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## Critical Thinking Skill Development and Information Literacy

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# Critical Thinking Skill Development and Information Literacy



**BY ELISE WALLACE, MLIS  
DANIEL LIBRARY, THE CITADEL  
CHARLESTON, SC**

**GA INT'L INFORMATION LITERACY CONFERENCE  
21 SEPT 2012**

# Why critical thinking?



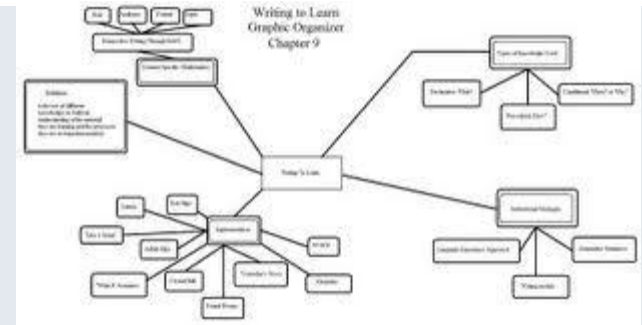
- Value of Education
- Learning how to problem solve, think analytically, and make connections is critical to success in everyday life.
- It takes practice

• (CRITICAL THINKING FOUNDATION, 2011)

# Critical Thinking & Information Literacy



- evaluation of sources
- narrowing a topic
- developing a research question
- determining where the information is likely to be found
- seeing the interconnection between topic, subtopic, and subdivisions of topics – graphic organizer
- distinguishing relevant from irrelevant facts
- etc.

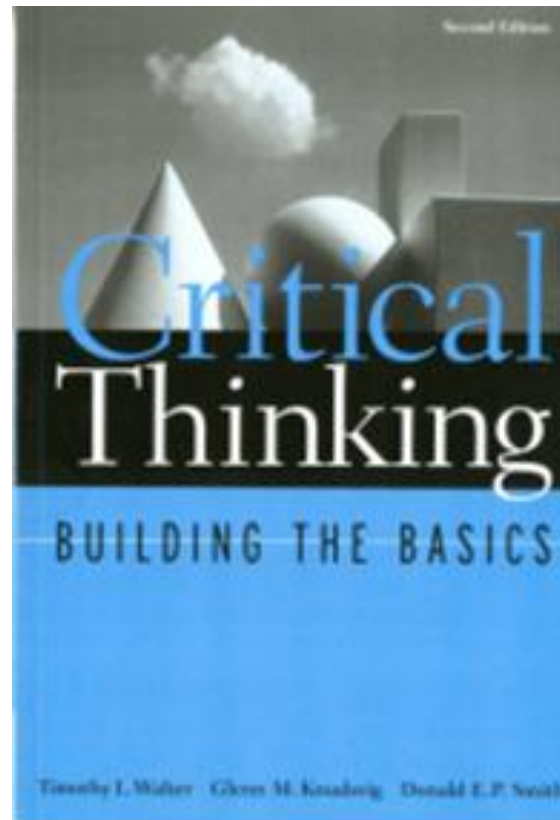


# Information Deficits



**WHAT ARE THE CAUSES?  
WHY ARE STUDENTS COMING TO US  
WITHOUT EVEN KNOWING HOW TO FIND A  
BOOK IN THE LIBRARY?**

# Can exercises develop critical thinking skills?

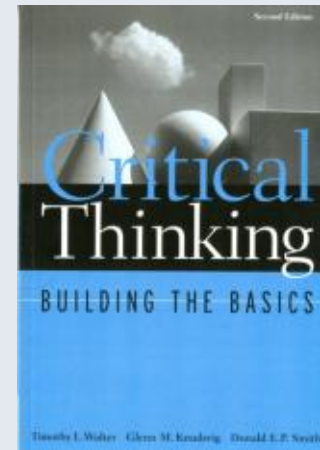


# The Workbook Strategy



- A strategy built on asking and answering several basic questions
- A student workbook designed to develop thinking and learning skills such as analyzing, comparing, and reflecting.
- Exercises

• (SMITH KNUDSVIG, & WALTER 1998)



# TCDR

Topic

Class

Description

Relevance

- What is the **Topic** I must understand?

- of the chapter
- page
- lecture
- discussion
- etc.

- What is the **Class** to which this topic belongs?

- What is the main heading under which this topic is being presented?
- What is the over-arching subject?

- Walter, 2003



# TCDR

Topic      Class      Description      Relevance



- What is the **Description** of the topic?
  - What are the characteristics?
  - features?
  - What are its properties?
  - What does it look like?

- What is the **Relevance** of the topic?
  - Why is it important?
  - What is it used for?
  - Does it explain, or help in understanding something else?
  - How does it affect something else?

**Example:** *A hammer is a tool, consisting of a handle with a heavy “head” placed on one end, used for pounding.* –(Walter, 2003)



A

- the **topic** of message
- the **class** -higher level, main heading
- the **description** - characteristics
- the **relevance** or use

B

hammer

tool

a handle with a heavy head on one end

used for pounding

–Walter, 2003

**Example:** *A chair is a piece of furniture consisting of a horizontal surface supported by three or more legs and used for sitting on.* –Walter, 2003

2003



A

B

- *What is the*
  - **topic**
  - **class**
  - **description**
  - **relevance**
- *used for sitting on*
  - *a chair*
  - *consisting of a flat surface, supported by three or more legs*
  - *a piece of furniture*
- 

- Walter, 2003

**Example:** *These passages name the topic and provide information for one other part of the complete definition.* – Walter, 2003



- The anemometer is used to measure the speed of the wind.

- \_\_\_\_\_ description
- \_\_\_\_\_ relevance
- \_\_\_\_\_ class

✓ relevance

- Although most trout prefer fresh water, they are members of the salmon family.

- \_\_\_\_\_ description
- \_\_\_\_\_ relevance
- \_\_\_\_\_ class

✓ Class

- Walter, 2003

**Example:** *These passages name the topic and provide information for one other part of the complete definition.* – Walter, 2003



- A parking meter is a device that indicates the time spent by a vehicle in a parking space.

\_\_\_\_\_ topic  
\_\_\_\_\_ class

✓ class

- The green coloring matter in plants is called chlorophyll. It is found in the leaves of plants and in the stem.

\_\_\_\_\_ relevance?  
\_\_\_\_\_ description?

✓ Description

- Walter, 2003

# Answering an essay question

- Walter, 2003



- Fascism is an ideology that asserts the supremacy of the nation or race over the interest of individuals or groups. It perceives the state as not merely a government bureaucracy but ..... (Walter, 2003)
- Fascism is the TOPIC, be sure to include the Class, Description, and Relevance is your answer.

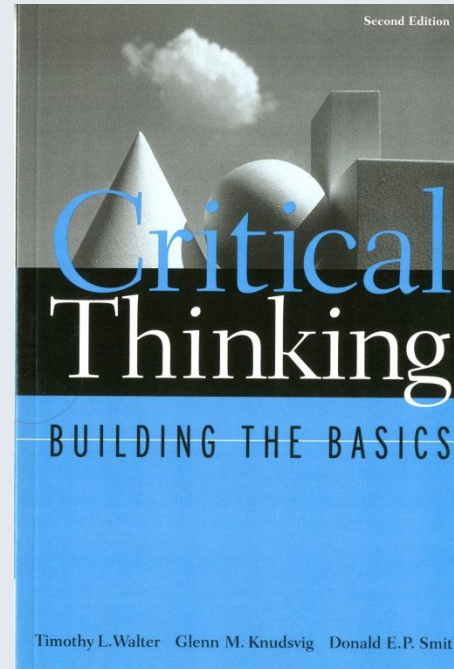
# Method – 75 participants



- First Year Seminar
- 50 students



- First Year Seminar
- 25 students



# Method - assessment



- “The *iSkills*<sup>™</sup> assessment measures students' ability to navigate, critically evaluate, and make sense of the wealth of information available through digital technology..”
- One hour
- Difficulty



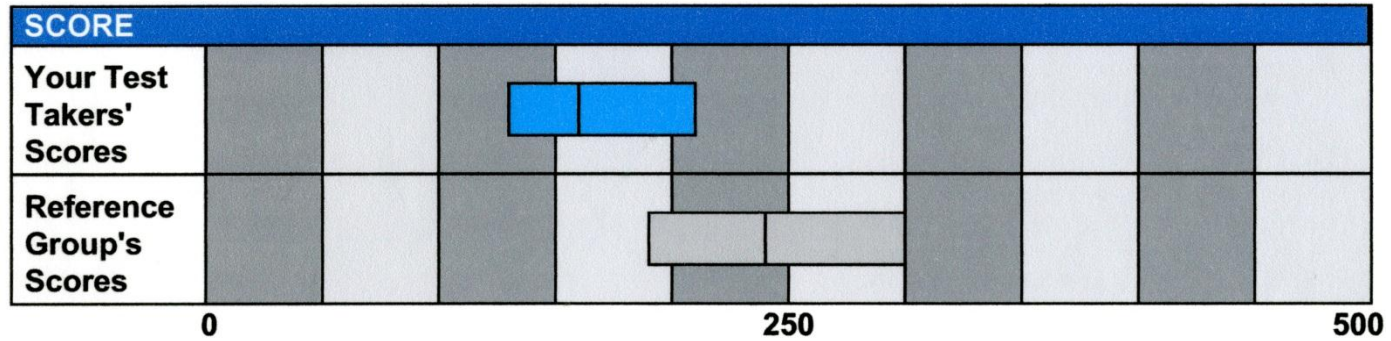


## Method - Results

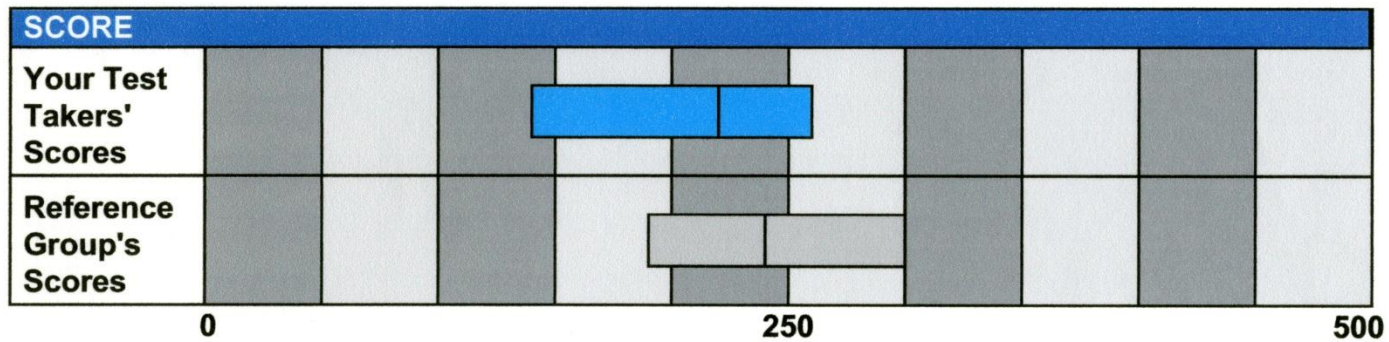


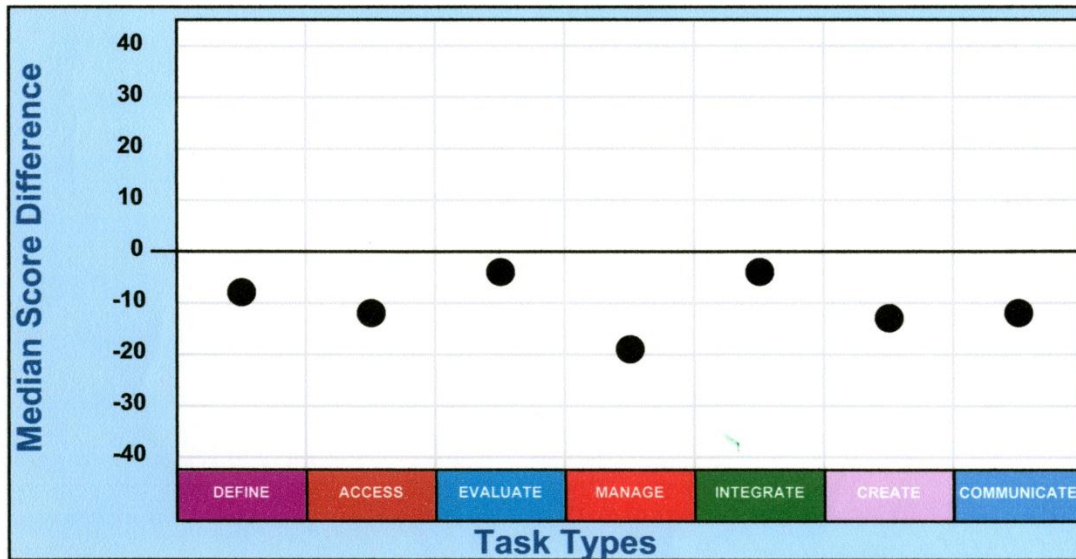
- **14.58%** passed - students that did not use the book passed
- **36%** passed - students who used the book

## Students who did NOT use the CT workbook

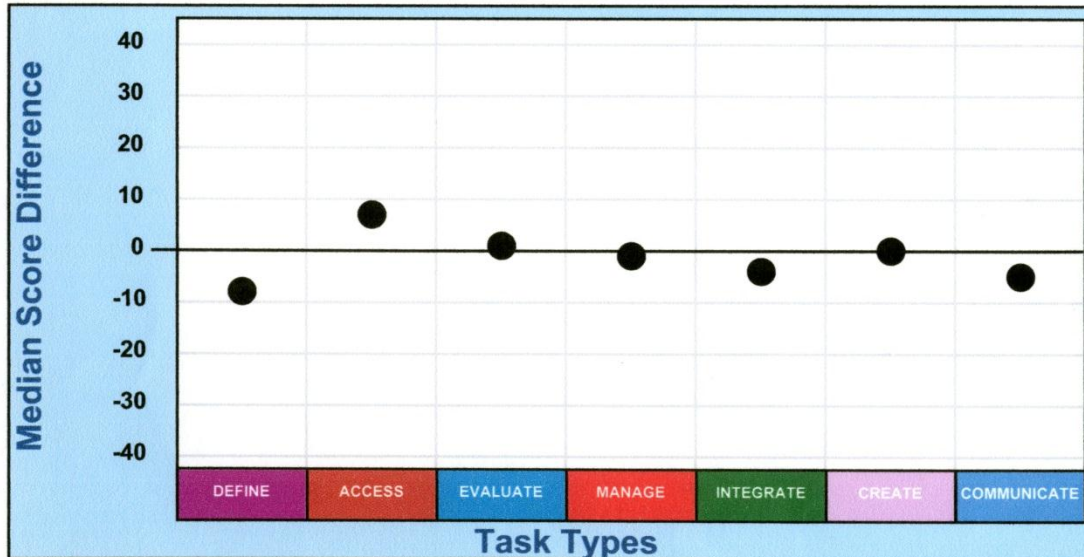


## Students who DID use the CT workbook





- Students who did NOT use the CT workbook scored lower than the median score



- Students who DID use the CT workbook scored close to the median score

# Future Plans



- Repeat this research with a larger student population
- Repeat this research with the entire freshman class using this workbook
- Compare with previous critical thinking assessment

# Acknowledgments



- The Citadel Foundation, The Citadel, Charleston, SC
- Critical Thinking Foundation, 2011.  
<http://www.criticalthinking.org/pages/higher-education/431>
- Educational Testing Service (2012) The *iSkills Assessment* from ETS.  
<http://www.ets.org/iskills/about/content/>
- Opposing Viewpoints Recourse (2007)  
[http://www.wadsworth.com/pubco/serv\\_opposing.html](http://www.wadsworth.com/pubco/serv_opposing.html)
- Terry Mays, Dana DeFebbo, Kathleen Turner, and Tara McNealy – instructors of the Freshman Seminar
- Walter, Timothy L., Glenn M. Knudsvig, Donald E.P. Smith (2003).  
*Critical thinking: Building the basics*. Belmont, CA: Wadsworth.

# Questions?



## **THANK YOU**

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