premise
- **False authority**: using only one authority, of usually dubious credentials (ethos), to support an argument
- **False dilemma**: implying that a reader has only two choices to make, when in reality there are many other options
- **Hasty generalization**: drawing a conclusion before it can be reasonably inferred (induction)
- **Red herring**: distracting a reader by introducing a separate issue from the issue at hand because the new issue is easier to speak to
- **“Slippery slope”**: asserting that a small step will inevitably lead to worse, tenuously related consequences
3.2.6 “So what?”

The main difference between academic writing and conversational argument is the teacher’s role in it: the teacher is there to require that a student ask him or herself why the conversation should be had to begin with. Many call this the “So what?” question.

A writer who consistently asks him or herself “so what?” while writing is taking an important consideration of readership.

3.2.7 Heuristics

It’s also helpful, when formulating the question, to think of the anticipated answer – what kind of question is it?

For one, does the question imply a perfect answer? Many people go on arguing their point of view expecting to fix an unfixable problem. Take the question “What should we have for dinner?” as an example. Many ask this question anticipating the “right” or perfect answer when there really is none. This is where perspective is important because one reply might be “It’s just dinner.”

Think also of Cicero’s four questions: definition, conjecture, quality, and policy.

- **Definition** asks questions about the meaning of a thing. (“How can we define it?” or less formally, “What is it exactly that we’re talking about, anyway?”)
- **Conjecture** asks questions about the existence or extent of a thing, in the past or in the future. (“Could it be considered?” “Was that really the way it happened?”)
- **Quality** asks questions about a thing’s seriousness or severity. (“How serious is it?” “Do we really need to worry about it?”)
- **Policy** asks questions about what should be done about a thing. (“Should it be submitted to some formal procedure?” “Do we need to act on this?” “How do we need to handle it?”)

Think of small changes that make significant differences in your question. Consider the difference between the words could and should as one example. The question “Should I return this to the store?” implies something very different from “Could I return this to the store?” The first question implies quality – would it be a good thing to do? – while the second implies capability and conjecture. Likewise, the word would does something different, but similar.

Also consider the difference between should and is. “Is there a policy for this?” anticipates a yes or no, non-debatable answer, while “Should there be a policy for this?” implies more than one answer and a question of policy.
Many have problems with academic writing when they really shouldn’t. As we see above, most people have the necessary basic skills to do so – and to do so very effectively. Using the methods above, it can be accomplished easily, when done in the right frame of mind.

The problem is that most people tend to overthink an academic assignment. They generally know what they want to write, but not what they want to say about it.

Take steroid usage in Major League Baseball, from the previous example. Many students want to write on that topic. First of all, most want to say that steroids are a problem, that something should be done about them, and that it is unfair or harmful to the game of baseball and to the players themselves; and those people have little more to say beyond that. When applying the methods described above, a student can find new things to say.

For one, it is helpful to understand what question the writer is answering. That answer is a vague answer to a vague question. Probably it is something like “What is your opinion on steroids in baseball?” It implies a perfect answer because there is only one way to answer it (“your opinion”). In reality, the subject is obviously far more difficult and complex than that, and to think otherwise is to oversimplify the issue.

Secondly, if Cicero’s questions are applied, there are many directions in which a writer can go:

- **Definition**: “What do we mean when we say *steroids* anyway?” “Which steroids are the harmful ones?” “What do we mean by *sportsmanship*?”
- **Conjecture**: “Are steroids harmful to baseball?” “Is steroid usage poor sportsmanship?”
- **Quality**: “How serious is the steroid problem?” “Is it serious *enough*?” “With regard to sportsmanship, are steroids significantly *worse* than gambling, corking bats, sharpening spikes, spitballs, etc.?” “What would be the best way to handle it?” “What’s the best way to *manage* it?”
- **Policy**: “What *should* we do about steroids in baseball?” “How should we handle violators of the steroid usage rules?” “How should we test players for steroids?”

### 3.3 Arrangement

**Arrangement**, or sometimes **Organization**, is the phase of the writing process when a writer takes into consideration the order in which he or she places the details of an essay.

#### 3.3.1 The modes of development
One way to think of arrangement is along the lines of the **modes** of development. These are a generalized **way** of approaching a **topic** or an **issue**. It should be remembered that an essay does not necessarily follow only one mode, and the way an idea should be **developed** does not have to follow these modes in a rigid way.

If some of these modes sound a good bit like the **heuristics** from the previous section, that is because they really are very much like the heuristics from the previous section. Also, note that there is a complement to this section in **Section 2.2.2**, “Types of essays and activities in ENGL 1101.”

### 3.3.1.1 Cause and effect

Whenever a writer holds a thing or idea or action alongside another for the purpose of establishing the idea that one thing caused another to happen, then the writer is working in the **cause and effect** mode.

### 3.3.1.2 Classification/Division

Whenever a writer examines a thing or idea or action by some standard or criteria, for the purpose of determining how well that thing or idea or action meets that standard or criteria, then the writer is working in the **classification/division** mode.

This mode is best identified when the circumstance requires a writer to describe a subject in **superlative** or **comparative** terms: key words like “best” or “better,” “appropriate” or “most,” etc., are usually a good indication that the writer is required to write in this mode.

### 3.3.1.3 Comparison and contrast

Whenever a writer holds one thing or idea or action alongside another for the purpose of pointing out something **meaningful** about it, either by pointing out the similarities or the differences (or perhaps both), then the writer is working in the **compare and contrast** mode.

### 3.3.1.4 Definition

Whenever a writer examines a thing for the purpose of understanding what it “really is,” or perhaps of how it should be categorized, then the writer is working in the **definition** mode.

### 3.3.1.5 Description

Whenever a writer examines a thing for the purpose of understanding it by using one or more of the five senses (a sixth sense, second sight, and women’s intuition don’t count), then the writer is working in the **description** mode.
Description can be difficult to distinguish from *definition*. The key difference is that description is based in the practical (how a thing looks, sounds, tastes, smells, and feels like), whereas definition is based in the abstract (how a thing is or should be understood).

### 3.3.1.6 Narration

Whenever a writer describes a sequence of events, for the purpose of helping readers understand what has happened, then the writer is working in the *narration* mode.

Narration is one that can look a lot like *cause and effect*, and there is no reason why the two must be mutually exclusive: it might be that a writer is writing in both modes.

### 3.3.1.7 Process

Whenever a writer describes a sequence of events, for the purpose of helping readers how something happens or how it is done habitually, then the writer is working in the *process* mode.

Process is very like *narration*, in that it is the description of an event-sequence, but process often has a more technical or scientific context to it – it does not involve the development of “characters” and their agendas in a personal way. A good way of thinking of the difference between narration and process is to remember that *narration* involves the telling of a story, and *process* is something more like a lab report or a set of assembly instructions for a baby bed.

In truth, a better term for it might be “pattern description.” Again, there is no reason why an essay cannot be a hybrid of several modes.

### 3.3.2 Functional arrangement

Another way to think of arrangement is through *functional arrangement*. This involves the careful consideration of a reader’s needs to make him or her most receptive to your argument – whether it is to convince the reader to accept your opinion or to convince the reader that you know something or how to do something.

Functional arrangement, then, involves careful consideration of what information will be presented at what point in the essay. Also, it means thinking carefully about what information needs to be given in what order.

### 3.4 Extrinsics

Normally this section would be called “Research,” but research is only a part of a larger subject called extrinsics. **Extrinsics** are those details a writer uses to support an argument or observation that originally occur or occurred in some other context.
3.4.1 Research

Research is the work you do to find information to help you make your essay more effective. This topic is covered extensively in Section 2.6, so refer to that section for much more. In either case, research is the work a writer does to discover knowledge that he or she did not know beforehand or information that he or she did not discover independently.

3.4.2 Personal experience

In certain circumstances, personal experience is very like research. It depends only on the way the details are used. Personal experience is often used to support a point the same way that research is. In some ways, personal experience is like conducting research before you know that that is what you are doing.

There is a question, however, of whether or not personal experience is acceptable as an effective extrinsic detail. Very often it is not. It is usually best to clear it with your professor before you use personal experience as a supporting factor.

3.5 Composition

Composition is that phase of the writing process where a writer is writing that part of an essay that will be a part of the final product.

It does happen often that a writer composes something early on that ends up in the final version that he or she did not expect to be there at the beginning of the process.

3.6 Collaboration

Collaboration is that phase of the writing process where a writer consults with another person on the effective composition of an essay.

There is an important difference, however, between collaboration and collusion. Collusion means receiving excessive help from another to the point that a work can no longer be the product of a single author. Collusion is similar to collaboration, but it is instead a serious form of academic dishonesty.

3.7 Editing and proofreading

This is the phase of the writing process when a writer is addressing the low-order concerns. At this point, whenever during the writing process it occurs, the writer is dealing with issues that have less to do with what the essay is about and more to do with how it is written.

3.7.1 Editing
**Editing** is that phase of the writing process when a writer is making corrections and adjustments to any aspect of his or her writing – from the smallest comma issue to the largest content-related concern.

### 3.7.2 Proofreading

**Proofreading** is that phase of the writing process when a writer is making final corrections before the essay is submitted to be read. These will be the types of errors that a writer will simply miss during the regular part of the writing process – the errors a writer knows to avoid, but did not avoid for one reason or another. This requires a writer to step back from the “big picture,” thinking less of what the essay is *about* and more of how the rules of grammar apply to what has been written.

In many ways proofreading can be the trickiest part of the writing process for some because, for example, if a writer expects a word to be somewhere because she *meant* to put it there, she likely will “see” the word there, but her reader won’t. Some effective strategies for catching proofreading errors include

- reading the essay aloud, to approximate better the experience of a reader who is “hearing” the essay for the first time in his or her mind;
- having someone else do a “cold read,” by seeing the essay for the first time and reading it back to the writer; and
- finishing the editing phase earlier than usual and then taking time shortly before the essay is due to look at it with “fresh eyes.”

### 3.8 Colloquium courses (COLQ 2991, 2992, and 2993)

Among many other things, all that has been said in this section on Critical Thinking goes to establish the purpose and usefulness of critical thinking to the Area B requirement of the Core Curriculum. This Area requires students to choose from one of three courses (COLQ 2991, COLQ 2992, and COLQ 2993) that they believe best suits their career path. These colloquia involve the focus on some topic in one of three areas – Humanities, Natural Sciences/Mathematics, and Social Sciences, respectively. The idea behind it is that students would be presented with challenges to their critical thinking and asked to meet those challenges through strong argument. The benefit of this approach is that it enables students and teachers to narrow their focus.