practical and engaging data analysis strategies

Collecting data – regardless of which method is used – can be a very time consuming and demanding process. After you have completed your data gathering, then what? How do you go about making sense of all the information that you have collected? How do you synthesize it and report what you have learned to others? Analyzing data can be a creative, engaging and fun process. Listed below are a number of different "user friendly" data analysis strategies. Each is briefly described along with the literature citation which more fully illustrates the practice. See the annotated bibliography for reference information for each author.

CATEGORIZING:

After taking photographs of their community (see Photovoice) the youth used the photographs to identify community assets and community deficits. Assets were then further divided into people or places and deficits defined as either things that the youth could, or not, do something about or things they could not. Then they attempted to match which community assets could be used to correct or improve the deficit side of the equation.
Mead, 2003

CHARTING:

A simple matrix of concepts are listed, (in Hart the benefits of different settings in children's lives are listed) and using a marker or sticker children "vote." In some cases multi-voting is appropriate. Multi-voting works by allowing each person a certain number of markers (perhaps five). They may choose to place all their marks on one option or distribute them across several choices. A chart could also be used for tallying responses from other interviews conducted outside of the group. It allows for a good visual aid. In the case described in Hart, youth of all ages understood the method and they were highly engaged in small group discussion while completing the task.
Hart, 2003 (p. 68-69)

COLLAGE:

Working in small groups at Girls Inc. the girls built symbolic collages to represent the organization. In the same small groups the girls were able to further identify what was most important to them from the collages and come up with research questions. When they returned as a large group, all the questions were read and together they agreed on two questions.
Chen, 2010

DATA DIALOGUE, FLIP CHARTS AND GRAFFITI WALLS:

Conduct a data dialogue by posting findings on the walls and allowing participants to respond to the posted comments or information. At a conference of youth and adults, participants finished a variety of sentences such as, "Our most successful activity has been..." with youth using one color and adults another. The responses were written on flip charts which were posted around the room(s), like graffiti, to give participants an easy way to view responses on a variety of topics. Using two colors for responses allowed equal time / space for both youth and adults, but an ability to differentiate which comments came from which group.
Voakes, 2003 (p. 28) and Powers and Tiffany, 2006

INTERVIEW ANALYSIS:

Responses to interview questions were posted on the wall and girls read across the responses. Next they identified key themes and patterns and lastly tallied results, calculated percentages and selected quotes.

The guiding questions for this analysis were:
1. What were the top three responses?
2. What percentage of girls gave these responses?
3. What quotation represents their response?

It was felt that small groups with concrete steps eased the process from abstract to the advanced.
Chen, 2010

LISTENING TO THE EXPERTS:

Bragging Booths were created by the youth delegates from each center to demonstrate their best practices through a variety of media. Workshops were hosted by youth who also secured evaluation comments from participants and the Modified Social Stress Model, MSSM, was used to evaluate how a given activity, program or policy will affect youth.
Voakes, 2003

MAP MAKING / SOCIAL MAPPING / ORGANIZATIONAL DIAGRAMS:

Map making:
In the situation described by Hart, children were asked to make a geographic map to represent where members lived and homes where people lived who were not members. They first used yarn and cardboard (movable objects) and completed the map using pencils or crayons. This method was time consuming so they later moved to social mapping.

Social mapping:
In this process a series of circles is drawn to identify distance rather than actual geographic location, each circle representing the same distance from the club. (In this case each circle was an additional 5 miles.) Youth then identified how far they lived from the club and in some cases their relationship to neighbors. This method could be used when recording a variety of aspects of a community being studied.

Organizational diagrams:
Cards of different colors were used to identify age of gender and then placed in groups by activities. The resulting diagram showed what age and gender members engaged in similar activities.

Hart, 2003 (described above), also in *Suleiman, 2006*, drawings of where students lived, a time table of activities, a social network diagram and child-led walking tours to create an exhibition to define priorities for action. *Wilson, 2007,* made a map of the school environment using contrasting attributes as a way to discuss assets and issues at the school.

MESSAGING GAMES:

Four different games were used to teach data analysis, to find similarities across the data and transform the data into action:

1. The Candy Sorting Game. Using a wide variety of candy, groups first sorted by type (first-order analysis); then reorganized the piles into fewer groups such as brands (second-order analysis); and then provided names (theming).

2. The Message Scavenger Hunt. Using their PhotoVoice data (photos and narratives) groups identified messages and highlighted them. To cluster the messages, a "scavenger hunt" was conducted where each participant would find themes that they felt matched and present their match to a facilitator. If the facilitator was convinced, the match was posted on a message wall.

3. Memory Matching Game. This was another clustering game where the backs of the messages were numbered. Teams called out numbers they thought were "matched" in theme. As before they had to convince the facilitators of the match.

4. Simon the City Council Member Says Game. After identifying the messages this role play game was used to assist the participants with summarizing and condensing large portions of data into recommendations. Using six stems (youth could, youth should, adults could, adults should, local organizations could, local organizations should) recommendations were written and organized and then shared at the mock council meeting.
Foster-Fishman, 2010

PHOTOGRAPHY (PHOTOVOICE):

Problem identification and initial feedback from youth in a small Midwestern city was gleaned using photography through a process coined as Photovoice. The first two weeks students focused their photographic efforts around two framing questions about their future; the next two weeks the role of friends and community were the subject of their photographs.

Next, youth selected three photos to share and using a free writing process answered three reflective questions such as, "What is important for people to understand about this photo?" Using a facilitator the group expanded on the photographer's reflection and the discussion allowed for deeper reflection and promoted a critical analysis of community conditions in the photograph.

The youth developed five overarching issues though group dialogue

around the photos and were able to articulate each one with narrative content and an example photo or two.

The photographs were then used for a community exhibit to promote knowledge and sharing among other community residents and eventually they created a book around the Photovoice project.

Foster-Fishman, 2010 (example above) other examples in: *Cammarota, 2009; Mead, 2003; Strack, 2004* (includes a recommended curriculum for Photovoice) *Wang, 2006* (created method and first used it in mid-1990's); *Wilson, 2007; Foster-Fishman, 2005* (this article also evaluates the impacts of participating in PhotoVoice on participants).

POETRY:

In the Social Justice Education Project youth made observations and created field notes. Next they reflected on their notes and created poetry to report on their documentation about an experience within a social context they had observed. Poetry was also used to generate themes.
Cammarota, 2009 (p. 59)

SHOWeD:

When selecting images for building context or story telling each participant selects one or two that he or she feels is most significant and then uses these questions to frame the story:

S: What do you See here?

H: What's really Happening here?

O: How does this relate to Our lives?

W: Why does this situation, concern, or strength exist?

eD: What can we Do about it?

Typically this is used with Photovoice, but could also be used when examining other data.
Strack, 2004 and *Wang, 2006*

SKITS:

In order to brainstorm ideas for a matrix of activities the youth were asked to perform three skits of their favorite activities: one of an activity they did in the club, one an activity outside the club and finally an activity they wished they could do in the club. Coming up with the skits was an effective way to engage everyone and they served to liberate ideas. However, young children occasionally used this as an opportunity to perform something they wanted to perform rather than a favorite activity and it was a very time-consuming method.
Hart, 2003 (p. 71)

STORYBOARD:

In an effort to help youth answer the question, "How does this affect our lives?" story boarding was used to introduce the idea of causality. The story board allowed youth to see a photograph as a moment in a story or sequence. To do this, students created a storyboard consisting of simple drawings and captions to describe the following:

❶ their picture

❷ what they thought or felt about it

❸ what might have happened right before

❹ why it happened

❺ what would happen next

❻ what they hoped would happen in the future.

Wilson, 2007 (p. 246)

VENN DIAGRAM:

To collectively identify all of the people and organizations that had an influence on the organization being studied, the youth were given pieces of cards of different size, color and shape to arrange around the name of the organization. The size of the card related to the amount of influence someone else had and the color and shape identified the type of organization or whether it was a person or organization. If it was a direct influence the card would touch the organization card and if it was an indirect influence the card would be placed a distance away. Depending on the age of those participating more or less variables could be incorporated.
Hart, 2003 (p.73)