

**Inquiring Minds Learn to Read and  
Write:  
Using Inquiry Strategies to Promote  
Student Reading, Writing and Discussion**

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Based on materials from  
Wilhelm, Jeffrey ENGAGING READERS AND  
WRITERS WITH INQUIRY (Scholastic, 2007)  
Smith and Wilhelm, READING DON'T FIX NO CHEVYS  
(Heinemann, 2002)  
Smith and Wilhelm, GOING WITH THE FLOW  
(Heinemann, 2006)

*Conditions of FLOW experience*

- A clear Purpose, Goals and Immediate Feedback
- A Challenge that requires an appropriate level of skill and Assistance to meet the challenge (as needed to be successful)
- A sense of Control and Developing Competence
  - voice, opinion, identity staking, choice, naming growing competence
- A focus on Immediate Experience
  - current relevance, make things, do things, immediate function, fun, humor
- Importance of the Social
  - group work, peer assistance, social purpose, negotiate and share what is learned
  - relationships with authors, peers, characters, teachers
  - Social contract: get to know me, care about me, address my interests, assist me and don't give up, be passionate.

Q. What kind of curriculum meets these demands?

A. Inquiry

### **Relationships with**

- Family
- Friends
- Classmates
- Authors
- Characters
- Teachers

### **The Social Contract**

- My teacher will try to get to know me as an individual.
- My teacher will care about me.
- My teacher will address my interests in some way (either outside or inside the classroom).
- My teacher will assist me to learn and will work hard to make sure I have learned.
- \*My teacher will be passionate about the subject and about teaching

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A Motivational Survey

### How Good a Motivator am I? A Self-Reflection Checklist

(based on current motivation research: (Bandura, 1998; Csikszentmihalyi, 1990; Pajares, 1996; Smith and Wilhelm, 2002)

Usually = 4 points    Sometimes = 2 points    Never = 0 points

- \_\_\_ 1. I believe my students are trustworthy and communicate this to them.
- \_\_\_ 2. I believe a teacher should care about students and express this caring.
- \_\_\_ 3. I believe my students are competent and can become more competent with proper assistance.
- \_\_\_ 4. I attend to student interests and provide some level of choice.
- \_\_\_ 5. I help students to do things and to know how to do things and to talk about how to do things.
- \_\_\_ 6. I avoid labeling students.
- \_\_\_ 7. I send explicit invitations to succeed, both to my students as a group, and individually.
- \_\_\_ 8. I listen to what my students really say; I noodle around trying to get to know them.
- \_\_\_ 9. I make good use of student experts in my class - getting kids to teach each other and share their expertise.
- \_\_\_ 10. I use heterogeneous groups and interest groups to build interdependence and to highlight and use different students' strengths.
- \_\_\_ 11. I avoid overemphasis on competition, rewards and winning -- though I may foster a fun, gamelike atmosphere where every one can win and succeed.
- \_\_\_ 12. I help students to evaluate themselves; to build, articulate and apply their own critical standards.
- \_\_\_ 13. I communicate high expectations to all my students
- \_\_\_ 14. I focus on future success vs. past failure.

## J. Wilhelm: Using Inquiry Strategies to Promote Student Reading, Writing and Discussion

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\_\_\_15. I name what students can do, focusing on their abilities and achievement; I celebrate student expertise.

\_\_\_16. I negotiate, help set, and communicate clear goals as I highlight focus and higher purpose to the work that we do.

\_\_\_17. I provide continuous feedback to students about how they are doing, and create learning situations that provide immediate feedback.

\_\_\_18. I frontload unit work by starting with what students already know, activating background and building interest and a sense of purpose.

\_\_\_19. I foster connections to students' current life concerns.

\_\_\_20. I encourage the reading of a variety of different kinds of texts.

\_\_\_21. I encourage fun, humor and laughter in the classroom, including the reading of humorous texts.

\_\_\_22. I use artifacts and concrete objects in my teaching, and ask students to design artifacts and concrete objects that make knowledge visible and reasoning accountable.

\_\_\_23. I welcome and encourage multiple responses to class questions and projects.

\_\_\_24. I model the behaviors that I value for students (e.g. I read; I am pleasant).

\_\_\_25. I am passionate about reading and about ideas and I model and communicate this passion.

\_\_\_26. I teach my students for who they are and who they might be RIGHT NOW in the present moment (not for who I think they should be and be able to do sometime in the far off future).

\_\_\_27. In my classroom, we read texts that can be related to real world situations and activity.

\_\_\_28. The activities in my classroom allow students to identify and use their expertise.

Total - 98-110+ = You are a most excellent motivator! 88-97 = Good 78-87 = Fair  
>77 Try something different!!!!

\*Example here is adapted from Wilhelm, Jeffrey (2002). Action Strategies for Deepening Comprehension. 2002. New York: Scholastic.

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### *Criteria of Successful Inquiry:*

Start with a guided exploration of a topic as a class  
(You must know something to ask questions; develop interest)

Connect topic to what you already know, to personal reality and the world

Proceed to small group inquiry

Ask compelling questions

-Question topic should be contented with many perspectives

-Questions should be open-ended; answer is unknown

(vs. guess what the teacher or experts already know)

Set goals and purposes – what will you achieve, make or do as a result of answering the questions?

Work in groups; have a diversity of viewpoints; complementary perspectives and strengths

Comfortable atmosphere for exploration and risk-taking

Open-mindedness/Exploration/Bricolage – try stuff out

Hypothesize; test hypothesis

Look for definable patterns

Make and continually correct/update predictions throughout the process

Instructor as collaborative guide; assists at point of need

Arrive at a conclusion/take a stand

Be able to document and justify your conclusion

Represent what you have learned so it can be shared and used – actualize knowledge in actual accomplishment

Take appropriate social actions

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and Discussion

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**Inquiry Unit Template #1**

**Curricular Topic or Text:**

<b>Essential Question:</b> <ul style="list-style-type: none"> <li>• <b>Personal connections/points of contact for students:</b></li> <li>•</li> <li>• <b>Disciplinary importance:</b></li> <li>•</li> <li>• <b>Possible resulting social actions:</b></li> <li>•</li> </ul>		
<b>Conceptual Knowledge:</b> <ul style="list-style-type: none"> <li>• (What you want the students to know and be able to talk about and think with as conceptual tools)</li> </ul>	<b>Procedural Knowledge:</b> <ul style="list-style-type: none"> <li>• (What you want the students to be able to do and perform)</li> </ul>	
<ul style="list-style-type: none"> <li>• <b>Frontloading Activity:</b></li> </ul>		
<ul style="list-style-type: none"> <li>• <b>Scaffold of Activities:</b> For exploring and practicing concepts - leading to capacity to complete culminating project - demonstration of developed understandings in actual accomplishment</li> <li>• Curricular coherence – how does one activity lead to the next; how does one activity make use of knowledge developed in previous ones (layering!).</li> </ul>		
<ul style="list-style-type: none"> <li>• <b>Activities</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Connection to Conceptual and Procedural Knowledge</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Formative Assessments and proof of one's learning</b></li> </ul>
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• <b>Culminating Project</b>		•
<ul style="list-style-type: none"> <li>• <b>Composition/meaningful Making Project Description:</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Sequence of Project/ Ways Students will get after the Five Kinds of Knowledge necessary to composing throughout the unit:</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Summative Assessment/ Proof Positive of Learning- Criteria and Benchmarks:</b></li> </ul>

- **Opportunities for Formative Assessment throughout the unit:**
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- 
- 

**Possible Multimedia and Social Action Extensions of the Writing Assignment/Culminating Project:**

## 3S+6MsHEURISTIC

### PROCESS FOR TEACHING INQUIRY

#### 1. SET UP (START)

MOTIVATE – with Essential Question and  
Frontloading, personally connect kids to content

#### 2. STANDARDS (OR STOPPING POINT/STOP)

##### MULTIPLE MODALITIES AND MEASURES –

Provide multiple ways for learning and  
demonstrating learning of the standards/end goals/  
enduring understandings through independent  
culminating projects

#### 3. SEQUENCE (SCAFFOLD)

MODEL – for – Teacher does/students watch

MENTOR – with – Teacher does/students help and  
students do together/teacher helps

MONITOR – by – Student does/Teacher assesses and  
helps as needed

## Conceptual and Procedural Knowledge

### Conceptual: Exploring the big ideas

- What you want the students to know in terms of “declarative” nameable concepts?
- Exploring the big disciplinary ideas
- Big understanding goals: can be phrased as sub-questions of the inquiry

### Procedural: What you want the students to be able to do

- Skills, tools, strategies, procedures.
- Can be phrased as objectives: “students will be able to . . .”

Example: Can whaling be justified in this modern age?	
<p><b>Conceptual</b></p> <ul style="list-style-type: none"> <li>• What are the global ramifications of whaling?</li> <li>• What the various points of views of whaling?</li> <li>• What are the arguments for and against whaling?</li> </ul>	<p><b>Procedural</b></p> <ul style="list-style-type: none"> <li>• Students will learn how to develop an argument using a clear claim, evidence/data from research and warranting of the data</li> <li>• Students will be able to express both practical and ethical dimensions of the issue in a variety of modalities</li> </ul>
Example: How can freedom and security be balanced?	
<ul style="list-style-type: none"> <li>• How can freedom be defined?</li> <li>• What different perspectives are there on freedom?</li> <li>• How do historical and cultural situations affect security policies?</li> </ul>	<ul style="list-style-type: none"> <li>• Students will analyze the structure and format of informational documents through Directed Reading and Thinking activities (DRTAs) and Directed Writing Assignments (DWAs)</li> <li>• Students will evaluate the comprehensiveness and validity of evidence in an author’s</li> </ul>

	<p>argument (DRTA)</p> <ul style="list-style-type: none"><li>• Students will explain the author's point of view and interpret how this influences the text (critical theory, questioning the author, questioning hierarchy)</li></ul>
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## Asking Essential Questions to Frame Instruction

“Being told is the opposite of finding out.”

-Jimmy Britton

“The only thing worth learning is learning how to learn.”

-Seymour Papert

Question Criteria:

\*must be open-ended; contended; with multiple perspectives and possible answers

\*non-judgmental

**\*emotive force/intellectual bite or edginess- addresses students' point of view**

\*immediate relevance and use to students – will lead to enduring understandings

\*succinct and pointed

\*data is available – can be ascertained and developed

\*not so general as to be undoable; not so specific that it can be answered quickly

**\*addresses the “heart of the discipline” being studied and essential disciplinary knowledge**

\*should lead to new questions asked by the students

**\*should lead to transformed ways of understanding, being and behaving in the world – both individually and as part of collective social action**

Common problems with questions:

\*merely information retrieval; does not require creating data or constructing new understandings

\*begs the question

\*leading

\*too generic

\*too narrow and specific

Revising Questions

Topic:

Relationships

Question:

Where do our marriage customs come from?

(info retrieval)

Revision:

What makes a good relationship?

Civil Rights

How did we win the fight for civil rights?

(begs the question)

What are basic human rights and how can they be secured and protected?

### Survival

Why is it bad that animals are going extinct?

(leading)

Who will survive?

### Identity

Who am I?

(generic)

What do I think is worth fighting for?

Where do I belong?

### Tips for Generating Questions

Tip: Put Standards into Question forms

Asking Macro-Questions – Wiggins and McTighe

Wiggins and McTighe critique most standards as being too vague, focusing on the rote learning of information, and as not identifying what constitutes adequate evidence of learning. Put standards into question forms . . . p. 27

Tip: Reframe a required text, topic or standard by focusing on why it matters!

Tip: Ask questions of application!

Tip: Inquiry and Design – What questions drive the disciplines?

What problems inform current research?

Tip: Consider the heart of the matter. What is the true importance of this curricular topic? Why do I love teaching it? What must kids remember and carry away regarding it? Tip: Look around the community for issues that intersect with the topic.

Tip: Ask questions about quality that require students to make a judgment

Tip: Ask Ethical questions – what should we pursue? What should we do with the knowledge we have?

## Model Guiding Questions

Social problems/health

What is waste and its effects?

Who is hungry and what are its effects?

What is a good house?

What does it mean to be healthy?

Cultural issues:

Is sports overemphasized in American culture?

Language arts

What is courage? What is a good relationship?

Where do I belong? What is normal? How does power affect people?

Physics

Where do waves come from? How can waves be used?

Biology

How do geography and climate affect the growth of crops? Of animal populations? Of human populations and culture?

Why do organisms die? How are we similar to bacteria?

Is sex necessary, biologically speaking?

History/Cultural Values

Who was/is a great person? When are laws fair?

What is worth fighting for? Are wars necessary?

Where does money come from?

Is U.S. history a history of progress?

Government

Is there too much or too little national power?

Can liberty and security be balanced?

Does federalism work? What is a good government?

Math

Was geometry discovered or invented? (or any other kind of math)

How can we best figure rates of decay? (or any other kind of problem)

Questions of application: How can we apply our understandings to solve a particular problem?

### Tips for identifying culminating projects

- What's it (the topic, central concepts, procedures) for today?
- What's it for tomorrow?
- What “*work*” does it/could it do?
- How do you foresee and want kids to use it?
- When, where and in what situations can this knowledge be used?
- For Social Action: what changes do you and/or your students want to see and how can you work for this?
- Come up with a project that will capture (or be analogous to) these powers and purposes!

**J. Wilhelm: Using Inquiry Strategies to Promote Student Reading, Writing  
and Discussion**

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Meaningful Making Projects		
Formal Writing	Multimedia Compositions	Social Action Projects
Arguments	Video documentaries	Show video documentaries publicly
Extended Definitions	Hypermedia documentaries	Host public debate
Process Descriptions	Video How-To Guides	Volunteer work
Classifications	Websites	Hot-line project
Narrative Retellings	Digital stories	Peer Mediation Project
Fables	Multimedia Personality Profiles	Local Hero celebrations
Stories	Digital scrapbooks	Lake clean up project
Picture Books	Webquests	Park clean up project
Big Books	Museum exhibits	Create and maintain exhibit in local museum
Brochures	Museum kiosks	Senior Citizen visits/help days
Public Service Announcements	Public Service Announcements on Video or dramatized	Disseminate the public service announcements
Pamphlets	Timelines	Host or participate in community meetings
Dictionaries/Glossaries	Video glossaries Picture dictionaries	Present proposals to school board, city council, service groups
Guides	Murals	Letter writing campaign
Newspaper; articles	News Show/Talk Show	Thank you campaign
Case Studies	Dance performance	Waste free school project
Poetry book or cycle	Computer programs	Informational campaigns
Multigenre research	MTV videos of poems	Build: Repair or Rebuild something, e.g. engine; engine model, cabinet
How-to guides	Multigenre compositions	Career research: shadow a police officer, view medical procedures, compile interviews into manuscript
Travelogues	Public performance: concert, recital, painting, living history museum, fashion show, meeting of minds	Physical experience or challenge: learn to scuba dive, run a marathon, lose weight



## J. Wilhelm: Using Inquiry Strategies to Promote Student Reading, Writing and Discussion

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### Frontloading

Ranking Scenarios: What makes a good relationship and what screws them up?

Each of the following scenes describes a relationship. Read each scene and rank them from the scene that describes the best love relationship (1) to the scene that describes the worst love relationship (3). Make sure you can support your opinions. You'll be sharing them in groups and then with the whole class.

\_\_\_\_\_ 1. Joseph always felt uneasy at parties, especially parties that included people from Forest View. Forest View was Elk Grove's chief rival in every sport, and Joseph and his friends have been competing against kids from Forest View for as long as he could remember. And sometimes those competitions got pretty heated. So who could blame Joseph for saying his good-byes early. As he was headed out the door, however, Joseph caught a glimpse of Sara. Even all decked out in Forest View's colors, she was, Joseph thought, the most beautiful girl he had ever seen. Screwing up his courage, Joseph went over to say hello. And it wasn't long before he was involved in a friendly conversation with Sara and several of her friends. An hour flew by and Joseph really did have to go home. But he felt changed. Monday at school he confided to his best friend that he was in love, and with someone from Forest View on top of it. The kidding he got was intense; he and his best friend even got into a fight about it. But Joseph was sure. He couldn't wait to see her again. He spent all week searching to find a party that she might attend.

\_\_\_\_\_ 2. Mary and Martin have been next-door neighbors since the fifth grade and for seven years they've walked to school together. Since high school started, thought, once they got to school, they went their separate ways – Mary was an athlete and Martin a musician. But on that mile walk they shared a lot of talk about everyday events, hopes, dreams and heartbreaks. The senior prom was approaching and neither Mary nor Martin had a date. They decided to go together. It was funny, they broached the subject on the same day, and in fact, they couldn't figure out who asked whom. The prom was great; they laughed and danced and kidded with their friends. They didn't go on an after-prom trip though. They had decided that would make them seem too much like a couple, and they didn't want any uncomfortableness to interfere with their friendship. That night both of them thought that the prom was one of the best dates they had ever had. It was too bad that their "real" dates never went so well.

\_\_\_\_\_ 3. What a whirlwind of a romance, thought Amy. Ever since she had met Tom, things had been, well, fantastic. Nightly phone calls. Dinners at expensive restaurants. Gifts. She didn't mind that Tom insisted she spend all of her time with him. After all, her friends should understand, and if her grades slipped a bit, who cares? She'd always be able to get into some college. She had a bit of a twinge when he asked her not to go out for the musical, but the dozen long-stem roses made that twinge fade. What a romance!

## J. Wilhelm: Using Inquiry Strategies to Promote Student Reading, Writing and Discussion

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### Autobiographical Writing Prompt

Most young people want to have dating relationships that are fun, exciting, and long lasting. First, describe a healthy, lasting dating relationship that you've been part of or that you've observed. What does a relationship need to be like in order to grow and last? Why do some relationships seem to work well? Be specific, and remember to write about real relationships that you yourself have experienced or watched. (from Brian White, 1995)

### Opinionaire/Survey

Identify whether you agree (A) or disagree (D) with each statement. Then choose one statement that you feel particularly strongly about and write a brief comment about what in your experience of the world leads you to feel this way.

1. Love at first sight is possible.
2. Love means never having to say you are sorry.
3. It is better to have loved and lost than never to have loved at all.
4. You are never too young to fall in love.
5. You can't expect a person to change his or her habits after you enter into a relationship with them.
6. Love takes a lot of hard work.
7. Opposites attract.
8. If you are really in love, physical appearance doesn't matter.
9. Teenagers are capable of true love.
10. The hottest fires burn out fastest.
11. If you are really in love with someone, then you won't be attracted to someone else.
12. Love is blind.
13. If someone does not return your affection, the best thing to do is to keep trying to change his or her mind.
14. You have to work very hard at love.
15. Love is a decision that you make, not something that happens to you.  
(original idea from Kahn, et al. *Writing About Literature*, 1984)

## COGNITIVE APPRENTICESHIP AND SEQUENCING

KEY PIECES TO INSTRUCTION” ACCORDING TO COLLINS, BROWN AND NEWMAN

Note : Problem/solving is the process students are engaged in while learning new strategies or concepts

### 1. CONTENT

- a. Content = conceptual/factual knowledge in use during problem solving
- b. Heuristic strategies - rules of thumb that guide problem solving, gives students the intellectual tools needed
- c. control strategies - monitoring, evaluating, helping with decision making
- d. Learning strategies - strategies used in acquiring new information
- e. Genre/Text Based strategies - strategies required by particular kinds of text

### 2. METHOD

- a. Model - expert carries out task so students can observe the process
- b. Coach - feedback, hints, reminders, scaffolding
- c. Scaffold - supports --teacher carries out pieces of task that students cannot yet manage
- d. Articulation - name what students need to do; and make it visible to them.
- e. Reflection - compare own problem solving process to expert or other student
- f. Exploration - teacher fades, encourage student autonomy in problem solving and problem setting. Allow students to set questions and frame process

### 3. SEQUENCE

- a. Increasing complexity - control both task complexity & the amount of scaffolding/support for learnings
- b. Increasing diversity - wider variety of strategies/skills integrated in different contexts
- c. Global before local (very different than traditional education, which says local before global)- see the whole, the value, the purpose **before** refining/honing each sub skill
- d. Teacher Involvement - models, scaffolds, coaches, then fades as students approach independence

### 4. SOCIOLOGY - designed to motivate and “ground” learning

## J. Wilhelm: Using Inquiry Strategies to Promote Student Reading, Writing and Discussion

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- a. Situated learning = give students opportunity to observe, engage in, invent or discover expert strategies in context: see how strategies fit together with their conceptual knowledge. Clear expectations and learning goals: skills seen in context of application to problem solving. Skills used in an integrated way that shows their value & meaning within the culture  
Application conditions: knowing when to use or not to use a skill
  - b. Culture of expert practice. See models of expertise-in-use.  
Benchmarks of progress, helps students to identify their own strengths & weaknesses for improvements, see different ways of doing things.
  - c. Intrinsic motivation; there is an integration of skill improvement & social reward in traditional apprenticeship: students see advancing skill as increasing role/participation/social reward within a community. Skills are seen as authentic and purposeful.
  - d. Exploiting cooperation; use small groups to help see others doing a process, apprentices/students at different levels of expertise
3. Exploiting competition: get students to see the different processes students use to accomplish problem solving, not the products.

## J. Wilhelm: Using Inquiry Strategies to Promote Student Reading, Writing and Discussion

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### What is Effective Discussion?

Directions: Four excerpts of teacher-led discussion follow. Rank them from the best example of class discussion (1) to the worst (4). For ease of comparison, imagine that each discussion occurred in an eighth grade class of average ability and that the excerpt is an accurate characterization of the entire discussion. Be prepared to explain the reasons for your ranking. Also be prepared to discuss the moves that the teachers make that affect the quality of discussion.

A. Rank: \_\_\_\_\_

Context: From an historical discussion introducing To Kill a Mockingbird.

Source: Marty Nystrand, University of Wisconsin-Madison

Teacher: All right. How did the South, how did most people in the South earn their livings before the Civil War?  
Roger?

Student 1: Huge farms.

Teacher: Ok, huge huge farms, plantations, right? All that farming takes lots and lots of laborers. If you had laborers that you didn't have to pay, you sure as heck were gonna get a better deal in life—much more profit than if you had to pay people to come and pick your cotton for you. Ok? So what do you suppose happened to all these farms, after the Civil War, after all these people had to either pay their slaves or set them free? What happened to the farms?

Student 2: They stopped.

Teacher: That's right, they were toast, they're done. All right? Only the people who had lots and lots of money could manage to keep these huge, huge plantations going. So the South, as a result of the Civil War, was economically ruined, wiped out. Their major source of income, the plantation system, and farming, that was done for. All right? So naturally many of these farmers are gonna be bitter. They're gonna be upset. And how do you suppose they're gonna treat the black people who used to be slaves? Jane, you want to comment on that?

Student 3: Well, like, didn't some of the blacks stay on the plantations when the war ended?

Teacher: Um-hm. Some of them did. But it was illegal for them to be kept (i.e. enslaved) there... How do you suppose the people felt toward the blacks? Come on, they lost their source of income! What's gonna be their attitude?

Student 3: They resented them.

Teacher: Sure! They resented them. They placed the blame on them—pay attention. All right? They blamed them. So how're they gonna treat em?

## J. Wilhelm: Using Inquiry Strategies to Promote Student Reading, Writing and Discussion

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Student 4: Terribly.

B. Rank: \_\_\_\_\_

Context: Discussion of the final digit of  $7^5$

Source: Lampert, Magdalene. (1990). When the problem is not the question and the solution is not the answer: Mathematical knowing and teaching. American Educational Research Journal, 27 (1), 50-51.

Teacher: Arthur, why do you think it's 1?

Student 1: Because  $7^4$  ends in 1, then it's times 1 again.

Student 2: The answer to  $7^4$  is 2,401. You multiply that by 7 to get the answer so it's  $7 \times 1$ .

Teacher: Why 9, Sarah?

Student 3: I think Sarah thought the number should be 49.

Student 2: Maybe they think it goes 9, 1, 9, 1, 9, 1.

Student 4: I know it's 7, cause 7...

Student 5: Because  $7^4$  ends in 1, so if you times it by 7, it'll end in 7.

Student 6: I think it's 7. No, I think it's 8.

Student 7: I don't think it's 8 because, it's odd number times odd number and that's always an odd number.

Student 8: It's 7 because it's like saying  
 $49 \times 49 \times 7$ .

Student 1: I still think it's 1 because you do  $7 \times 7$  to get 49 and then for  $7^4$  you do  $49 \times 49$  and for  $7^5$  times itself and that will end in 1.

Teacher: What's 49?

Student 9: 2,401.

Teacher: Arthur's theory is that  $7^5$  should be  
 $2401 \times 2401$  and since there's a 1 here and a 1 here...

Student 9: It's  $2,401 \times 7$ .

Student 2: I have a proof that it won't be a 9. It can't be 9. 1,9,1, because  $7^3$  ends in a 3.

Student 6: I think it goes 1, 7, 9, 1, 7, 9, 1, 7, 9.

Teacher: What about  $7^3$  ending in 3? The last number ends in...  $9 \times 7$  is 63.

Student 6: Oh...

Student 8: Abdul's thing isn't wrong, cause it works. He said times the last digit by 7 and the last digit is 9, so the last one will be 3. It's 1, 7, 9, 3, 1, 7, 9, 3.

Student 1: I want to revise my thinking. It would be  $7 \times 7 \times 7 \times 7 \times 7$ . I was thinking it would be  $7 \times 7 \times 7 \times 7 \times 7 \times 7 \times 7 \times 7$ .

## J. Wilhelm: Using Inquiry Strategies to Promote Student Reading, Writing and Discussion

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C. Rank: \_\_\_\_\_

- Context: Student has just read his plot summary of a chapter of Roll of Thunder, Hear My Cry.
- Source: Nystrand, M. & Gamoran, A. (In press). Student engagement: When recitation becomes conversation. In W. Waxman & H. Walberg (Eds.), Contemporary Research on Teaching.
- Teacher: [to the class as a whole]: Wow! What do you think about that [referring to John's plot summary?]
- Student 5: It was very thorough.
- Teacher: Yeah, pretty thorough. I had a lot of trouble getting everything down [on the board], and I think I missed the part about trying to boycott. [Reads from the board] "...and tries to organize a boycott." Did I get everything down, John that you said?
- Student 1: What about the guy who didn't really think these kids were a pest?
- Teacher: Yeah, okay. What's his name? Do you remember?
- Student 1: [indicates he cant remember]
- Student 2: Wasn't it Turner?
- Teacher: Was it Turner?
- Students: Yes.
- Teacher: Okay, so Mr. Turner resisted white help. Why? Why would he want to keep shopping at that terrible store?
- Student 1: There was only one store to buy form because all the other ones were white.
- Teacher: Well, the Wall Store was white too.
- Student 3: [addressed to John]: Is it Mr. Hollings' store? Is that it?
- Student 1: No. Here's the reason. They don't get paid till the cotton comes in. But throughout the year they still have to buy stuff — food, clothes, seed, and stuff like that. So the owner of the plantation will sign for what they buy at the store so that throughout the year they can still buy stuff on credit.
- Teacher: [writing on board]: So "he has to have credit in order to buy things, and this store is the only one that will give it to him."
- Student 1: [continues to explain]
- Teacher: [continues to write on board]
- Student 4: I was just going to say, "It was the closest store."
- Teacher: [writing on board]: Okay — it's the closest store; it seems to be in the middle of the area; a lot of sharecroppers who don't get paid cash — they get credit at the store — and its very hard to get credit at other stores. So it's going to be very hard for her to organize that boycott; she needs to exist on credit. Yeah? [nods to another student]
- [Discussion continues]

## J. Wilhelm: Using Inquiry Strategies to Promote Student Reading, Writing and Discussion

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D. Rank: \_\_\_\_\_

- Context: Review of a lesson on magnetism.
- Source: Bulman, Lesley. (1985). Teaching Language and Study Skills in Secondary Science (pp. 110-111). London: Heinemann.
- Teacher: The earth spins about an axis. The point at the top about what it spins is called what? What's it called?
- Student 1: The geographical axis.
- Teacher: Geographical...? The point at the top. Almost right. Yes David?
- Student 2: North
- Teacher: Yes, north. And the point at which the magnet appears to be – at the top there, just underneath the ground – what's the name of that point there?
- Student 3: Magnetic north.
- Teacher: Magnetic north. If I was standing on the top of the magnetic north with a compass, what would it do?
- Student 4: It would go round and round and round.
- Teacher: It wouldn't point in any direction at all. Supposing if I was standing at the geographic north, what would it do there?
- Student 5: Point to the magnetic north.
- Teacher: Right, what was the name of this angle between the magnetic and the geographical north? Yes, Gary?
- Student 6: Angle of declination.
- Teacher: Angle of declination. Right, there's a difficult one. Now, I've put a spot there- that's supposed to represent the magnetic north- and the geographic north is the point at which it spins around about. Now if I come down that line there to a point there, can anyone tell me what the angle of declination is going to be? Yes, Bill?
- Student 7: Nought
- Teacher: Nought. Yes. There's no angle between the magnetic north and the geographical north. They're both on the same line.

**THREE LEVEL READING GUIDE**

**I. Directions: Check the statements that you believe say what the author says. Sometimes the exact words are used; at other times, other words may be used. (Right There)**

- 1. Researchers have been studying the effects of lack of sleep on teenagers.
- 2. The sleep research has determined that most teenagers are lazy.
- 3. At different intervals during sleep, the brain enters rapid eye movement (REM) sleep.
- 4. Without enough REM sleep, people perform poorly on tests of reaction time.
- 5. When a chemical called melatonin is released in the brain, a person becomes sleepy.

**II. Directions: Check the statements that you feel represents the text's *implied meaning*. (Think and Search)**

- 1. During REM sleep, the brain resets chemicals that prepare a person to absorb new information and face a new day with emotional reserves.
- 2. A person's natural sleep clock can be completely reset on weekends.
- 3. The teen years present many challenges because of the many physical and emotional changes involved.

**III. Directions: Check the statements that you agree with and be ready to support your choice with ideas from the text and your own knowledge. (Author and Me, On your Own)**

- 1. High schools should think about starting later, at 9:00 perhaps, if they want students to learn more effectively.
- 2. A good night's sleep is essential not only to good health but also to good learning.
- 3. There is wisdom in the old saying: Early to bed, early to rise, Makes a man healthy, wealthy and wise.
- 4. Clocks connected to lamps that slowly raise the light level in a room before that alarm goes off, would help a person adjust to an earlier rising time.

**J. Wilhelm: Using Inquiry Strategies to Promote Student Reading, Writing and Discussion**

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*Please write any response that you have while you are reading on the lines to the side of the story. You should write your response right next to the lines you are reacting to. I'm interested in anything you are noticing, asking, seeing, feeling, thinking and doing as you read. Write anything that you are aware of thinking and doing at the point that you think or do it. You may also draw pictures of what you are seeing or doing, or of how you are reading or reflecting on particular parts of the story.*

**WHY TEENS NEED MORE SNOOZE TIME**

*Shannon Brownlee*

It's only 9:30 at night, but 15 year-old \_\_\_\_\_  
Ryan O. is already snuggling into bed, pulling \_\_\_\_\_  
a quilt decorated with dolphins and killer \_\_\_\_\_  
whales up over his ears. He tosses and turns \_\_\_\_\_  
for several minutes before drifting off – \_\_\_\_\_  
possibly because there are 12 electrodes fixed \_\_\_\_\_  
to his scalp and face and an infrared video \_\_\_\_\_  
camera is recording his every move for \_\_\_\_\_  
researchers watching a video monitor in \_\_\_\_\_  
another room. \_\_\_\_\_

Ryan is one of several hundred teenagers \_\_\_\_\_  
who over the past decade have entered the \_\_\_\_\_  
twilight world of Brown University's Bradley \_\_\_\_\_  
Hospital sleep lab, allowing sleep physiologist \_\_\_\_\_  
Mary Carskadon to record their brain waves \_\_\_\_\_  
and eye movements in slumber and to test how \_\_\_\_\_



## J. Wilhelm: Using Inquiry Strategies to Promote Student Reading, Writing and Discussion

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surveyed more than 3,000 high school students, they found that the majority were sleeping only about seven hours a night. More than a quarter of the students averaged 6 1/2 hours or less on school nights. In another study, when students were asked to fall asleep in the lab during the day, many conked out within three or four minutes, a sure sign they were sleep deprived. Carskadon also discovered that the students' melatonin levels were still elevated into the school day. "Their brains are telling them it's nighttime," she says, "and the rest of the world is saying it's time to go to school."

Kids who have to get up before their biological clocks have buzzed miss out on the phase of sleep that boosts memory and learning. Periodically during slumber, the brain enters rapid eye movement (REM) sleep, so called because the eyes dart back and forth under the lids. During REM sleep, the brain resets chemicals in the emotional centers and

## J. Wilhelm: Using Inquiry Strategies to Promote Student Reading, Writing and Discussion

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clears short-term memory banks, where the day's events are stored temporarily. Without enough REM sleep, Carskadon and others have discovered, people become cranky and depressed; their memory and judgment are impaired; and they perform poorly on tests of reaction time. Carskadon has found that teens who get the least sleep earn C's and D's, while those who get the most tend to get A's and B's.

One solution is to push back the time high schools start, something that many schools are reluctant to do. Barring that, Carskadon and other experts say you should emphasize sleep's importance and help your teenager get more through biology:

- To encourage your teen to go to bed at a reasonable hour, keep lights low in the evening and open curtains in the morning. Light absorbed through the eyes can reset the biological clock.
- Kids can catch up on sleep on

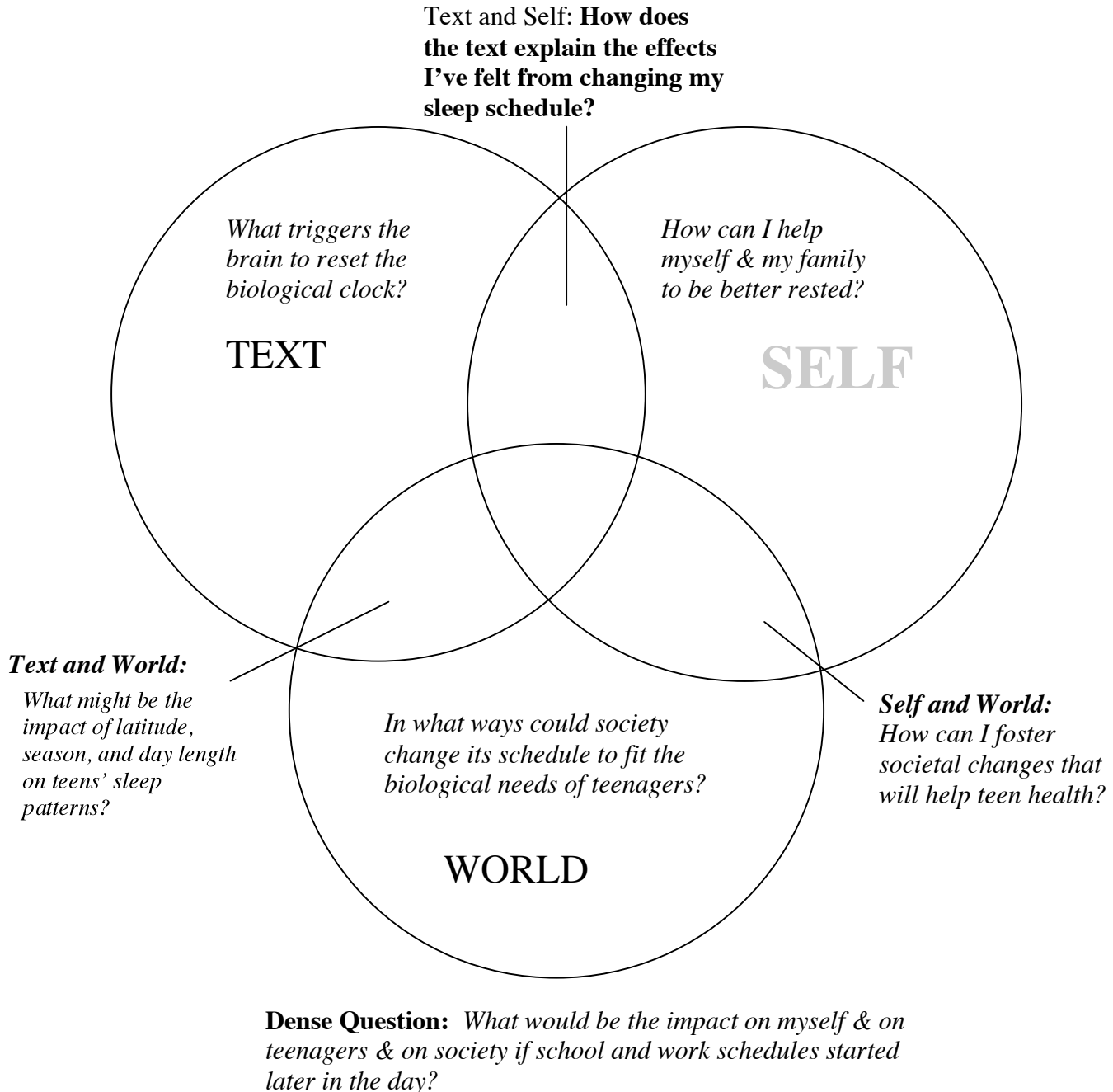


Questioning Circle

Why Teens Need More Snooze Time

By

Shannon Brownlee



## J. Wilhelm: Using Inquiry Strategies to Promote Student Reading, Writing and Discussion

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Rules are Rules: Paul Hamm should hold onto, savor his gold medal

People who play by the rules should be rewarded. Paul Hamm played by the rules. He outperformed his competitors to win the gold medal; he deserves to keep it.

In the aftermath of a scoring controversy over the men's Olympic gymnastics competition, world gymnasts have asked Hamm to give up his gold medal for the men's all-around competition, as the ultimate show of sportsmanship. It is an ill-conceived request.

They must take their own responsibility for their own mistakes = not rob Hamm of something that is rightfully his.

They shouldn't expect Hamm to right the wrong of incompetent judges, who, by the way, were suspended after the snafu.

The head of the International Gymnastics Federation suggested in a letter to Hamm that giving the all-around gold medal to South Korea's Yang Tae-Young "would be recognized as the ultimate demonstration of fair play by the whole world."

Fair play? Hardly! For Hamm to relinquish his gold medal would be doing the judges' dirty work.

The International Gymnastics Federation president, Bruno Grandi, attempted to send the letter to Hamm through the U.S. Olympic Committee, which declined to pass it along, and rightfully so.

Hamm triumphed in what has been heralded as one of the greatest comebacks ever. He is the authentic Comeback Kid.

In the vaulting event of the men's all around competition, Hamm fell and plummeted to 12<sup>th</sup> place, leaving his chance of capturing the gold very very slim at best.

Being the good sportsman he is, Hamm got up and finished the competition as brilliantly as he could. It was a moment spectators aren't likely to ever forget.

Then, all Olympic hell erupted.

The South Koreans cried foul; they claimed Yang Tae Young was unfairly shortchanged by judges who assigned too low a maximum value to one of his routines. If the right value had been awarded, they said, he would have edged Hamm for the gold.

Yes, perhaps the judges erred, but they had a remedy available to them and failed to take advantage of it; the gymnastics federation – known as FIG – suspended them. The rules

## J. Wilhelm: Using Inquiry Strategies to Promote Student Reading, Writing and Discussion

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say any challenges must be made before the competition ends. The South Koreans didn't protest until the next night. They – not Hamm – are the ones who didn't play by the rules.

All are compelling reasons why Hamm should hold tight to his coveted medal. Yet, there's even more. When Americans reviewed a tape of the competition, they spotted a math error the judges had missed. The South Korean had four pauses in his routine; the rules permit only three. If he had been scored correctly, they said, he would have lost the bronze. Whether he deserves a gold isn't even in question.

And besides, aren't referees and judges and umpires just part of any game. Can you imagine a basketball team petitioning for a loss to become a win a day after the event was concluded?

Hamm has played by the rules and conventions of his sport; he shouldn't be penalized for that. He should keep and wear his gold medal with pride.

**J. Wilhelm: Using Inquiry Strategies to Promote Student Reading, Writing  
and Discussion**

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Number the Stars by Lois Lowry

The war would end. Uncle Henrik had  
said that, and it was true. The war ended almost  
two long years later. Annemarie was twelve.

Churchbells rang all over Copenhagen,  
early that May evening. The Danish flag was  
raised everywhere. People stood in the streets  
and wept as they sang the national anthem of  
Denmark.

Annemarie stood on the balcony of the  
apartment with her parents and sister, and across  
on the other side, she could see flags and banners  
in almost every window. She knew that many of  
those apartments were empty. For nearly two  
years, now, neighbors had tended the plants and  
dusted the furniture and polished the candlesticks  
for the Jews who had fled. Her mother had done  
so for the Rosens.

“It is what friends do,” Mama had said.

Now neighbors had entered each  
unoccupied, waiting apartment, opened a  
window, and hung a symbol of freedom there.

## J. Wilhelm: Using Inquiry Strategies to Promote Student Reading, Writing and Discussion

---

This evening, Mrs. Johansen's face was wet with tears. Kirsti, waving a small flag, sang; her blue eyes were bright. Even Kirsti was growing up; no longer was she a lighthearted chatterbox of a child. Now she was taller, more serious, and very thin. She looked like the pictures of Lise at seven, in the old album.

Peter Neilsen was dead. It was a painful fact to recall on this day when there was so much joy in Denmark. But Annemarie forced herself to think of her redheaded almost-brother, and how devastating the day was when they received the news that Peter had been captured and executed by the Germans in the public square at Ryvangen, in Copenhagen.

He had written a letter to them from prison the night before he was shot. It had said simply that he was proud to have done what he could for his country and for the sake of all free people. He had asked, in the letter, to be buried beside Lise.

But even that was not to be for Peter. The

## J. Wilhelm: Using Inquiry Strategies to Promote Student Reading, Writing and Discussion

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Nazis refused to return the bodies of the young men they shot at Ryvangen. They simply buried them there where they were killed, and marked the graves only with numbers.

Later, Annemarie had gone to the place with her parents and they had laid flowers there on the bleak, numbered ground. That night, Annemarie's parents told her the truth about Lise's death at the beginning of the war.

"She was part of the Resistance, too," Papa explained. "Part of the group that fought for our country in whatever ways they could."

"Oh, Papa!" Annemarie cried. "Mama! They didn't shoot Lise, did they? The way they did Peter, in the public square, with people watching?" She wanted to know, wanted to know it all, but wasn't certain that she could bear the knowledge.

But Papa shook his head. "She was with Peter and others in a cellar where they held secret meetings to make plans. Somehow the Nazis found out, and they raided the place that evening.

## J. Wilhelm: Using Inquiry Strategies to Promote Student Reading, Writing and Discussion

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They all ran different ways, trying to escape.

“Some of them were shot.” Mama told her sadly. “Peter was shot, in the arm. Do you remember that Peter’s arm was bandaged, and in a sling, at Lise’s funeral? He wore a coat over it so that no one would notice. And a hat, to hide his red hair. The Nazis were looking for him.”

Annemarie didn’t remember. She hadn’t noticed. The whole day had been a blur of grief. “But, what about Lise?” she asked. “If she wasn’t shot, what happened?”

“From the military car, they saw her running, and simply ran her down.”

“So it was true, what you said, that she was hit by a car.”

“It was true,” Papa told her.

“They were all so young,” Mama said, shaking her head. She blinked, closed her eyes for a moment, and took a long, deep breath.

“So very, very young. With so much hope.”

Now, remembering Lise, Annemarie looked from the balcony down into the street.

## J. Wilhelm: Using Inquiry Strategies to Promote Student Reading, Writing and Discussion

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She saw that below, amid the music, singing, and  
the sound of the churchbells, people were  
dancing. It brought back another memory, the  
memory of Lise so long ago, wearing the yellow  
dress, dancing with Peter on the night that they  
announced their engagement.

She turned and went to her bedroom,  
where the blue trunk still stood in the corner, as it  
had all these years. Opening it, Annemarie saw  
that the yellow dress had begun to fade; it was  
discolored at the edges where it had lain so long  
in folds.

Carefully she spread open the skirt of the  
dress and found the place where Ellen's necklace  
lay hidden in the pocket. The little Star of David  
still gleamed gold.

"Papa?" she said, returning to the  
balcony, where her father was standing with the  
others, watching the rejoicing crowd. She opened  
her hand and showed him the necklace. "Can  
you fix this? I have kept it all this long time. It  
was Ellen's."

## J. Wilhelm: Using Inquiry Strategies to Promote Student Reading, Writing and Discussion

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Her father took it from her and examined \_\_\_\_\_  
the broken clasp. “Yes,” he said. “I can fix it. \_\_\_\_\_  
When the Rosens come home, you can give it \_\_\_\_\_  
back to Ellen.” \_\_\_\_\_

“Until then,” Annemarie told him, “I will \_\_\_\_\_  
wear it myself.” \_\_\_\_\_  
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## J. Wilhelm: Using Inquiry Strategies to Promote Student Reading, Writing and Discussion

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### Main Idea Heuristic

1. IDENTIFY THE TOPIC (OR GENERAL SUBJECT) OF THE PIECE.

To find clues to topic:

- a) Look at the title
- b) Look at the first and last paragraph: the topic is often named and always implied
- c) Ask yourself: what is discussed through the whole selection? What general subject spreads across the whole text?
- d) Look at captions, pictures, words in bold, headings, and so forth for clues to topic. What do all of these have in common? What do they all have something to do with?
- e) Remind yourself: The topic must connect to all the major details and events from the selection. Caution: not every detail has something to do with the topic. The topic is the common element or connection amongst the major details.
- f) What do all the major details have in common?

CHECK YOURSELF: It's not a true topic if . . .

- a) it's too general or too big (The topic statement suggests or could include many ideas not stated in the text).
- b) It's off the mark, totally missing the point
- c) It only captures one detail, rather than all of the key details
- d) It captures only some of the details, for example, maybe you didn't think about the ending, or the climax, or a shift or major change of some kind.

## J. Wilhelm: Using Inquiry Strategies to Promote Student Reading, Writing and Discussion

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QUESTIONS to ask yourself:

- a) Does the topic I've identified give an accurate picture of what the whole selection is about?
- b) Was I as specific as possible in accommodating all of the key details?
- c) After naming the topic, can I now fairly specifically picture in my mind what happened or was communicated in the text? Or might I picture something radically different that also fits my topic statement? If so, how can I revise my topic statement to correct this problem?

### 2. IDENTIFY THE KEY DETAILS/EVENTS AND THE PATTERN AND TRAJECTORY THESE CREATE BY WORKING TOGETHER.

Authors often plant important ideas in rules of notice, e.g.

- a) Details that reflect or refer to the title
- b) Details at the beginning of the text/ or front and center of the picture
- c) Details at the end
- d) Surprises, revelations, whenever your expectations are not met
- e) Repetition
- f) Lots of attention given to a detail, for instance, long explanation or description
- g) Subheads, bold, italics
- h) Single sentence paragraphs
- i) Changes in character, tone, mood, setting, plot twists
- j) A question near the beginning or the end

## J. Wilhelm: Using Inquiry Strategies to Promote Student Reading, Writing and Discussion

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CHECK YOURSELF: It's not a key detail if . . .

- a) It's interesting, but it doesn't develop the topic/lead to the central focus
- b) It reminds use of something is even personally important, but if you were to remove it from the piece, the work would not lose any significant meaning or impact

QUESTIONS to Ask Yourself:

- a) Are all the details related to the topic?
  - b) How do the key details relate to each other?
  - c) What pattern do the details make when they are added together?
  - d) What point does this pattern add up to and imply?
  - e) What can we extrapolate or interpolate from the pattern?
3. IDENTIFY THE MAIN IDEA (the theme of point the author makes about the topic)
- a) the statement of main idea you name must make a point about the topic and cover the whole selection
  - b) Ask yourself: Is the main idea directly stated? If not, it must be inferred from the pattern and relationship of the key details
  - c) Which details help me decide on the main idea? Why are these details important?
  - d) The central focus considers how the details relate to one another or lead to one another (what caused or correlated or led to what?)

## J. Wilhelm: Using Inquiry Strategies to Promote Student Reading, Writing and Discussion

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- e) The main ideas must consider the ending and how the details, character, setting, perspectives, interactions of these and events led to this conclusion.

CHECK YOURSELF: IT'S NOT THE MAIN IDEA IF . . .

- a) It is so literal and specific it doesn't allow the reader to apply the main idea to his own life
- b) It is too general – more like a topic statement than a main idea or point
- c) It is true but misses the point of this text. It wasn't what the author was saying through this combination of these details.
- d) It misses the point
- e) It only fits one detail, event, or part of the story, not the coherent whole
- f) It does not incorporate all the details, but only a few
- g) It doesn't fit the ending or final situation

### QUESTIONS TO ASK YOURSELF:

- a) What point do the key details repeat and add up to when taken all together?
- b) Is the main idea or point a statement about the topic?
- c) Is it something useful that can help you to think or act in the world?
- d) Also consider: Do you agree with the statement as applied to life? Will you use this idea to undertake action in the world or to think about the world? Why or why not?

## J. Wilhelm: Using Inquiry Strategies to Promote Student Reading, Writing and Discussion

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REPUBLIC OF COCKROACHES – When the Ultimate Exterminator meets the Ultimate Pest, by David Quammen *Natural Acts*

In the fifth chapter of Mathew's gospel, Christ is quoted as saying that the meek shall inherit the earth, but lately, other opinions suggest that it will more likely go to the COCKROACHES.

A decidedly ugly prospect: That our dear planet – after the final close of all human beings – ravaged and overrun by great multitudes of cockroaches, plagues of them, scuttering herds shoulder to shoulder like the old herds of bison. Legions of cockroaches will sweep over the prairies like driver ants. This, unfortunately, is not the fantasy of a pessimist. It is the touch of hard, cold science.

The cockroach is a popular test subject for laboratory research. It adapts well to captivity, lives a long life, reproduces quickly, and will survive in full vigor on Purina Dog Chow. The largest American species is about two inches long. Here is an animal of frugal habits, tenacious of life, eager to live in laboratories and requires very modest space. Tenacious of life, indeed! Not only in kitchen cupboards, in dark corners of the basement, the average cockroach is a hard beast to kill.

Survival. The cockroach is roughly 250 million years old, which makes it the oldest of living insects, possibly even the oldest known air-breathing animal. Think of it this way: Long before the first primitive mammal appeared on earth, before the first bird, before the first pine tree, before the first reptile, the cockroaches were running wild. They can live almost anywhere and eat almost anything.

Unlike most insects, they have mouthparts that enable them to take hard foods, soft, and liquids. They tend to eat anything; however, cucumbers disagree with them.

They are flattened enough to squeeze into the narrowest hiding place. They are quick on their feet, and can fly if they need to. But the real reason for their long continued success and their excellent prospects for the future is this: They have never specialized.

If there was ever to be a nuclear war, probably the cockroaches would prevail. The lethal dose for animals in a pasture is 180 rads (gamma radiation). For horses it is 350 rads. Water is a shield for radiation, so the lethal dose for fish is from 1100 rads to 5600. The dose for humans is not known (no one has been tested to date), but around 600 is the guess.

Cockroaches who were exposed to 830 rads lived to be a ripe old age. A large test group was blasted with about 10,000 rads and HALF the group was alive two weeks later. They don't know exactly how long the second half lasted, but long enough for egg capsules to be delivered, hatch and the life cycle to continue on.

With luck maybe this won't happen. What do you suppose the common cockroach thinks of a can of RAID?