The infographic inside serves multiple functions: pedagogy for teaching critical thinking, method for doing critical thinking, visual representation of critical thinking, and assessment instrument for critical thinking in any discipline.

More resources, including books for students and faculty that build on this system, can be found at:

TheCriticalThinkingInitiative.org

by

Steven J. Pearlman, Ph.D.
David Carillo, M.A.
Thank you for downloading this document from The Critical Thinking Initiative. The critical thinking infographic that follows in this document serves multiple functions for students and faculty:

- **Visual Representation of Critical Thinking**: Whereas most critical thinking instruments rely exclusively on text, the Target™ instrument offers students the means of conceptualizing their thinking visually as a process toward “centering” their thinking to achieve maximum results from their efforts.

- **Interdisciplinary Conception of Thinking**: This instrument offers a universal means of approach, teaching, doing, and assessing critical thinking. It’s already been tested in disciplines ranging from the humanities, to the social sciences, to STEM, and from high school through graduate school.

- **Metacognition**: The Target and all aspects of The Critical Thinking Initiative work toward helping students become self-aware of the thinking process they already use to engage any problem, and to apply that awareness within the academic context.

- **Instrument for Authentic Assessment**: This instrument offers a simple means for students and faculty to share a common language for and understanding of how their critical thinking can be graded authentically and meaningfully. In fact, it is one of the few instruments that gives visual and textual primacy to the critical thinking act, while intentionally subordinating (though still assessing) other aspects of writing, such as style and correctness.

- **Teaching Method and Thinking Method**: Though a powerful assessment instrument, The Critical Thinking Initiative’s Target Infographic is actually also a process through which faculty can teach students to engage in critical thinking, and a process for how students can do critical thinking on any assignment.

- **Pliable Instrument**: Featured here is just one variation of the infographic. Other versions will soon be available that permit faculty to determine grades numerically, or to use the system without any grades at all.

We hope this document helps you understand how to communicate, engage in, and assess critical thinking with your students. More exercises, explanations, assignments, etc. are available in The Critical Thinking Initiative handbooks.

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I see the source material mostly misunderstood/misrepresented.

I see a summary of the source material’s main ideas.

I see isolated discussion of how/why source material builds ideas.

I see ongoing clarification of the problem.

I see evaluation unrelated to the problem.

I see isolated evaluation.

I see no evaluation.

I see ongoing evaluation.

I find this a-logical.

I see this holistically illogical.

I see a logical premise but ongoing logical fallacies.

I see an ongoing relevant conclusion.

I see isolated relevant conclusions.

I see no conclusions.

I see an either/or perspective.

I see a one-sided perspective.

I see ongoing discussion of multiple perspectives.

I see isolated discussion of multiple perspectives.

I see ongoing discussion of multiple perspectives.

The Critical Thinking Target™ Infographic

Isolated: A small percentage of the text, generally less the one third. More needs to do more than not.

Ongoing: Present in 1/3-to-2/3 of applicable text.

Mastery: Present in more than 2/3 of the text.
# The Critical Thinking Initiative Target

## Prose Categories

### Holistic Scoring Version (Side 2)

<table>
<thead>
<tr>
<th></th>
<th>Organization</th>
<th>Style</th>
<th>Correctness</th>
<th>Formatting, Documentation &amp; Citation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Exceptional</strong></td>
<td>I see that the writer's specific organizational choices enhanced my understanding of his/her ideas.</td>
<td>I see sophisticated sentence structures, diction, and tone that enhance my appreciation of the writer's thinking.</td>
<td>If I see errors, they are isolated and typographical; I see this as virtually error free.</td>
<td>Virtually flawless</td>
</tr>
<tr>
<td><strong>Satisfactory</strong></td>
<td>I can follow how the thinking progresses from the first assertion to the final conclusion.</td>
<td>I see sentence structure, diction, and tone that allow me to understand the writer's thinking.</td>
<td>I see errors in grammar and/or syntax but they do not impede my understanding of the writer's thinking.</td>
<td>Allowing for some errors, the paper largely observes necessary conventions.</td>
</tr>
<tr>
<td><strong>Unsatisfactory</strong></td>
<td>I have difficulty seeing how the thinking progresses from the first assertion to the final conclusion. And/or the paper is essentially a list.</td>
<td>I see sentence structure, diction, and tone that hinder my understanding of the writer's thinking.</td>
<td>I see patterns of error(s) in grammar and/or syntax that impede my ability to understand the writer's thinking.</td>
<td>Errors persist that suggest a lack of understanding of proper formatting.</td>
</tr>
</tbody>
</table>

### Total Score

<table>
<thead>
<tr>
<th>Critical Thinking</th>
<th>U:</th>
<th>P:</th>
<th>E:</th>
<th>Com:</th>
<th>Con:</th>
<th>L:</th>
<th>Holistic Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prose Grades</td>
<td>O:</td>
<td>S:</td>
<td>C:</td>
<td>F:</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Final Grade

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Using the Critical Thinking **Target** for Assessment

When using the *Target* infographic for assessment, the goal is for students to move toward the center or “mastery.” Assess work through the following process:

1. **Work one category at a time**, beginning with *understanding* and moving clockwise to *logic*.

2. **Work from the outside (F) inward**, reading the language of each grade level and keep moving inward until you find the language accurate. Thus, you’d move as far inward in *understanding* as you could before moving to *problem*.
   a. Partial grades are perfectly appropriate, e.g., C-, C, C+.

3. **Determine C, B, and A grades as follows**:
   - **C = Isolated** moments of a given skill, meaning that the skill appears in just one-third of the text or less. For example, a student who engages in some *evaluation* but only does so in the last paragraph or two of a three-page paper, is only doing *isolated evaluation*.
   - **B = Ongoing** presence of a given skills, typically meaning that it appears in one-third to two-thirds of the text. A student who engages in *evaluation* in one-and-a-half pages of a three-page paper is engaging in B-level work.
   - **A = Mastery**, meaning that the skill is present in more than two-thirds of a paper, or arguably as much as it reasonably could.

4. **The categories will overlap**, and they’re designed to do so because thinking is an interrelated effort of the mind. Thus, it’s not only true that you’ll almost never see A-level understanding with D-level evaluation, it’s also true that *multiple skills will be present at once*, meaning that strong *understanding, complexity, and evaluation* could all occur in the same paragraph, even the same sentence.

5. **Genre matters** in that some genres might call for only parts of the *Target* process at one time, and that’s fine! Just adjust your use of the instrument accordingly. For example, some STEM colleagues only want to see *understanding* and *logic* in the literature review portions of lab reports, but they want to see all aspects of the *Target* in the discussion section of the lab report. So they split the grade accordingly. The *Target* is designed to be adaptable to your needs.

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The following section on how to use the Target as a method for teaching and doing critical thinking is excerpted from

The Critical Thinking Initiative Student Handbook
Here’s how you put that cycle to work

What we just described with the umbrella problem is the same process you can (and do!) use for anything. So let’s look at how to use that cycle in order to improve and showcase your thinking process about anything from the simple to the complex, from umbrellas to the Civil War to cancer studies to *Moby Dick*.

**Here’s what it looks like when we slow critical thinking down:**

- We’re only going to take one category at a time. It won’t look like a finished essay until the end.

- Later in the book, we will talk about how you can actually use all of them simultaneously, which is how you think more often and how strong thinkers do it, but at this point we just want to move you step by step.

- What follows could be developed *much more* than we develop it for you, but we just want you to get the gist of how to use this process to enhance your thinking. So if you can think of other things to say or other ways to approach, then that’s great!

So let’s think about these “simple” words from J. R. R. Tolkien:

```
Not all who wander are lost.
```

If the assignment is to “determine if Tolkien is right,” then how do we approach that in a way that involves critical thinking? The last thing we want to do is to look at the world in an either/or way. We don’t want a simple “yes” or “no.” To break free from that …
START BY USING YOUR UNDERSTANDING TO FORMULATE A PROBLEM

To begin, start building a deeper conception of the problem, which in this case is whether or not Tolkien is right: Is it right to say that not everyone we see wandering is lost?

Well, what does it mean to wander? And what does it mean to be lost?

Understanding:

According to the Merriam-Webster dictionary:

- **Wander**: to move about without a fixed course, aim, or goal
- **Lost**: unable to find the way

He also uses the term “not all,” which means that he recognizes that some who wander are, in fact, lost.

Problem:

Putting those terms to use, we formulate the problem:

*Is Tolkien right when he claims that not everyone who “moves about without a fixed course, aim, or goal” is really “unable to find the way.”*
IN ORDER TO RESOLVE THE PROBLEM, **EVALUATE THE EVIDENCE**

Evaluating means to explain why some evidence holds more or less value than other evidence. In this case, that means we need to look at elements of the definitions; that’s all the evidence we have.

In this case, what we see is that the two key terms are at odds with one another: Someone is either moving “without a … goal” or someone is “unable to find the way,” but someone cannot be both without a goal, as in not looking for a way, and also lost. So which of the two impacts our thinking more? Here’s how we explain which piece of evidence impacts us more than the other:

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**Understanding/Problem:** *Is Tolkien right when he claims that not everyone who “moves about without a fixed course, aim, or goal” is really “unable to find the way.”*

**Evaluation:** *Since wandering means to “move about without a … goal,” then a wanderer is not looking to “find the way.” Without looking to “find the way,” a wanderer cannot be “lost.” Therefore, the definition of wandering seems to impact the question more than the definition of being lost.*

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IN ORDER TO BREAK OUT OF EITHER/OR THINKING, ADD COMPLEXITY:

As it stands now, it seems as though we are looking at this from an either/or perspective. Tolkien is right because wanderers do not try to “find the way.” However, good critical thinkers do not use absolutes. So where do we see a need to point out how some of this is still gray? To do that, we need to explain to you where our own thinking isn’t perfect. Here’s how we add that in:

Understanding/Problem: Is Tolkien right when he claims that not everyone who “moves about without a fixed course, aim, or goal” is really “unable to find the way.”

Evaluation: Since wandering means to “move about without a … goal,” then a wanderer is not looking to “find the way.” Without looking to “find the way,” a wanderer cannot be “lost.” Therefore, the definition of wandering seems to impact the question more than the definition of being lost.

Complexity: However, where it becomes problematic is that Tolkien sets up an either/or perspective that is false. Few if any people are either entirely wandering or entirely lost, as in just one or just the other.
DRAW A CONCLUSION(S) BY APPLYING YOUR CRITICAL THINKING BACK TO THE INITIAL QUESTION

Having established a problem, made an evaluation, and recognized the gray area (complexity), we need to answer the initial question about whether or not Tolkien is right. A conclusion does just that: It applies the critical thinking back to the prompt or assignment. Just remember that a conclusion should not be either yes or no; it should speak to the degree to which an answer is possible.

**Understanding/Problem:** Is Tolkien right when he claims that not everyone who “moves about without a fixed course, aim, or goal” is really “unable to find the way.”

**Evaluation:** Since wandering means to “move about without a … goal,” then a wanderer is not looking to “find the way.” Without looking to “find the way,” a wanderer cannot be “lost.” Therefore, the definition of wandering seems to impact the question more than the definition of being lost.

**Complexity:** However, where it becomes problematic is that Tolkien sets up an either/or perspective that is false. Few if any people are either entirely wandering or entirely lost, as in just one or just the other.

**Conclusion:** So if the question is whether or not Tolkien is right that “not all who wander are lost,” while a true wanderer would never be lost, the distinction Tolkien tries to make between either fully wandering or being fully lost is too simplistic to allow a perfect answer to the question.
AND BEFORE YOU FINISH, MAKE SURE YOUR LOGIC IS SOUND:

Finally, go back and check your logic by making sure all of your evaluations and conclusions relate directly back to some piece of evidence. If you look at our work above, you'll see that we only speak about that for which we already see evidence in the text—Tolkien's actual words and the language of our definitions.

We do not say things like “everyone knows that wanderers get lost all the time” or “Tolkien was obviously referencing the television show, Lost.”

While we could have further developed some of our points more and been even more explicit in our connections to the evidence, take note at our general care to make sure we only made claims we could at least justify.

WHICH RETURNS US TO OUR DEFINITION OF CRITICAL THINKING

You should now possess a stronger understanding of what we mean when we say that critical thinking is “justifying a complex conclusion to a problem by understanding, evaluating, and discussing the significance of the assumptions, limitations, interpretations, and validity of the evidence.” It means to work your way through the cycle, from understanding key facets of the issue in order to identify some kind of issue, then evaluate the available evidence in order to form conclusions about that problem. Each step in the cycle helps strengthen your conclusions, and helps other people see the thinking you’ve done to achieve that conclusion.