

### 1) Title of Proposal:

Clearing Muddied Waters: Using Toulmin's Argument Maps to Settle the Sediment

### 2) Abstract:

This session covers a lesson which introduces the students to common problems found in attempting critical thinking per the Paul and Elder text (Paul & Elder, 2010). These problems are alleviated by using a persuasive logic map based on Toulmin's The Use of Argument (Toulmin, 2004). The student is introduced to the differences between an assertion or opinion and a claim and to understanding why a claim is needed to be the basis of action, belief and decision making.

### Keywords:

Persuasive logic, argument mapping, problematic thinking

### 3) Format

- Activity or exercise
- Discussion roundtable (60 minute only)
- General discussion session

### 4) Time Requested:

- 30 Minutes
- 60 Minutes (*Roundtables must select 60 minutes*)
- 90 Minutes

### 5) Planning Details:

*No, a regular classroom works just fine.*

### 6) Learning Objectives or Goals for the Session:

- 1: RECOGNIZE COMMON PROBLEMS IN THINKING.
- 2: UNDERSTAND THE COMPONENTS OF PERSUASIVE LOGIC BASED ON TOULMIN'S THE USES OF ARGUMENT.
- 3: SUCCESSFULLY IDENTIFY WHEN A STATEMENT IS WORTHY OF BEING THE BASIS OF TAKING ACTION, MAKING DECISIONS OR BELIEVING IN.

## 7) Management or Teaching Topics:

This session reinforces the need for management analyses and processes involved in effective problem solving. It can be used as a refresher in more advanced courses or if broken into two parts, an introduction and application in a lower division course. It has been used in a strategy course to enable students to see how their assessments must be based on a more formal process than just listing what one “thinks” about something.

Skillful use of critical thinking is not something that occurs without explicit training (Linn & Shore, 2008) and even understanding it typically requires students who are at the level of maturity found at college (McCollister & Saylor, 2010). Thus, college courses are the best forums for helping students to clarify their thinking processes.

For many this means demonstrating to them “how” to think clearer along with “why” such thinking is important. Our management classes provide the context (why it is important) and some of the analytics involved (how to do some of the analyses) but students are still often stymied on how to even begin. This lesson provides a series of steps and shows how the synthesis of two perspectives results in a stronger and very practical entry methodology.

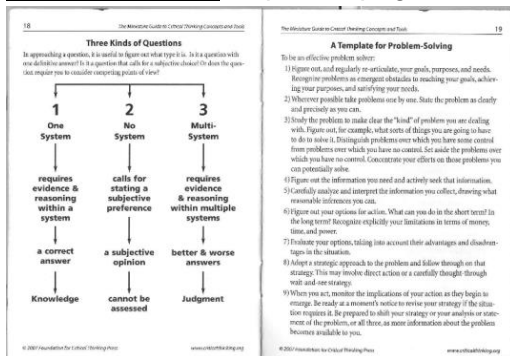
## 8) Session Description and Plan:

Minutes Used	Activity Description
0 – 10	Pair up participants as they enter the classroom. In pairs, the participants will brainstorm problems/questions that are important to them and which need to be addressed. Decide which is the best and then using Paul and Elder problem solving guide, determine the processes needed to answer the “best” question example.
10-11	Ask about questions being considered and progress made on “resolving” them. After several have shared, point out that problems can occur in thinking which would sabotage efforts to answer the questions.
11-23	Mini-Lecture Covers <ol style="list-style-type: none"> <li>1. Ego-centric Thinking</li> <li>2. “Garbage in, Garbage out” syndrome</li> </ol>
23 – 28	Continue problem solving process exercise via a “T.A.P.P.S” process
24 – 31	In Class Exercise Continued (7 MINUTES)

Minutes Used	Activity Description
	<ul style="list-style-type: none"> <li>○ Only Person A talks for 3 minutes about the potential problems that can readily be identified and would negatively impact the process or solution for the identified “Best of” question.</li> <li>○ Only Person B talks for 2 minutes identifying potential ways to solve or get around problems identified by Person A.</li> <li>○ Together for 2 minutes devise a 2 sentence statement of potential problem and resolutions that may be faced as one goes to answer the question.</li> </ul>
31-36	Mini-Lecture Covers <ul style="list-style-type: none"> <li>● Need for persuasive logic in college work</li> <li>● Toulmin’s Argument Model</li> <li>● Implications are justifications for why sources must be cited and the need to not plagiarize.</li> </ul>
36-40	In Class Exercise Continued (4 MINUTES) <ul style="list-style-type: none"> <li>● Revise 2 sentence statements to fit Toulmin’s model.</li> </ul>
40-45	Exercise Debriefing (5 MINUTES) <ul style="list-style-type: none"> <li>● Have each group share their question, the potential problems and resolutions.</li> </ul>
45 - 50	Session debriefing and handout of supporting materials.

## 9) For Activities and Exercises:

**Initial Handout:** Copies of pages from Paul and Elder (2010).



**Handout 2:** Problems that arise in muddled thinking from Paul & Elder (2010)

**The Problem of Egocentric Thinking**

Egocentric thinking results from the unfortunate fact that humans do not naturally consider the rights and needs of others. They do not naturally appreciate the point of view of others nor the limitations to their own point of view. They become explicitly aware of their egocentric thinking only if trained to do so. They do not naturally recognize their egocentric assumptions, the egocentric way they use information, the egocentric way they interpret data, the source of their egocentric concepts and ideas, the implications of their egocentric thought. They do not naturally recognize their self-serving perspective. As humans they live with the unrealistic but confident sense that they have found, or already figured out, the way things actually are and that they have done this objectively. They naturally believe in their intuitive perceptions—however inaccurate, instead of using intellectual standards in thinking; they often use self-centered psychological standards to determine what to believe and what to expect. These are the basic egocentric and psychological standards in human thinking.

"IT'S TRUE BECAUSE I BELIEVE IT" (naïve egocentrism: I assume that what I believe is true even though I have never questioned the basis for many of my beliefs.)

"IT'S TRUE BECAUSE WE BELIEVE IT" (naïve social consensus: I assume that the consensus beliefs within the groups to which I belong are true even though I have never questioned the basis for many of these beliefs.)

"IT'S TRUE BECAUSE I WANT TO BELIEVE IT" (naïve wish fulfillment: I believe in, for example, accounts of behavior that put me or the groups to which I belong in a positive rather than a negative light even though I have not seriously considered the evidence for the more negative account. I believe what "feels good" which supports my other life wish, but does not require me to change my thinking in any significant way, what does not require me to admit I have been wrong.)

"IT'S TRUE BECAUSE I HAVE ALWAYS BELIEVED IT" (naïve self-validation: I have a strong desire to maintain beliefs that I have long held, even though I have not seriously considered the extent to which those beliefs are justified, given the evidence.)

"IT'S TRUE BECAUSE IT IS IN MY SELFISH INTEREST TO BELIEVE IT" (naïve selfishness: I hold fast to beliefs that justify my getting more power, money, or personal advantage even though those beliefs have no rational reasoning supporting them.)

Because humans are naturally prone to assess thinking in keeping with the above criteria, it is not surprising that we, as a species, have not developed a significant interest in establishing and teaching legitimate intellectual standards. It is not surprising that our thinking is often flawed. We are truly the "self-deceived animals."

**Template for Analyzing the Logic of an Article**

Take an article that you have been assigned to read for class, completing the "logic" of it using the template below. This template can be modified for analyzing the logic of a chapter in a textbook.

**The Logic of "(name of the article)"**

- 1) The main purpose of this article is \_\_\_\_\_  
(State as accurately as possible the author's purpose for writing the article.)
- 2) The key question that the author is addressing is \_\_\_\_\_  
(Figure out the key question in the mind of the author when she wrote the article.)
- 3) The most important information in this article is \_\_\_\_\_  
(Figure out the facts, experiences, data the author is using to support his/her conclusions.)
- 4) The main inferences/conclusions in this article are \_\_\_\_\_  
(Identify the key conclusions the author comes to and presents in the article.)
- 5) The key concept(s) we need to understand in this article is (are) \_\_\_\_\_  
(By these concepts the author means \_\_\_\_\_  
(Figure out the most important ideas you would have to understand in order to understand the author's line of reasoning.)
- 6) The main assumption(s) underlying the author's thinking is (are) \_\_\_\_\_  
(Figure out what the author is taking for granted [that might be questioned].)
- 7a) If we take this line of reasoning seriously the implications are \_\_\_\_\_  
(What consequences are likely to follow if people take the author's line of reasoning seriously?)
- 7b) If we fail to take this line of reasoning seriously the implications are \_\_\_\_\_  
(What consequences are likely to follow if people ignore the author's reasoning?)
- 8) The main point(s) of view presented in this article is (are) \_\_\_\_\_  
(What is the author looking at, and how is she seeing it?)

**Criteria for Evaluating Reasoning**

1. **Purpose:** What is the purpose of the reasoner? Is the purpose clearly stated or clearly implied? Is it justifiable?
2. **Question:** Is the question at issue well-stated? Is it clear and unbiased? Does the expression of the question do justice to the complexity of the matter at issue? Are the question and purpose directly relevant to each other?
3. **Information:** Does the writer cite relevant evidence, experiences, and/or information essential to the issue? Is the information accurate? Does the writer address the complexities of the issue?
4. **Concepts:** Does the writer clarify key concepts when necessary? Are the concepts used justifiably?
5. **Assumptions:** Does the writer show a sensitivity to what he or she is taking for granted or assuming? (Insofar as those assumptions might reasonably be questioned?) Does the writer use questionable assumptions without addressing problems which might be inherent in those assumptions?
6. **Inferences:** Does the writer develop a line of reasoning explaining well how s/he is arriving at her or his main conclusions?
7. **Point of View:** Does the writer show a sensitivity to alternative relevant points of view or lines of reasoning? Does she consider and respond to objections framed from other relevant points of view?
8. **Implications:** Does the writer show a sensitivity to the implications and consequences of the position s/he is taking?

**Handout 3: Persuasive Logic and the Toulmin Method**

In many settings (business, scientific, professional, political), you will want to persuade your audience that what you are recommending is the "right" recommendation. In such a circumstance, you need to be both persuasive but also logical. Fortunately, you don't have to figure out how to do this on your own. Stephen Toulmin, an English philosopher, published an argument model (Toulmin, 2004) that has been identified to be inherently logical (Nesbitt, 2012) and inherently persuasive (Straker, 2005)!

"Arguments" are not disagreements but reasoned and articulated thinking that could be relied upon. In Toulmin's perspective, any statement that was proffered was an assertion (an unvalidated opinion). It was untested and potentially unreliable. Only after this statement was supported by evidence and explained with clear reasoning does it become a claim useful for making decisions or taking action. This is a more practical reasoning approach than using formal logic for every day affairs. He used a basic triad of three elements to describe this practical style found in everyday arguments. These three elements are claim, grounds, and warrant.

A **claim** is the point that someone (the arguer) wants you to believe and take action upon. When someone asks, "So what is your point?", they mean that they haven't figured out what it is that you want them to accept as true. Claims come in three types: facts, judgment/value, or policy.

- a. **Factual claims** focus on phenomena that is empirically verifiable (other people can verify by doing the same analysis of the same information or data). "This is..." claim.
- b. **Judgment/value claims** are those that include opinions or subjective evaluations of something else. This may be the result of an expert's opinion (you rely on the expert's knowledge and judgment) or personal preference, which is the "I like... or I believe..." claim.
- c. **Policy claims** means the acceptance of an advocated course of action. "Do this... or Should do this" claim.

**Grounds** are the data or information that provides a “proof of existence”. It can be in the form of evidence, source credibility or analysis and reasoning.

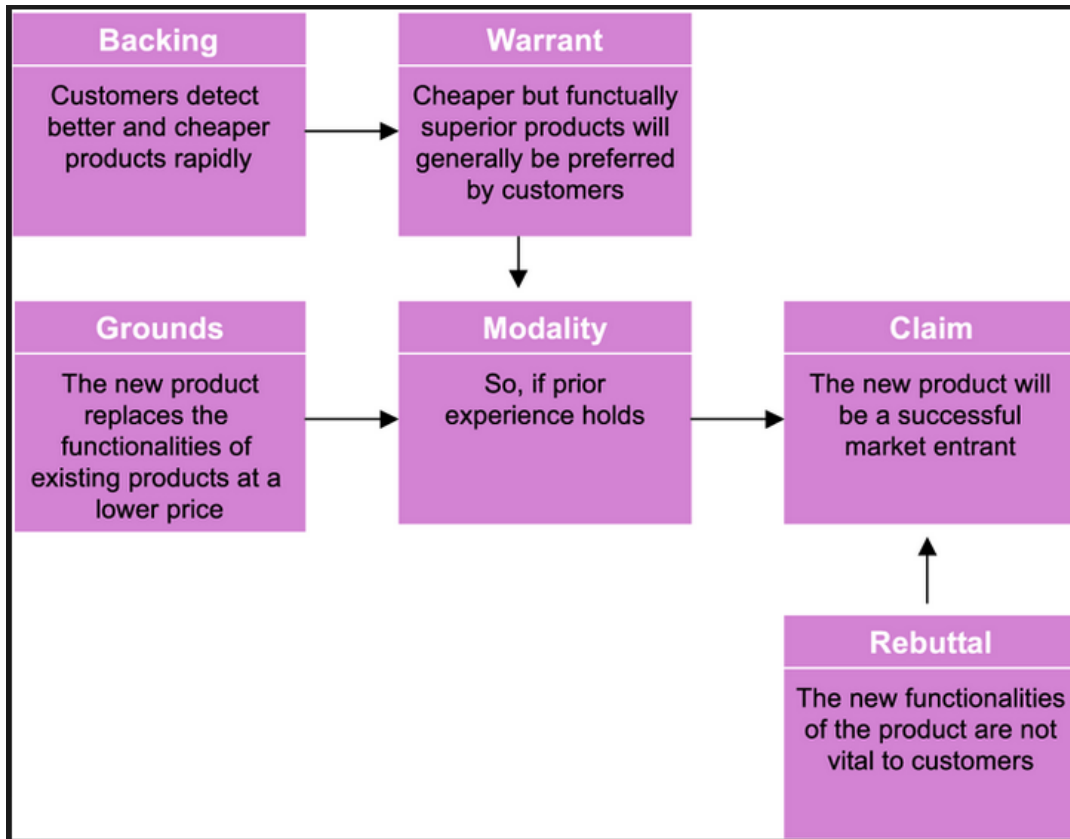
- a. *Evidence* includes facts, statistics, reports or physical proof.
- b. *Source credibility* means that it is information that comes from a formally recognized authority or expert. Formal recognition means that they have advanced degrees in an area, very long term expertise in the area, or are the author of the item that you want to use. Informal source credibility sources include close friends, celebrities or family members. In most instances, informal source credibility is not sufficient.
- c. *Analysis and reasoning* include reasoning tools based upon academic theories. These may be taught in college courses or they may be analytical efforts developed through experiential processes over a variety of contexts that can be supported by those academic theories. This is usually the result of a prior set of grounds-warrants-claim trilogy.

**Warrants** are the link between the claim and the grounds. Some are implicit (not stated but only implied) and others are explicit (clearly stated so that someone else can follow the link made by the arguer). There are four bases for warrants: ethos, logos, pathos and shared values (Nesbitt, 2012).

- a. *Ethos* means that the link is because there is source credibility or an authority figure said so.
- b. *Logos* is based on reason-giving or using inductive or deductive reasoning. For example, reason-giving can be based on reliable signs of the presence of something. A small red bump is a reliable sign of a mosquito bite. Inductive reasoning moves from a specific incident to a general category. This is usually based on a causal argument. Deductive reasoning moves from a general theoretical category to a specific incident.
- c. *Pathos* warrants are based on emotional or motivational appeals. An argument based on analogy is often an example here. In this example, it is important to provide the extent to which there are relevant similarities between the target case and the current set of evidence. There need to be sufficient typical, accurate and relevant similarities.
- d. *Shared values* are values that a group or culture hold in common and have either explicitly agreed to (like the U. S. Constitution) or have implicitly agreed to (like a group norm of bringing donuts if you are late to a meeting.) This is often seen as an application of a principle that is widely agreed upon within the context.

There are supplemental elements that refine the above three base elements. You may need to convince someone that you are using the correct or appropriate link between the grounds and claim. To do this you provide a **backing** or additional justification for the warrant used. **Modality** or **Qualifiers** can be included that state how sure the arguer is about the claim. Finally, including

***rebuttals or reservations*** means that exceptions or limitations to the argument are explicitly acknowledged. A good graphic of this was presented by Eppler and Burkhard (Eppler & Burkhard, 2007).



Once a claim is accepted it can be used as grounds or evidence in further claims making a chain of claims possible as long as each step is appropriately developed and supported.

## **10) Implications for Teaching or for Teachers:**

This session helps students to see how the quality of information and assessments are explicitly used to transform an assertion or opinion into something worthy of being the basis of belief or action. It helps them to transfer some of the logic learned in other disciplines (e.g. math, science) into management courses. The use of the important problem per the student's perspective allows them also to transfer this use out of academic arenas and into their lives in general.

This highly interactive and collaborative classroom structure also enables faculty to see how to transform their lecture into a combined set of mini-lectures and activities for students to use information being conveyed.

## **11) Application to Conference theme:**

This session is an example of actively incorporating collaborative methods into what might otherwise have been a simple lecture with examples and illustrations. This active orientation while not expressly addressing the theme does enable the actual practice of theme. Students will be actively using processes that are inherently collaborative while working on thinking skills that are inherently persuasively logical and based on efforts that should remain stable across settings.

## **12) Unique Contribution to OBTC:**

An overview of this session was presented at a campus workshop on integrating explicit critical thinking into the classroom. The specific demonstration was not provided nor has it been widely disseminated..

## **13) References and/or Additional Materials:**

Eppler, M. J., & Burkhard, R. A. (2007). Visual representations in knowledge management: Framework and cases. *Journal of Knowledge Management*, 11(4), 112-122.

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Nesbitt, L. (2012). *The Toulmin Method*. Retrieved July 30, 2013, from Writing@CSU: <http://writing.colostate.edu/guides/guide.cfm?guideid=58>.

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Toulmin, S. (2004). *The Uses of Argument* (2nd ed.). Cambridge, UK: Cambridge University Press