

**Building a Culture of
Inquiry: Avoiding
Plagiarism through
Teaching Synthesis**

Anne R. Diekema
Sheri Haderlie
Utah State University

Inquiry-based Learning

- ◆ **Problem/question driven**
- ◆ **Seek knowledge for new understanding**
 - ◆ not just fact finding or filling in blanks
 - building on current knowledge
 - ◆ discovering new ideas
- ◆ **Learner** centered & directed
- ◆ **Construct own meaning**
- ◆ **Self reflection**



Moving from Inquiry to Synthesis

- ◆ What to do with all the new ideas?
- ◆ How do ideas become new understandings?
- ◆ What is the process of integrating all the pieces into a new compound whole?
- ◆ How can this process mitigate plagiarism?



image from

<http://doctor-mike.blogspot.com/2012/02/i-often-find-myself-with-patient-who.htm/>

Remember the self-reflection piece in inquiry?

- ◆ Self-reflection is the bridge from gathering, sorting and reading to synthesis
- ◆ Self-reflection is where the **increased** understanding & **new** knowledge happens



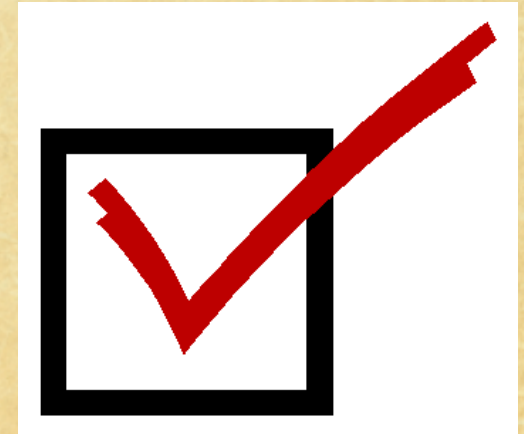
Key Features of Synthesis

- ♦ **Accurate** reporting using different phrases & sentences
- ♦ Can see the **overlap** from sources
- ♦ **Make sense** of multiple perspectives & understand to greater depth
- ♦ Can discuss and reject **multiple** arguments

Jamieson (1999)

What Synthesis IS

- ◆ Cognitively demanding
- ◆ Thinking **beyond** the text
- ◆ Contemplating the **ideas**
(remember self-reflection?)
- ◆ **Inferring** relationships among information from **different** sources
- ◆ Presenting **own point of view**
- ◆ **Analyzing & combining** two or more sources in a **meaningful** way



What Synthesis is NOT

- ◆ Simple summary
- ◆ Classification
- ◆ Critique
- ◆ Compare & contrast
- ◆ Divide or cluster
- ◆ Quotes without commentary



Guided Practice

based on work of Carolyn R. Johnson – Arizona State University West

◆ Context for today

- ◆ One of your family members has been diagnosed with depression. You know very little about depression, the possible causes or treatment options. You decide to do a little background reading to familiarize yourself with this topic so you can provide better support.

Guided Practice

1. Form **teams of 3**

2. Individually read 2 articles

- a) 1 shared article
- b) 1 distinct article

3. Highlight

- a) what seems important or meaningful to you
- b) points you could explain or share
- c) points that you want clarified

8 minutes

Guided Practice

1. Form teams of 3
2. Individually read 2 articles
 - a) 1 shared article
 - b) 1 distinct article
3. Highlight
 - a) what seems important or meaningful to you
 - b) points you could explain or share
 - c) points that you want clarified

8 minutes

Guided Practice

1. Form teams of 3
2. Individually read 2 articles
 - a) 1 shared article
 - b) 1 distinct article
3. Highlight
 - a) what seems important or meaningful to you
 - b) points you could explain or share
 - c) points that you want clarified

7 minutes

Guided Practice

1. Form teams of 3

2. Individually read 2 articles

- a) 1 shared article
- b) 1 distinct article

3. Highlight

- a) what seems important or meaningful to you
- b) points you could explain or share
- c) points that you want clarified

6 minutes

Guided Practice

1. Form teams of 3

2. Individually read 2 articles

- a) 1 shared article
- b) 1 distinct article

3. Highlight

- a) what seems important or meaningful to you
- b) points you could explain or share
- c) points that you want clarified

5 minutes

Guided Practice

1. Form teams of 3

2. Individually read 2 articles

- a) 1 shared article
- b) 1 distinct article

3. Highlight

- a) what seems important or meaningful to you
- b) points you could explain or share
- c) points that you want clarified

4 minutes

Guided Practice

1. Form teams of 3

2. Individually read 2 articles

- a) 1 shared article
- b) 1 distinct article

3. Highlight

- a) what seems important or meaningful to you
- b) points you could explain or share
- c) points that you want clarified

3 minutes

Guided Practice

1. Form teams of 3

2. Individually read 2 articles

- a) 1 shared article
- b) 1 distinct article

3. Highlight

- a) what seems important or meaningful to you
- b) points you could explain or share
- c) points that you want clarified

2 minutes

Guided Practice

1. Form teams of 3
2. Individually read 2 articles
 - a) 1 shared article
 - b) 1 distinct article
3. Highlight
 - a) what seems important or meaningful to you
 - b) points you could explain or share
 - c) points that you want clarified

1 minute

Share with your team

- ◆ Share what you learned
- ◆ Ask questions for understanding
 - ◆ from your own reading
 - ◆ from others' articles
- ◆ Teach each other



Share with your team

- ◆ Share what you learned
- ◆ Ask questions for understanding
 - ◆ from your own reading
 - ◆ from others' articles
- ◆ Teach each other



Share with your team

- ◆ Share what you learned
- ◆ Ask questions for understanding
 - ◆ from your own reading
 - ◆ from others' articles
- ◆ Teach each other



Share with your team

- ◆ Share what you learned
- ◆ Ask questions for understanding
 - ◆ from your own reading
 - ◆ from others' articles
- ◆ Teach each other



Share with your team

- ◆ **Share** what you learned
- ◆ **Ask** questions for understanding
 - ◆ from your own reading
 - ◆ from others' articles
- ◆ **Teach** each other



Share with your team

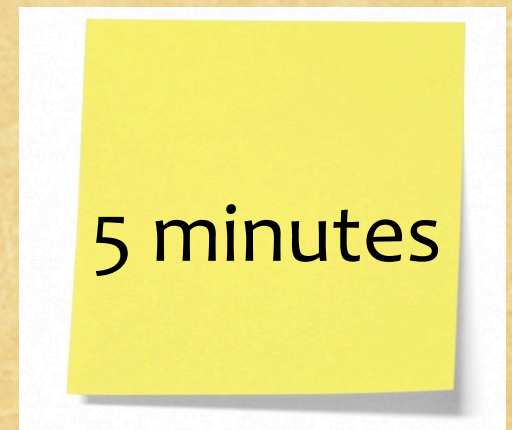
- ◆ Share what you learned
- ◆ Ask questions for understanding
 - ◆ from your own reading
 - ◆ from others' articles
- ◆ Teach each other



Post-its

- ◆ **Work individually**
- ◆ Pull out **key points** – highlighted parts
- ◆ Put article letter in corner of Post-it (**A or B**)
- ◆ **5 Post-its** per article
- ◆ **1 idea per** Post-it
- ◆ **3-5 words max** per Post-it
(practice word economy)

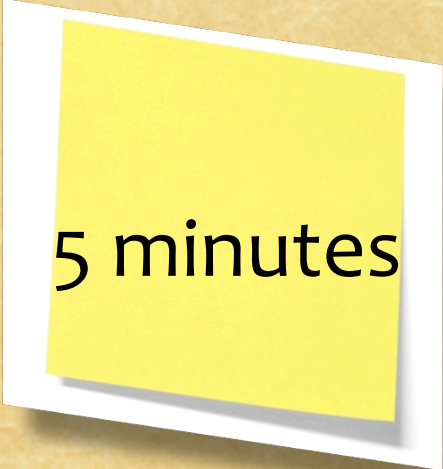
◆ **Write big**



Post-its

- ◆ **Work individually**
- ◆ Pull out **key points** – highlighted parts
- ◆ Put article letter in corner of Post-it (**A or B**)
- ◆ **5 Post-its** per article
- ◆ **1 idea per** Post-it
- ◆ **3-5 words max** per Post-it
(practice word economy)

◆ **Write big**



5 minutes



A

Post-its

- ◆ **Work individually**
- ◆ Pull out **key points** – highlighted parts
- ◆ Put article letter in corner of Post-it (**A or B**)
- ◆ **5 Post-its** per article
- ◆ **1 idea per** Post-it
- ◆ **3-5 words max** per Post-it
(practice word economy)

◆ **Write big**

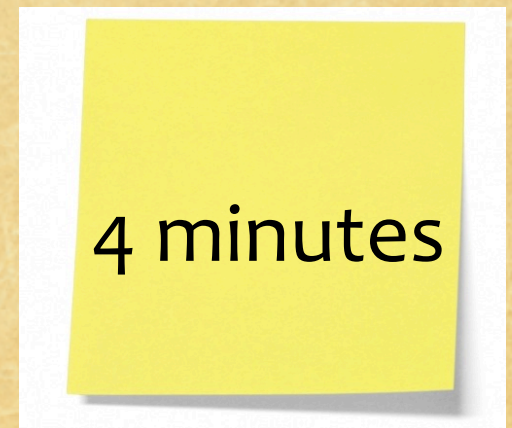


image from

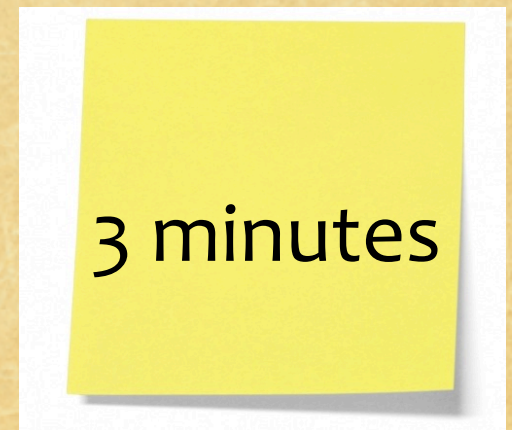
<http://www.iheartyourproduct.com/post-it-note/>

A

Post-its

- ◆ **Work individually**
- ◆ Pull out **key points** – highlighted parts
- ◆ Put article letter in corner of Post-it (**A or B**)
- ◆ **5 Post-its** per article
- ◆ **1 idea per** Post-it
- ◆ **3-5 words max** per Post-it
(practice word economy)

◆ **Write big**



Post-its

- ◆ **Work individually**
- ◆ Pull out **key points** – highlighted parts
- ◆ Put article letter in corner of Post-it (**A or B**)
- ◆ **5 Post-its** per article
- ◆ **1 idea per** Post-it
- ◆ **3-5 words max** per Post-it
(practice word economy)

◆ **Write big**

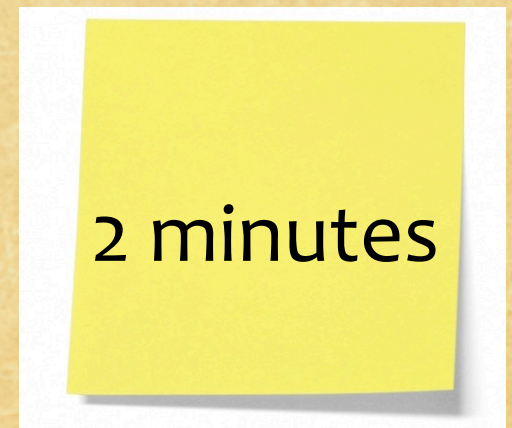


image from

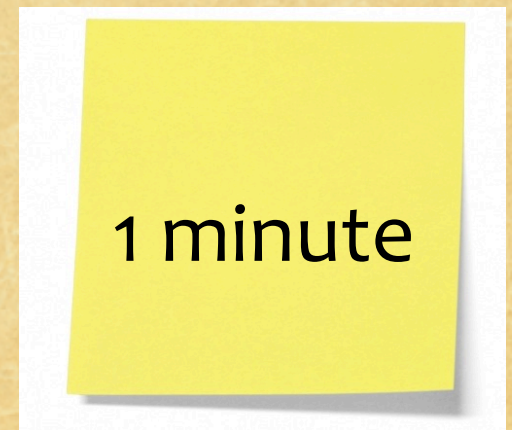
<http://www.iheartyourproduct.com/post-it-note/>

A

Post-its

- ◆ **Work individually**
- ◆ Pull out **key points** – highlighted parts
- ◆ Put article letter in corner of Post-it (**A or B**)
- ◆ **5 Post-its** per article
- ◆ **1 idea per** Post-it
- ◆ **3-5 words max** per Post-it
(practice word economy)

◆ **Write big**



Cluster

- ◆ Work with your team
- ◆ Group like Post-its together
- ◆ **Do not** try to do all of them at once
 - **Start with a few**
 - ◆ Add a few more
 - ◆ Work until all Post-its are in a cluster



Cluster

- ◆ Work with your team
- ◆ Group like Post-its together
- ◆ **Do not** try to do all of them at once
 - **Start with a few**
 - ◆ Add a few more
 - ◆ Work until all Post-its are in a cluster



Cluster

- ◆ Work with your team
- ◆ Group like Post-its together
- ◆ **Do not** try to do all of them at once
 - **Start with a few**
 - ◆ Add a few more
 - ◆ Work until all Post-its are in a cluster



Cluster

- ◆ Work with your team
- ◆ Group like Post-its together
- ◆ **Do not** try to do all of them at once
 - **Start with a few**
 - ◆ Add a few more
 - ◆ Work until all Post-its are in a cluster



Cluster

- ◆ Work with your team
- ◆ Group like Post-its together
- ◆ **Do not** try to do all of them at once
 - **Start with a few**
 - ◆ Add a few more
 - ◆ Work until all Post-its are in a cluster



Cluster

- ◆ Work with your team
- ◆ Group like Post-its together
- ◆ **Do not** try to do all of them at once
 - **Start with a few**
 - ◆ Add a few more
 - ◆ Work until all Post-its are in a cluster



Name your clusters

- ◆ 1 or 2 word nickname
- ◆ Must fit **EVERY** Post-it in the cluster
- ◆ If not, you may need to
 - ◆ find a different, inclusive name
 - ◆ move Post-its to different clusters
 - ◆ create a new cluster



3 minutes

Name your clusters

- ◆ 1 or 2 word nickname
- ◆ Must fit **EVERY** Post-it in the cluster
- ◆ If not, you may need to
 - ◆ find a different, inclusive name
 - ◆ move Post-its to different clusters
 - ◆ create a new cluster



Name your clusters

- ◆ 1 or 2 word nickname
- ◆ Must fit **EVERY** Post-it in the cluster
- ◆ If not, you may need to
 - ◆ find a different, inclusive name
 - ◆ move Post-its to different clusters
 - ◆ create a new cluster



2 minutes

Name your clusters

- ◆ 1 or 2 word nickname
- ◆ Must fit **EVERY** Post-it in the cluster
- ◆ If not, you may need to
 - ◆ find a different, inclusive name
 - ◆ move Post-its to different clusters
 - ◆ create a new cluster



1 minute

Review your information

- ◆ Quick visual picture
 - ◆ a lot of information
 - ◆ very little information
- ◆ Having about the same number of Post-its in each cluster will make for a more balanced end product

If a lot . . .

- ◆ Narrow the topic
- ◆ Use the big clusters as main themes
- ◆ Split the cluster(s)



If very little . . .

- ◆ Drop clusters out as too minor
- ◆ Return to current articles to get more information
- ◆ Return to the gathering phase to find more articles – now with more specific focus



image from <http://www.examiner.com/funny-news-in-national/post-it-note-turns-30-years-old/>

Team Time for Review

- ◆ Work with your **team**
- ◆ **Look** at your clusters
- ◆ **Decide** if too little, too much, or just right



3 minutes

Team Time for Review

- ◆ Work with your **team**
- ◆ **Look** at your clusters
- ◆ **Decide** if too little, too much, or just right



3 minutes

Outline

- ◆ Refine **scope** of presentation
- ◆ Decide on a **sequence** that makes sense
 - ◆ Use clusters for sequencing
- ◆ Organization & sequence are **critical** for a successful presentation
- ◆ Sources should support **your ideas** – not the other way around

Avoid Plagiarism

- ◆ Reread articles – highlight one or two possible quotes per article, maximum
- ◆ Make sure all pertinent points are covered by a Post-it
- ◆ Set articles aside
- ◆ Work from Post-its to start writing
- ◆ After initial writing, check articles for direct quotes for inclusion – to support, not explain
- ◆ Foster peer collaboration

Examples of practice

- ◆ A Visual Approach: Teaching Synthesis
 - ◆ McGregor (2011)
- ◆ Synthesis Writing
 - ◆ Jamieson (1999)
- ◆ Teaching for Synthesis of Informational Texts With Read-Alouds
 - ◆ Cummins & Stallmeyer-Gerard (2011)

A Visual Approach: Teaching Synthesis

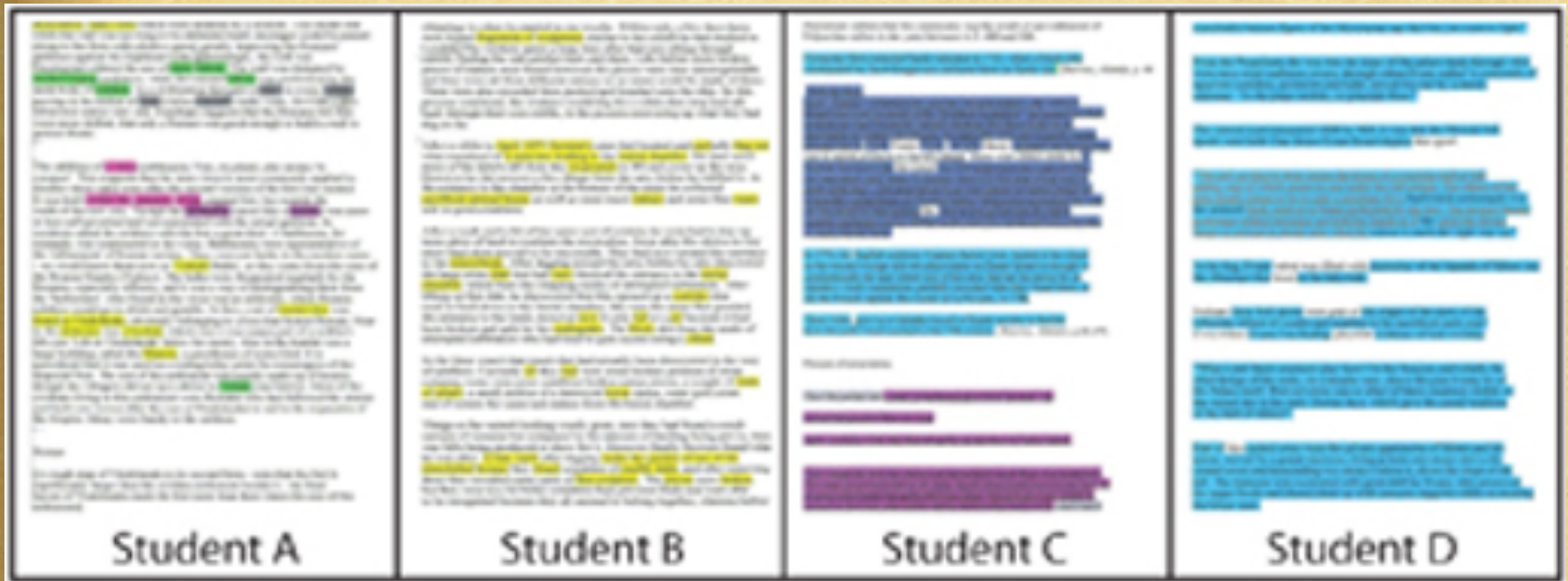
- ◆ Color code of direct matches – text is purposefully blurred

The building was very elaborate and stood as a witness to the city and
about size but also with its detail and beauty. The structure itself was
composed of three sections. Firstly there was the base, which was
rectangular in shape with dimensions approximately 1.5m x 2m and was
about 40 feet high. Inside a vault of the base was where the main chamber
was which housed the two white marble sarcophagi. Then there was the
tower of columns around the base, 76 pillars in all, which supported the
roof. Finally on top there was a roof which was a deep pyramid with 24
steps and at the top of this pyramid top was a glass marble tower of
Marble and bronze, rising to a height of about 10 feet high.



A Visual Approach: Teaching Synthesis

- ◆ Comparison of papers from 4 students



Synthesis Writing

- ◆ Arrange by topic rather than source
- ◆ Background, Thesis-driven, or Literature
- ◆ Self-review / Peer review questions

Jamieson (1999)

Teaching for Synthesis of Informational Texts With Read-Alouds

- ◆ 3rd grade
- ◆ Informational text more cognitively demanding than fiction
- ◆ Teacher reads, students listen
- ◆ Students write and draw

Wrap-Up

- ◆ **What** did you learn?
- ◆ Do you think the Post-it method has promise for **YOUR** center?
- ◆ Has our presentation sparked ideas to take back to your school?

References

- ♦ Colburn, A. (2000). An Inquiry Primer. *Science Scope* (March), 42-44.
- ♦ Cummins, S. & Stallmeyer-Gerard, C. (2011). Teaching for Synthesis of Informational Texts With Read-Alouds. [Article]. *Reading Teacher*, 64(6), 394-405. doi: 10.1598/rt.64.6.1
- ♦ Donham, J. (2010). Deep Learning through Concept-based Inquiry. [Feature ABI: Y FTI: Y; P]. *School Library Monthly*, 27(1), 8-11.
- ♦ Dowell, J. (no date) Synthesis Information. Retrieved from <https://www.msu.edu/~jdowell/135/Synthesis.html>. 1/24/2012
- ♦ Jamieson, S. (1999). Synthesis Writing. *Drew University On-Line Resources for Writers*. Retrieved from <http://www.users.drew.edu/sjamieso/synthesis.html#keyfeatures>. 01/13/2012
- ♦ Johnson, C. R. (2003). *Synthesizing Information*. Workshop materials. Arizona State University West. Glendale, AZ. Retrieved from <http://www.west.asu.edu/johnso/synthesis/synthesis.html#examples>. 01/24/2012
- ♦ McGregor, J. (2011). A Visual Approach: Teaching Synthesis. *School Library Monthly*, 27(8), May-June 2011, 5-7.
- ♦ Murray, J. (2004). Standards Series, Part 5 of 5: Demonstrating Achievement of Standards: Synthesis and Evaluation. Retrieved from <http://www.big6.com/2004/12/14/demonstrating-achievement-of-standards-synthesis-and-evaluation>. 01/24/2012
- ♦ Story-Huffman, R. (2007). Big6 Stage 5: Synthesis of Information Posted in September. Retrieved from <http://www.big6.com/2007/09/30/big6-stage-5-synthesis-of-information>. 01/13/2012
- ♦ Trinkle, C. (2009). Reading for Meaning: Synthesizing. *School Library Media Activities Monthly*, 25(7), 49-51.