Categorizing Research Questions

Overview
In this offline lesson, students organize the research questions they previously generated into categories. Categorizing questions engages students in analysis of the content of questions. Generating labels for questions categorized requires students to synthesize information by coming up with labels that describe categories. Additionally, by labeling categories, students identify the big ideas about the topic under study. This provides a graphic organizer in their mind to which they will add the myriad of facts they will gather during their research.

Student Objectives
Students will
• categorize questions by topic.
• label the topics for each category.

Instructional Plan
Materials:
• Pocket charts (at least 6) or post-it tape to allow students to tape questions on board
• Whiteboard/markers (2-3)
• Red medium tipped markers (1 per group)
• Research questions cut into strips (one question per strip of paper)

Preparation
• It is a good idea to have a large area where questions can be spread out so that all students can see all the questions. Placing the questions on the floor or tabletops and having students walk around to view them works well.
• Using post-it tape or pocket charts, spread the questions around the room. Either place questions on pocket chart racks or use post-it tape to put up them up on blackboards and bulletin boards.

Instruction and Activities
1. Tell students that they did a great job of generating questions. You counted over 60 questions. The problem is what to do with all these questions? Any suggestions? Students will generally come up with the notion that the questions need to be organized.
   • Ask students how they suggest organizing them.
   • Write down all suggestions on the whiteboard.

2. Ask students which method they think would be best to organize the questions. While you want students to ultimately decide to categorize questions by content, students may not initially decide on that method. Usually the older the students (4th - 5th grade and above) will choose this method. Younger students may choose to organize them by alphabetical order, by type of question, or by what the question starts with. Allow students to make these choices and begin categorization. Usually after categorizing just a few questions students will recognize that organizing the questions in this manner does not yield the kind of results they want.

3. When students finally decide on the content method for categorization, ask students if they see a category where they would like to begin.
   • Ask a student to pick a question, read it aloud, and tell what category (s) he is thinking of to begin the categorizing process.
   • Have the student take the question and put it into one of the pocket charts or tape to the board.
   • Ask the class if anyone sees other questions that belong with the first categorized question.
   • Choose a student, have the student choose the question, read the question aloud, and tell why she thinks it belongs with the first question. Ask the class if they agree.

4. Next ask students if they see another category that could be started?
   • Choose a student, have the student choose a question, read the question and explain a new category. Have the student put the question in a different pocket chart.
   • Tell students if they find two questions that are exactly the same, they are to put the question that is the same
behind the other question.

- Continue with this process for 2 or 3 more students.
- Now excuse all students to choose a question and either add to a category or start another category.

Students will take ownership of this process. They will approach charts and discuss with others what they think belongs or does not belong in categories. It is a good idea to record some of these conversations because it is a testament to students higher order thinking.

5. Once all questions have been categorized, go over each category with the class, having different students read each question, and then ask if they agree with the category chosen. Continue in this manner until you have finished reviewing all categories.

- As you are going over each category, ask students to think of a label that will describe that category. Ask the class if they agree with suggested categories.
- Have a student take a blank sentence strip and write the label for the category on the sentence strip with a medium tipped red marker.
- Have the student put the labeling sentence strip at the top of the category.

**Student Assessment/Reflections**

Categorizing research questions requires students to analyze information and synthesize that information into new knowledge to be used. This new knowledge becomes the graphic organizer or the organizational schematic in the student's brain with which the student can categorize and store new data/information as it is gathered. As the teacher guides this initial learning experience, he/she is also assessing those students who can analyze and synthesize information and those who cannot. As the teacher repeats this process throughout the year, an important assessment component is to see which of those students who, during the initial categorizing experience, could not analyze and synthesize information, can now do so.

**Standards**

**American Association of School Librarians, Information Literacy Standard:**

6. The student who is an independent learner is information literate and strives for excellence in information-seeking and knowledge generation.

**ISTE National Educational Technology Standards (NETS•S) and Performance Indicators for Students**

3. Research and Information Fluency

Students apply digital tools to gather, evaluate, and use information. Students:

a. plan strategies to guide inquiry.

b. locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media.

c. evaluate and select information sources and digital tools based on the appropriateness to specific tasks.

d. process data and report results.

**NCTE/IRA Standards**

1 - Students read a wide range of print and non-print texts to build an understanding of texts, of themselves, and of the cultures of the United States and the world; to acquire new information; to respond to the needs and demands of society and the workplace; and for personal fulfillment. Among these texts are fiction and nonfiction, classic and contemporary works.

3 - Students apply a wide range of strategies to comprehend, interpret, evaluate, and appreciate texts. They draw on their prior experience, their interactions with other readers and writers, their knowledge of word meaning and of other texts, their word identification strategies, and their understanding of textual features (e.g., sound-letter correspondence, sentence structure, context, graphics).

4 - Students adjust their use of spoken, written, and visual language (e.g., conventions, style, vocabulary) to communicate effectively with a variety of audiences and for different purposes.

5 - Students employ a wide range of strategies as they write and use different writing process elements appropriately to communicate with different audiences for a variety of purposes.
6 - Students apply knowledge of language structure, language conventions (e.g., spelling and punctuation), media techniques, figurative language, and genre to create, critique, and discuss print and non-print texts.

7 - Students conduct research on issues and interests by generating ideas and questions, and by posing problems. They gather, evaluate, and synthesize data from a variety of sources (e.g., print and non-print texts, artifacts, people) to communicate their discoveries in ways that suit their purpose and audience.

8 - Students use a variety of technological and information resources (e.g., libraries, databases, computer networks, video) to gather and synthesize information and to create and communicate knowledge.

11 - Students participate as knowledgeable, reflective, creative, and critical members of a variety of literacy communities.

12 - Students use spoken, written, and visual language to accomplish their own purposes (e.g., for learning, enjoyment, persuasion, and the exchange of information).