Building on background knowledge to formulate researchable questions

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UELMA 2014 – Questioning to Learn
Anne R. Diekema and Sheri Haderlie – USU Instructional Technology & Learning Sciences Department
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Encouraging Curiosity Activity

“Curiosity is the wick in the candle of learning.” William Arthur Ward
“Curiosity is as much the parent of attention, as attention is of memory.” Richard Whately
Use the box below to record your answers/thoughts about the questions on slide 7

Understanding Questions Activity
With your group – change closed ? to open ?

______________________________
______________________________

On your own – for your own topic
Closed:
______________________________

Open:
______________________________

With your group – using the text on the back
On:
______________________________

Between:
______________________________

Beyond:
______________________________

Learning to Question Activity
Using your own topic, fill out the chart below

<table>
<thead>
<tr>
<th>What do I Know</th>
<th>What do I Need to know</th>
<th>Where can I find information</th>
</tr>
</thead>
<tbody>
<tr>
<td>What keywords and phrases will lead me to information I need?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Dewey vs. Genre Shelving...the Conversation Continues Here
February 15, 2013. Posted by Jen Habley in ALA Midwinter Meeting, Check this out!, Hot Topics. [www.aasl.al.org/aaslblog/?p=3461]

At the recent ALA Midwinter Conference in Seattle, I moderated the AASL-sponsored Hot Topics discussion on “Genre–fying” the collection. Six panelists presented a variety of viewpoints on how to handle an issue that is being widely discussed. A number of librarians have implemented the change, reclassifying their nonfiction titles using letters identifying the genre. Some have used EBSCO’s NoveList as a source for the categories they chose, others have used their own ideas. A few have integrated fiction within the nonfiction. A more limited approach is to “genre–fy” the fiction collection. Those who have made the change point to increased circulation. Librarians who think we should stay with Dewey argue that consistency between libraries is important and the amount of work to make the switch is huge.

Questioning to Learn Activity

Narrow and Focus research questions

<table>
<thead>
<tr>
<th>Question Starters</th>
<th>Focusing Questions</th>
<th>Looking for Relationships</th>
</tr>
</thead>
<tbody>
<tr>
<td>Who \ Discover</td>
<td>changes, types, kinds</td>
<td>significance, trend(s)</td>
</tr>
<tr>
<td>What \ Investigate</td>
<td>jobs, roles, importance</td>
<td>consequential, compare</td>
</tr>
<tr>
<td>When \ Compare</td>
<td>purpose, structure, characteristics</td>
<td>project, contrast</td>
</tr>
<tr>
<td>Where \ Uncover</td>
<td>value, lifestyle, relationships</td>
<td>implication, cause</td>
</tr>
<tr>
<td>Why \ Determine</td>
<td>function, defense, adaptations</td>
<td>connection, effect</td>
</tr>
<tr>
<td>How \ Examine</td>
<td>capacity, survival, conditions</td>
<td>correlation, value</td>
</tr>
<tr>
<td>Which \ Study \ Research</td>
<td>intent, result, infer</td>
<td>pattern(s), analyze</td>
</tr>
<tr>
<td></td>
<td>outcome, imply</td>
<td></td>
</tr>
</tbody>
</table>

Review your inquiry questions

- Stimulates your curiosity
- Encourages you to dig deep for information
- Challenges you to think about your discoveries
- Prompts you to analyze your findings
- Guides your research quest
- Keeps you focused
- Sparks your imagination
- Helps you to make personal meaning

Use one or more of the focus or relationship words in your question(s) to give research power. Brainstorm your question ideas and record your best efforts here.

"Curiosity is an important factor in the learning process, both as a motivator and a facilitator." Carol Koechlin & Sandi Zwaan

Questioning to Learn

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Today’s context

“Anytime they [students] are questioning, finding answers, discovering new ideas, and constructing their own meaning they are drawing upon their skills of inquiry.”

(AASL, 2007, p. 17)
Introduction

UELMA 2013 - Searching to Learn
Student difficulty selecting meaningful topics
Enter Searching to Learn strategy
Builds background knowledge

UELMA 2014 (today!) - Questioning to Learn
Moving from background knowledge to great questions
Hands-on session with guided practice exercises
The Student as Questioner

1. Encouraging curiosity
2. Understanding questions
3. Learning to question
4. Questioning to learn

1. Encouraging Curiosity

• Harness the power of curiosity as a catalyst for learning

• Rich learning environment: library resources, experts, field trips, etc.

• Asking questions is part of the learning process - hands-on, minds-on

• Model asking questions

Encouraging Curiosity Activity

Question prompts to encourage curiosity

- Which subject are you most interested in? What is it about this subject that interests you?
- Are there certain topics within this subject that holds more interest than others? Which? Why?
- If you could study/investigate anything you wanted to, what would it be?
- How does your curiosity about a topic affect how you approach it, how hard you work at it, how much you remember?
2. Understanding Questions

- Purpose affects construction
- **Closed** (1 answer or easy-to-find)
- **Open** (not a simple answer, how or why)
- **On the line** (answers in text)
- **Between the lines** (clues in text)
- **Beyond the lines** (reflective, require making connections between text and related ideas or concepts)
Understanding Questions Activity

• Turn closed questions into open
  a. When was Ludwig von Beethoven born?
  b. What does UELMA stand for?
  c. Where is the next total lunar eclipse best observed?

• Create a closed and open question for your own topic

• Create questions from text on handout
  a. On the line question
  b. Between the lines question
  c. Beyond the lines question
Sharing Open Questions
Understanding Questions Activity

• Turn closed questions into open
  a. When was Ludwig von Beethoven born?
  b. What does UELMA stand for?
  c. Where is the next total lunar eclipse best observed?

• Create a closed and open question for your own topic

• Create questions from text on handout
  a. On the line question
  b. Between the lines question
  c. Beyond the lines question
Sharing Topic Questions
Understanding Questions Activity

• Turn closed questions into open
  a. When was Ludwig von Beethoven born?
  b. What does UELMA stand for?
  c. Where is the next total lunar eclipse best observed?

• Create a closed and open question for your own topic

• Create questions from text on handout
  a. On the line question
  b. Between the lines question
  c. Beyond the lines question
Sharing Handout Questions
3. Learning to Question

• A good research question is one that guides the questioner through a quest to build personal meaning and understanding
• Who, what, where, when, why, how?
• KNWL chart
• What keywords and phrases will lead me to information I need?

Learning to Question Activity

• **KNoWLedge - KNWL Chart**
  - What do I **K**now?
  - What do I **N**eed to know?
  - **W**here can I find information?
  - What keywords and phrases will **L**ead me to the information I need?

• Fill out the **KNWL** chart about your own topic
4. Questioning to Learn

• Presearch before research
  o Can’t ask great open ?? without some prior knowledge
  o Searching to learn fosters background knowledge

• Learn how to ask (construct) relevant and appropriate questions

• Apply questioning skills to sort through information, analyze data, solve problems, make decisions, take actions, self-analyze, and set goals

What is a hurricane?
Investigate the kinds of severe storms and how they are predicted.
Examine the consequences of severe storms for families and businesses.
What are the possible implications of recent severe storms for building codes and disaster planning?
What are the similarities and differences between hurricanes and other types of storms?
Is there a connection between global warming and severity of recent tropical storms?
What can be done to limit the impact of severe storms on people, structures and the environment?
How can we ensure that effective evacuation and survival plans for coping with future disasters are put in place in all vulnerable locations?
How might we apply knowledge of design and environmental conditions to improve urban settlement patterns?
Questioning to Learn Activity

• Use questions from your KNWL chart and “power them up” using the resources on your handout
Sharing Research Questions
Pull It All Together

What have you done in your own situation to foster questioning to learn?
Wrap-up

• What did you learn?
• Will you use questioning to learn in your own classes?
• If so, how?
Thank you for coming & participating
Further reading


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Presentation materials:
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