



The Link Between Probing Questions and Student Learning

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What do you think?


Why do we ask probing questions?

Why Would I Use Probing Questions to Help Develop Students' Thinking?

“Learning is a consequence of thinking and students' understanding of content increases when they think through and with the concepts and information they are studying”

(Ritchhart & Perkins, 2008)

What Is Visible Thinking?

- Effective thinkers externalize thoughts through **speaking, writing, drawing, or some other method**
 - They can then **direct and improve** those thoughts
- 

Visible Thinking

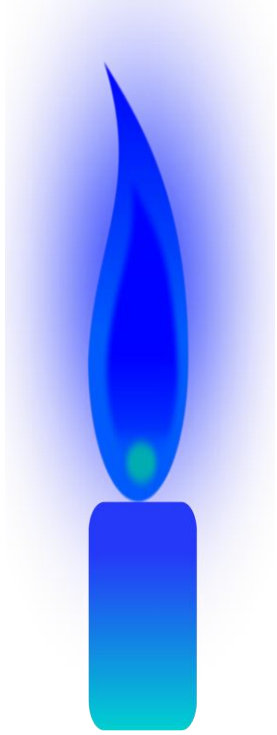
Student learning increases when thinking
is made visible!

(Perkins & Ritchhart, 2004; Perkins, Tishman, Ritchhart, Donis, & Andrade, 2000)

How Are Visible Thinking and Learning Connected?

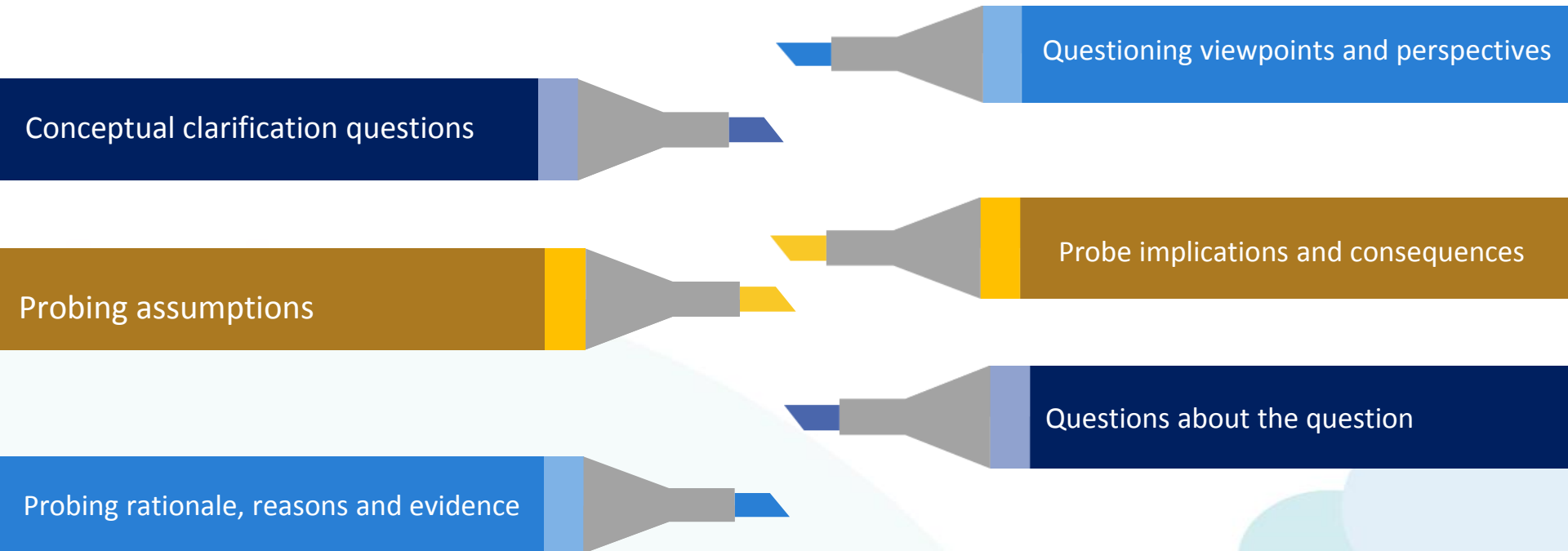
By making thinking visible, students are able to internalize principles, construct specific inference rules for solving problems, and become aware of misunderstandings and lack of understanding, all of which result in learning.

(Franke, Megan, Webb, & Chan, 2007)

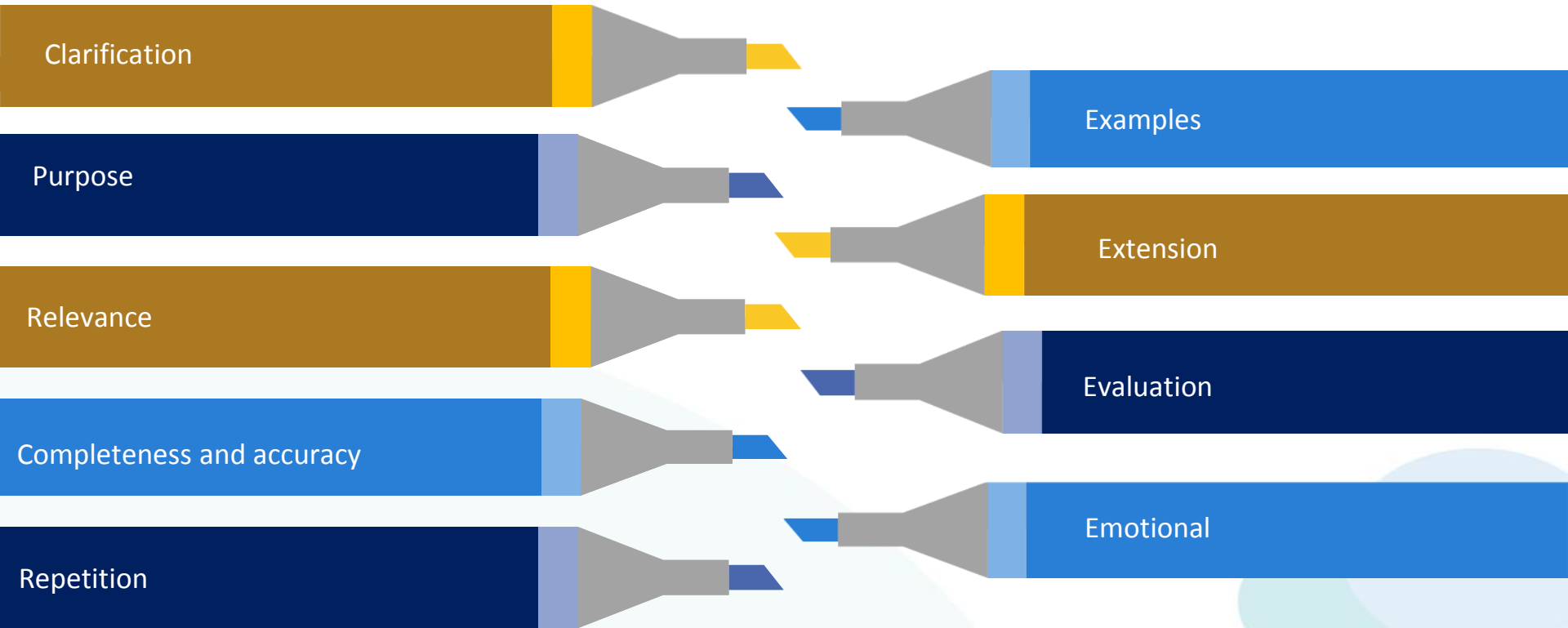
A stylized illustration of a lit candle. The candle is a solid blue rectangle. Above it is a blue flame with a yellow-orange base, surrounded by a soft, glowing blue aura. The entire image is set against a white background.

“Education is the kindling of a
flame, not the filling of a vessel.”
Socrates

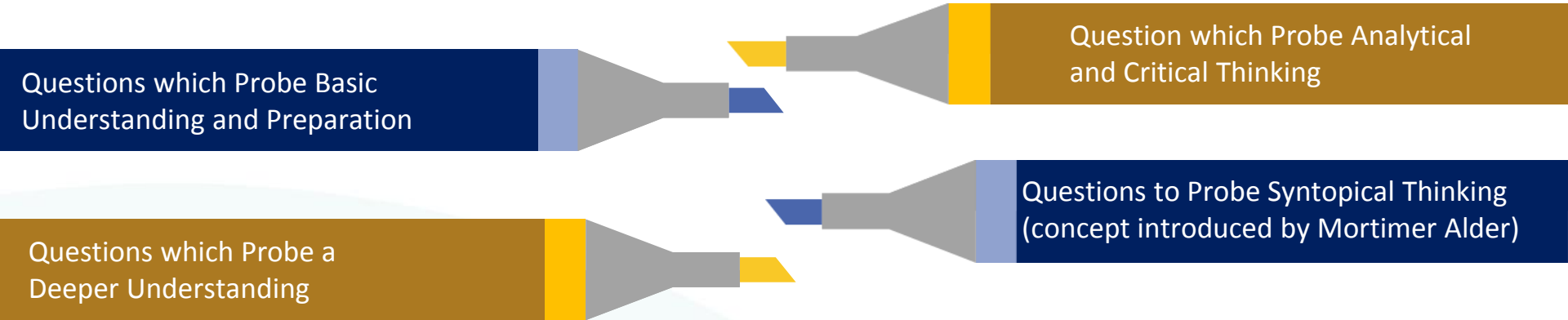
6 Types of Questions Socrates Asked Pupils



Questions Based On Student Response and Teacher Intent



Questions To Help Student Think Critically About Reading



Probing rationale, reasons and evidence

Question
School

3-2 | Social Studies 790L - Being a Citizen

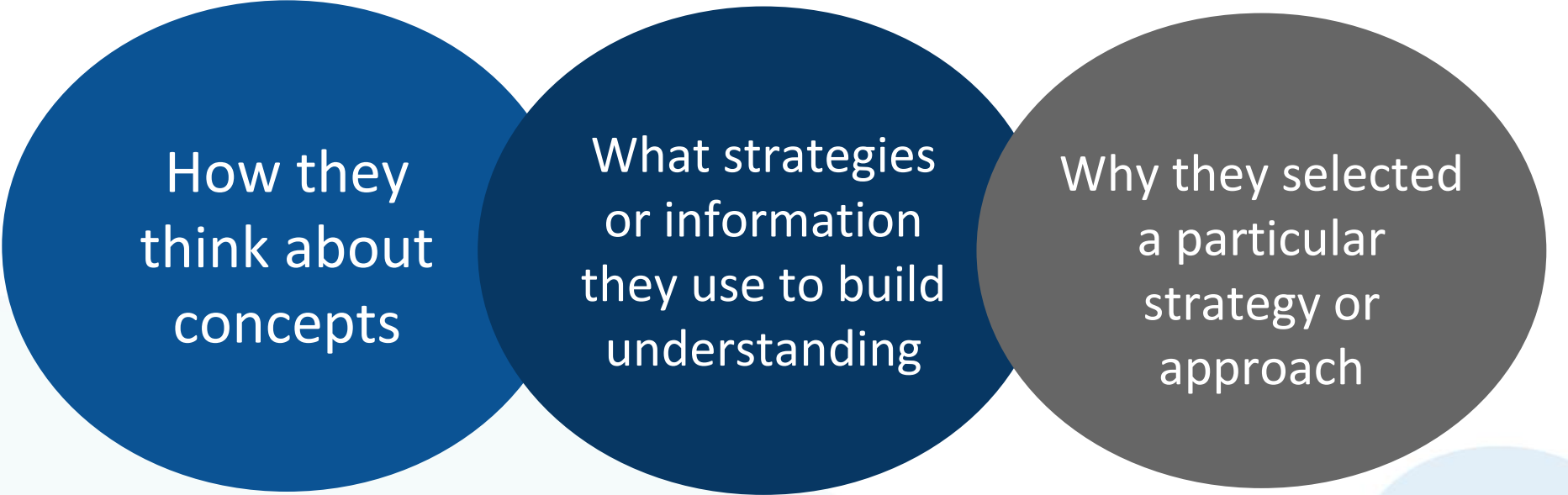
[illegible]

A citizen is a person who is born in a country. People who are born in one country can also become a citizen of another country.

Every country has its own rules and steps for people to become citizens. A country's government decides the rules and steps. Being a citizen also means that you have to follow certain rules and do certain things for the country.

What Should a Citizen Do?

Build Critical Thinking: Articulate and Illustrate



How they
think about
concepts

The diagram consists of three overlapping circles arranged horizontally. The leftmost circle is a medium blue color and contains the text 'How they think about concepts'. The middle circle is a darker blue color and contains the text 'What strategies or information they use to build understanding'. The rightmost circle is a dark gray color and contains the text 'Why they selected a particular strategy or approach'. The circles overlap in the center, creating a Venn diagram-like structure. In the bottom right corner, there are faint, light blue decorative circles.

What strategies
or information
they use to build
understanding

Why they selected
a particular
strategy or
approach

Research Tells Us...

Notational systems, specialized vocabulary, and various technological and other tools also free up memory for more complex tasks.

(Perkins, Tishman, Ritchhart, Donis, & Andrade, 2000)



Individualized Instruction






Can Utilize Probing Questions



ILP Summary



Strand	Skills Complete	Skill Level	Score	Total Time
Grammar/Usage/Mechanics	0		-- ●	00:00:00
Listening/Speaking/Viewing	0		-- ●	00:00:00
Reading	0		-- ●	00:00:00
Study Skills	0		-- ●	00:00:00
Word Analysis	0		-- ●	00:00:00
Writing	0		-- ●	00:00:00
Writing Process	0		-- ●	00:00:00

Assignment	Type	Create Date	Average	ToT
 Informational Text Level 6	CCSS NWEA Web Edition	08/31/2016	--	00:00:00
 Literature Level 5	CCSS NWEA Web Edition	08/31/2016	--	00:00:00
 Vocabulary Acquisition and Use Level 6	CCSS NWEA Web Edition	08/31/2016	--	00:00:00

Assigned ▼		All Strands ▼		Units	
Unit		Grade	Status	Percent	Total Time
Understanding Making Inferences	Unit: 618	6	<input checked="" type="radio"/> Assigned <input type="radio"/> Skipped	-	00:00:00
Identifying Main Idea and Details in a Paragraph	Unit: 614	6	<input checked="" type="radio"/> Assigned <input type="radio"/> Skipped	-	00:00:00
Activity		Status	Percent	Total Time	Date Completed
Mini-lesson		<input checked="" type="radio"/> Assigned <input type="radio"/> Skipped	-	00:00:00	-
Advertising - Kenny the Snowman		<input checked="" type="radio"/> Assigned <input type="radio"/> Skipped	-	00:00:00	-
Main Idea - Man's Best Friend		<input checked="" type="radio"/> Assigned <input type="radio"/> Skipped	-	00:00:00	-
Advertising - Spills & Thrill Theme Park		<input checked="" type="radio"/> Assigned <input type="radio"/> Skipped	-	00:00:00	-
Main Idea - Golf Pro		<input checked="" type="radio"/> Assigned <input type="radio"/> Skipped	-	00:00:00	-
Quick Quiz		<input checked="" type="radio"/> Assigned <input type="radio"/> Skipped	-	00:00:00	-
R. Discovering Main Idea and Details		<input checked="" type="radio"/> Assigned <input type="radio"/> Skipped	-	00:00:00	-
R. Main Idea - A Man of Courage		<input checked="" type="radio"/> Assigned <input type="radio"/> Skipped	-	00:00:00	-
Summarizing Fiction and Nonfiction	Unit: 620	6	<input checked="" type="radio"/> Assigned <input type="radio"/> Skipped	-	00:00:00
Skill Builder - Mastering Identifying Point of View	Unit: 546	6	<input checked="" type="radio"/> Assigned <input type="radio"/> Skipped	-	00:00:00
Using Signal Words to Compare and Contrast	Unit: 623	6	<input checked="" type="radio"/> Assigned <input type="radio"/> Skipped	-	00:00:00
Skill Builder - Reading Comprehension 6-2	Unit: 581	6	<input checked="" type="radio"/> Assigned <input type="radio"/> Skipped	-	00:00:00

Understanding Making Inferences

Learn



An **inference** is something you can figure out from information given to you. When reading, you can use what you already know and what the author says to **make inferences**.



Mom cried when she opened Danny's gift. Of all the gifts Danny had given her, this was the best - her own membership to an art museum.

Inference:

Mom is happy with Danny's gift because she likes to go to the art museum.

Research indicates that notational systems, specialized vocabulary, and various technological and other tools also free up memory for more complex tasks



Screen
1 of 3



< Notepad



1. What do I already know? People cry not just when they are sad some cry when they are happy or something is done for them that is really special
2. What does the author say about the gift? Was the best Danny had ever given
3. What is the inference?



Activities

[Advertising - Kenny the Snowman](#)

[Main Idea - Man's Best Friend](#)

[Advertising - Spills & Thrill Theme Park](#)

[Main Idea - Golf Pro](#)



Quick Quiz



Review Activities

[Discovering Main Idea and Details](#)

[Main Idea - A Man of Courage](#)



Projects

[The Great Debate](#)

[Main Idea - A Man of Courage](#)

Skills

Main Idea, Details, and Context Clues



Why did ancient stargazers name the constellations?

Over two thousand years ago, ancient stargazers noticed that a band of stars circles the earth. They called this band the zodiac. The zodiac is made up of twelve constellations or groups of stars. Ancient stargazers noticed that these constellations appeared in the night sky from month-to-month and from year-to-year. The names given to the constellations were chosen because stargazers saw patterns in

Because they saw patterns in the stars.

Because they had favorite animals.

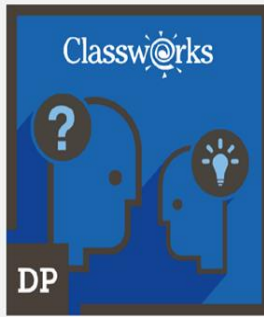
Because the stars were bright.

Because the stars disappeared.



What's the Link Between Probing Questions and Learning?

- Classroom activities become more learning oriented rather than work oriented (Marshall, 1988)
- Students who previously believed they lacked a voice or that their ideas weren't valued, including students with learning disabilities, participate more actively and confidently (Ritchhart, Palmer, Church, & Tishman, 2006);
- Students' awareness of thinking strategies dramatically increases at all grade levels (Ritchhart, Hadar, & Turner, 2008)



The Link Between Probing Questions and Student Learning

Educator uses probing questions and encourages a culture of discourse in their classroom, resulting in increased overall learning gains.

Made by Classworks

Learn, Share, and Grow with fellow teachers

[Get Started](#)

<https://bloomboard.com/microcredential/view/24b86596-b8be-11e5-9912-ba0be0483c18>



Digital Promise

Accelerating Innovation in Education



Supporting Research

Cotton, K. "Classroom Questioning." n. date. n. pag. North West Regional Educational Laboratory. Web. 9 Dec. 2015.

<https://www.learner.org/workshops/socialstudies/pdf/session6/6.ClassroomQuestioning.pdf>

Ritchhart, Ron, and David Perkins. "Making Student Thinking Visible." *Educational Leadership* 65.5 (2008): 57-61. Web. 9 Dec. 2015.

<http://bit.ly/1YiChM2>

Franke, Megan L., Webb, N., and Chan, A. "Eliciting Student Thinking in Elementary School Mathematics Classrooms." (2007): n. pag. <https://www.cse.ucla.edu>. Web. 8 Dec. 2015.

<https://www.cse.ucla.edu/products/reports/R725.pdf>

Resources

“Probing Questions.” Changingminds.org, n.d. Web. 9 Dec. 2015.

http://changingminds.org/techniques/questioning/probing_questions.htm Source provides examples of probing questions based on student responses and teacher intent.

“Probing Questions to Help Students Think Critically about Reading.” (n.d.): n. pag. www.ramapo.edu, 2013. Web. 10 Dec. 2015.

<https://www.ramapo.edu/crw/files/2013/03/64-8.pdf> Examples of probing questions designed to help students think critically about Reading.

Classworks

<http://www.classworks.com/> Teacher-led reading and math instruction designed with the depth and rigor required by today’s standards. Includes interactive, engaging activities that reinforce foundational knowledge and build conceptual understanding for students. Built to support teachers during whole group, small group and individual instructional practices.

Sahin, Alpaslan. “The Effects of Types, Quantity, and Quality of Questioning in Improving Students’ Understanding.” (2007). <http://oaktrust.library.tamu.edu/> Web. 9 Dec. 2015.

<http://bit.ly/1O9d2XO>