DABBLING IN THE DATA

A Hands-on Guide to Participatory Data Analysis | By Public Profit

Public Profit is a woman-owned consultancy that helps mission-driven organizations deepen their ability to learn from data, make great decisions, and improve the effectiveness and quality of their services.

We're passionate about using social science research methods to empower our clients to improve quality. We are at our best when our clients use our findings to get better at what they do; this is our sole focus.

We believe in the power of elevating diverse perspectives, using community-based and human-centered approaches, and listening to understand. Many of the activities in this guide do just that!

Want to use your data to be great? Get in touch!

This guide was developed by Public Profit | Oakland, CA
www.publicprofit.net

About this Guide

WELCOME TO *DABBLING!*
A Hands-on Guide to Participatory Data Analysis

You, too, can dabble in the data!

For many people, **data analysis** can seem like a daunting task, requiring specialized knowledge and years of training. This guide includes hands-on, practical approaches to explore and analyze data frequently used in mission-driven organizations. Many of the activities in this guide are adapted from common meeting facilitation techniques and should feel familiar to many.

Involving more people in meaning making promotes more **inclusive, equitable** interpretation of information, which in turn supports more robust, accurate conclusions. Collaborative approaches to interpreting information are **culturally responsive**, as well.

PURPOSE OF THE ACTIVITIES

The activities in this guide are suitable for two purposes:

- **Learning analysis techniques** - We include activities designed to introduce or refresh users with concepts and skills, such as calculating descriptive statistics on a set of numbers using data that is commonly available such as participants' own birth month, height and shoe size.

- **Learning ways to analyze data you have in hand** - The second kind of activity requires some preparation, usually involving gathering information about your organization and preparing the data. We included these activities for users who already have some data in mind and are ready to get dabbling!

HOW TO NAVIGATE THIS GUIDE

There are many different entry points into using this guide. We recommend starting with a review of the preview pages at the beginning of each section.

You will find a full list of the activities in this guide, organized by section, on **pages 6-7**.

Every activity includes information that you will need to prepare and complete the activity:

- Activity Description and Objective – review to get a sense for the sequence of steps.
- Materials, Room Set Up – lists the tools and recommended space to hold the session.
- Activity Steps –step-by-step instructions on how to lead the activity.
- Group Size – in general, small is 5-7 people, medium is 7-10 and large is more than 10.
- Virtual Friendly – denotes *Dabbling* activities that can easily be conducted online.

Activities with extended preparation or are more complex to facilitate may include:

- Adaptations – we provide these based on adaptions we have made while using the activity ourselves!
- Example Scenario – it may help to read example scenarios when they are included to get a sense for possible applications for the activity.
- Selecting Data and Prep – some activities are more complex, and we include expanded explanations to help with prep.

SOURCES

Many of the activities included are based on methods developed from others. When possible, we list sources on the first page of the activity. For some activities where no single source is cited, we acknowledge that we have drawn from many colleagues.

TIPS N' TRICKS
Make Your *Dabbling* Session Great

DECIDE WHETHER TO PREPARE DATA IN ADVANCE

Dabbling activities can be used to build participants' analysis skills, or to engage teams in making meaning of existing information.

In general, meaning making sessions will require advance preparation by the facilitator, so that the group's time is spent on interpreting information. Plan accordingly!

Skill building sessions are often focused on deepening participants' familiarity with preparing data for analysis. In those cases, less data prep is required of facilitators.

ASSURE THE SPACE MEETS THE GROUP'S NEEDS

Whenever possible, check in advance to assure that the space the group will meet in is well-suited to the activity. This can include having enough number of tables and chairs, space for participants to move around, and room on the wall (or easels) for posters or chart paper.

Depending on the time of day and length of the session, offer food and drinks to the group, or let participants know to bring their own.

ADAPT FOR VIRTUAL SETTINGS

Many *Dabbling* activities work well virtually. Our go-to platforms for online meaning making sessions are Miro, Mural, and Google Slides.

Contents

Contents

BUILDING DATA SKILLS

The activities in this section will help you refresh core data skills in fun, low-stress ways. Data that has been organized and tallied can be easily converted into simple calculations such as the mean, mode, median, min, and max of the set.

What the terms mean

Min/Max: The smallest and largest value in a set of numbers.

Mean: The sum of a set of numbers, divided by the number of entries in a set (average).

Median: The "middle" value in a set of numbers.

Mode: The most common or frequent number in a set.

Frequency: How often a number is present in a set.

Histogram: The number of values in each category, represented by bars.

Qualitative Data Analysis: The process of moving from raw qualitative data to understanding and interpreting its meaning.

Theme: Characteristics used to sort data in order to perform qualitative data analysis.

Building Data Skills Activities
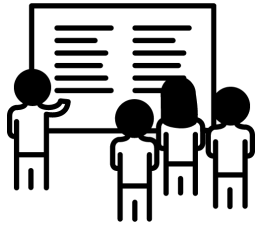
Height Line Up

Learn how to calculate and visualize the mean, mode, median, min, and max using participants as data points.

P.10
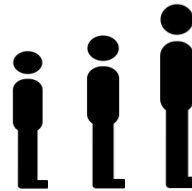
Human Histogram

Using data points represented by participants, the group will arrange themselves into a histogram to see how data is distributed.

P.14
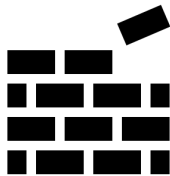
LEGO Bar Chart

Using LEGO blocks, participants learn to interpret and display categorical data.

P.15
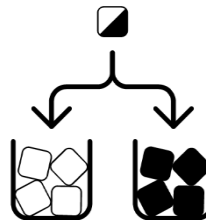
Sort It Out

This group sorting activity allows participants to learn how to develop categories used in qualitative data analysis.

P.16
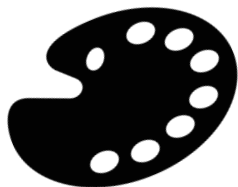
Mark It Up

Participants practice thematic or inductive coding through hands-on practice.

P.17

Write a Song

Using comparison, participants learn to find stories in data and build awareness on what kinds of questions to ask about text data.

P.18

Building Data Skills

HEIGHT LINE UP

Group Size Small to Medium
Time 30-45 mins.
Virtual? No

The Height Line Up is a data primer on how to generate basic information about a set of numbers (**descriptive statistics**) and graphing them on a **number line**.

Each participant will contribute his/her height as a data point and then get to practice organizing, calculating, and visualizing the "basics" about the data. This activity can help you and your staff to feel more engaged with data analysis.

OBJECTIVE

Learn how to calculate and visualize the mean, mode, median, min, and max from a set of numbers.

MATERIALS

- ☐ Writing tools
- ☐ Flipchart
- ☐ Rulers/tape measure
- ☐ Activity worksheet (following this activity description)

ROOM SET UP

This activity can take place inside or outside, as long as there is plenty of room for people to move around and line up behind one another.

SOURCE

Preskill, H. & Russ-Eft, D. (2005). *Understanding descriptive statistics*. Building Evaluation Capacity, 291-293.
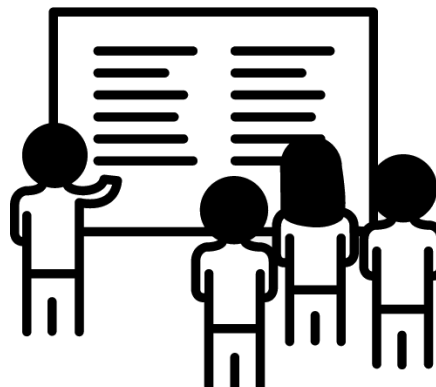
ACTIVITY STEPS

|	
1	Group participants into groups of 7 to 10 and distribute the worksheet provided on the next page. **TIP!** For small groups, the facilitator may collect and record data with the full group and walk through the steps in the worksheet all together.
2	Have participants line up in height order within their groups and complete the tasks listed on the worksheet.
3	Ask participants to share out their responses to the following questions: • What did you gain from the activity? • What kind of information do descriptive statistics provide? • What are some limitations of descriptive statistics you encountered?

Instructions: In your group, line up by height from the lowest to highest. Follow the steps listed below. Each person should have a worksheet to **record data** individually.

STEP 1: RECORD YOUR DATA

Record the height and foot size of each person who is lined up in the table below.

Height (inches)

12 inches per foot
Example: 5'6" = write 66

Shoe Size
For women's sizes, subtract 1.5 (to convert all sizes to the same unit).
Example: Size 10 women's = write 8.5
Example: Size 11 men's = write 11

Height (inches)	Shoe Size

STEP 2: CREATE A FREQUENCY DISTRIBUTION TABLE

Review the list of heights you recorded in Step 1 and count the number of times each height occurs the list. Write each height into the spaces provided at right from the lowest to the highest height. For example, if two people are 60 inches tall, then the frequency of 60" would be 2.

Don't worry about shoe sizes for this step, you will use them further on in this activity. Your frequency distribution may have fewer categories than the number of rows provided in the table – it's ok to leave some rows blank!

Height (inches)	Frequency
Add up the frequencies and write in the box to the right	

STEP 3: WHAT IS THE MODE?
The mode is the number that appears most frequently.
Determine the mode and write the mode in the box to the right.

Mode

STEP 4: WHAT IS THE RANGE?
A range is made up of the lowest height (min) and highest height (max).

Range
Min=
Max=

STEP 5: WHAT IS THE MEDIAN?
The median is the number that is right in the middle of all the values. You can find the median by arranging your numbers from lowest to highest heights and locating the middle value. For example, if you have 5 heights listed in Step 2, the 3rd height is the median. If you have an even number of heights, pick the two middle values from the list, add them together and divide by 2.

Median

STEP 6: WHAT IS THE MEAN?
Add all heights together (from the Step 1 table) and divide by the total number of heights you recorded to get the mean.

Mean

STEP 7: WHAT DO YOU SEE?

Create a scatter plot showing inches of height on the x-axis and inches for shoe size on the y-axis.

Start by labeling both axes and adding tick marks and value labels to the chart.

Next, plot each data point from your set.

What are the trends you see?

y-axis = Shoe Size

x-axis = Height (inches)
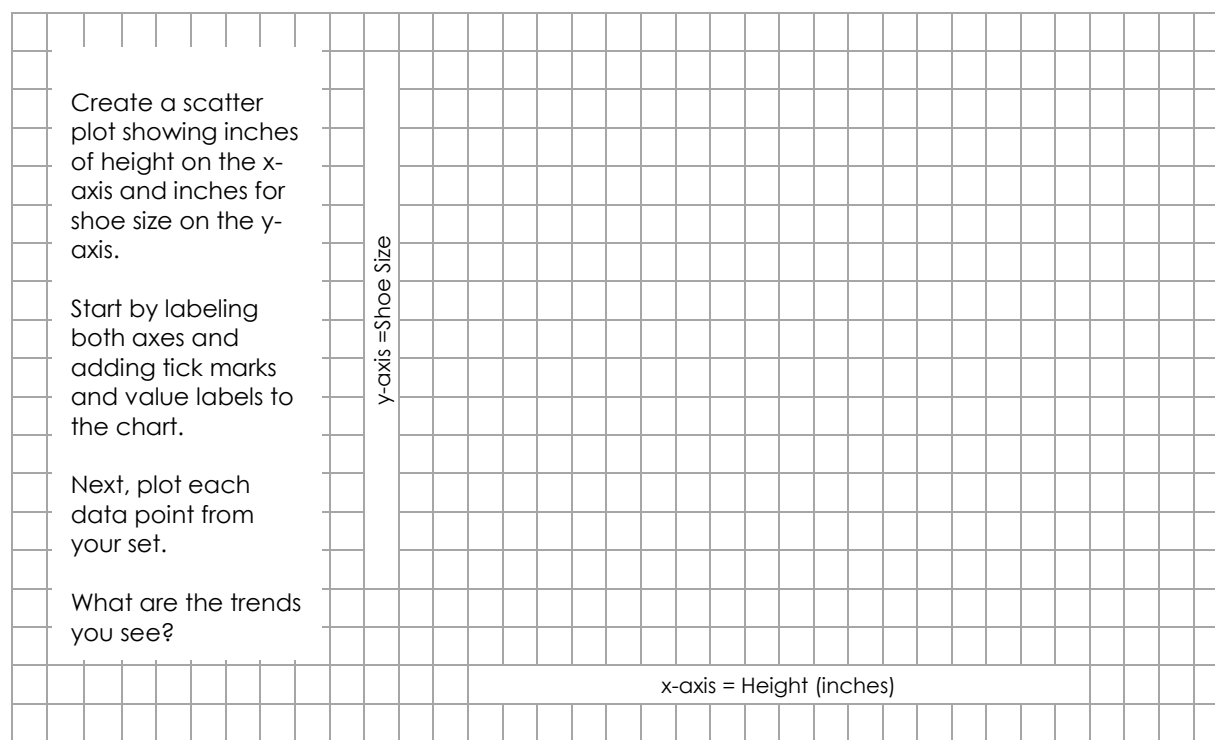
STEP 8: LET'S DO IT ONE MORE TIME

Using the data you collected for step 1, create a class frequency distribution of your group heights using the categories listed in the table below. Class frequency distribution is different from the frequency distribution you complete in steps 2, because the values are grouped together, using class intervals. To get class intervals, you divide the range into groupings, such as the classes we've provided in the table below.

Enter the count of people whose height falls into each category, under the column "Frequency."

Examine the class frequency distribution.

What is the modal class interval?
Hint: Which class has the highest frequency?

What is the median class interval?
Hint: Which class includes the median value from step 5?

Class	Frequency
Under 60"	
60"-64"	
65"-69"	
70"-74"	
75" or taller	
Under 60"	
Add up the frequencies and write in the box to the right	

Things to think about:
- What, if anything, did you learn from this activity?
- What kinds of information do descriptive statistics provide?
- Did your impression of the data change between looking at the data as frequencies and then grouped by class frequencies?
- What are some limitations of descriptive statistics? What don't they tell you?
- How is this activity useful for you?

Building Data Skills

HUMAN HISTOGRAM

Group Size Any size
Time 15-30 mins.
Virtual? No
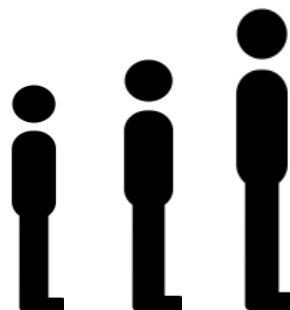
The Human Histogram gets participants out of their seats and into the data. It's a good refresher on concepts like **categorical data** and **bar charts**.

Each participant will represent a data point in a data set. The group will organize themselves into a human histogram to see how the data is distributed.

OBJECTIVE

Participants will represent data points in a human histogram of the group's birthdays to demonstrate how to create a histogram and understand distribution.

MATERIALS

☐ 12 sheets of paper, with each month of the year written on it

ROOM SET UP

This activity can take place inside or outside, as long as there is plenty of room for people to move around and line up behind one another.

ADAPTATIONS

Try this activity with data your organization has already collected and that is meaningful to you.

ACTIVITY STEPS

| 1 | Tell the group that they will be moving around and creating a human histogram (a histogram is a graphical representation of the distribution of numerical data).

In a large open area, place the month signs on the floor, side by side. |
| 2 | Instruct participants to find their birth month and form a single-file line at their month. |
| 3 | Ask participants to share out their responses to the following questions:
• What do you notice about the groups around you?
• Which month has the most people? The least?
• What kind of information does a histogram provide?
• How might we use this activity with programmatic data? |

Building Data Skills
LEGO BAR CHART

Group Size Any size
Time 20-30 mins.
Virtual? Yes
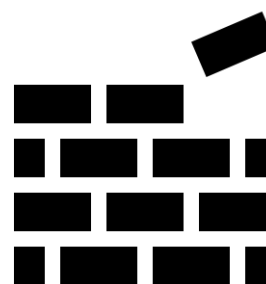
The LEGO Bar Chart is a whimsical way to familiarize teams with bar charts and categorical data.

OBJECTIVE

In using LEGO blocks to build the data, participants get a chance to interpret and display categorical data.

MATERIALS

☐ LEGO blocks of varying lengths (ideally similar widths and variety of colors) in containers

☐ LEGO base plates

☐ Paper & pens/markers

☐ Pre-populated data or quick survey

ROOM SET UP

This activity can take place inside or outside, as long as there is plenty of room for groups to gather. Access to tabletops is ideal.

VIRTUAL VARIATION

Use an online LEGO planning site, like Meca Bricks.

SOURCE

Mathemativity (2016, Sept 6), LEGO Bar Chart (video). Retrieved from https://www.youtube.com/watch?v=PGmxnPAW7es.

ACTIVITY STEPS

1 Tell the group that they will be building a bar chart. Each person or group should have a base plate, LEGO blocks, and data.

If there isn't available data, do a quick survey. Have people vote on a question with 4-5 choices.

Example, "What's your favorite season?" Options of Spring, Summer, Fall, Winter, None. Provide the group with the results, including the total number of people.

2 Give 5-10 min for the group to graph the data using LEGO blocks however they want. Remind them there are many ways to interpret the data.

3 Ask participants to share out their graphs to the following questions:

- How did you build your graph?
- What does your graph communicate at first glance?
- What questions came up while doing this activity?
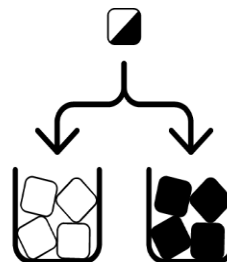- How might we use this activity with programmatic data?

Building Data Skills

SORT IT OUT

Group Size   Small to Medium
Time   15-30 mins.
Virtual?   Yes

Qualitative data analysis requires the analyst to develop categories and themes. This group sorting activity will provide participants with the opportunity to learn how sorting is done. It offers hands-on practice with **categorization** and **analysis.**

OBJECTIVE

Participants will get hands-on practice using simple candy sort to gain experience in developing categories and sorting concepts into themes.

MATERIALS

- ☐ A variety of wrapped candy (mini chocolates, Starbursts, Jolly Ranchers, etc. work well)
- ☐ Plastic bags
- ☐ Put 15-30 pieces of candy into each bag (make enough bags so that each group gets one)
- ☐ Sticky Wall or large poster paper

ROOM SET UP

A space with tables or areas for small groups to work.

SOURCE

Preskill, H. & Russ-Eft, D. (2005). Developing qualitative data analysis categories and themes. *Building Evaluation Capacity, 273-275.*

ACTIVITY STEPS

| 1	Place participants into groups of 3 to 5 people, distribute bags of candy, and tell them they have 5 minutes to organize their candy into piles.
2	After 5 minutes has passed, ask groups to explain how they sorted the candy. Ask them to explain their thinking about how they determined categories.
3	Next, ask groups organize the candy by color, shape, and degree of hardness.
4	Have each group discuss its experience sorting the candy using the two different approaches. Focus on the issue of emerging or predetermined categories.
5	Debrief the activity by asking participants the following questions: What challenges did you encounter while sorting with and without predetermined categories? Was the candy sorted differently on each round? When might you use a predetermined set of categories for analyzing data?

Building Data Skills

MARK IT UP

Group Size Small to Large
Time 45 - 60 mins.
Virtual? Yes
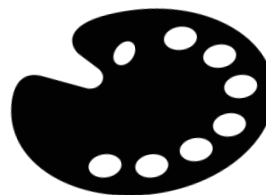
Qualitative data analysis requires the analyst to develop categories and themes. This activity provides the opportunity to practice inductive coding, or a ground- up approach.

OBJECTIVE

Participants get hands-on practice in thematic or inductive coding of text.

MATERIALS

☐ Prepared copies of transcripts or open-ended responses from surveys. For print versions, the excerpt should be double-spaced with 1" margins.

☐ Put a handful of color pencils, markers, and highlighters on each table

☐ Optional: poster paper or electronic note catcher

ROOM SET UP

A space with tables or areas for small groups to work is ideal.

SOURCE

Adapted from InterVarsity Christian Fellowship's Manuscript Study, accessed at https://intervarsity.org/bible-study

Qualitative Coding Tutorial: How to Code Qualitative Data for Analysis, accessed at https://www.youtube.com/watch?v=8MHkVtE_sVw

ACTIVITY STEPS

1	Place participants into groups of 3 to 5 people, distribute copies of the same transcript/excerpt, colored pencils, markers, or highlighters.
2	Participants take about 5 minutes to read through the text before beginning coding.
3	Participants use pencils/markers to color code the text by theme. For example, they can use different colors to underline, circle or highlight repeating words/phrases/ people. For the last 5 minutes, small group members share what they coded with each other.
4	Bring teams back as a full group and take turns describing the themes they identified. As a group, discuss: What were similarities/differences of what was marked up? What are questions/thoughts people had about this process? The facilitator or scribe lists the answers on a chart or shared document.

Building Data Skills

WRITE A SONG

Group Size   Small to Medium
Time   30 - 45 mins.
Virtual?   Yes

Qualitative data analysis requires the analyst to develop categories and themes. This activity provides participants practice comparing how similar or different text data can be.

OBJECTIVE

Participants compare two songs to find stories in data. Participants will also build awareness on what kinds of questions to ask about text data.

MATERIALS

☐ A projector and computer

☐ Computers with access to SameDiff app (See Source)

☐ Large pieces of paper

☐ Thick crayons or markers

ROOM SET UP

Ability to break out into small groups of 3 clustered around a computer

SOURCE

dataBASIC.io (ND). *Write Your Own Song*. Engagement Lab at Emerson College and MIT Center for Civic Media, accessed at https://databasic.io/en/samediff/samediff-activity-guide.pdf

ACTIVITY STEPS

1 Explain to participants that they will use an open-source software program to compare song lyrics, and then write their own song using common words.

Invite participants to form groups of 3 people each.

2 Each team uses SameDiff to compare lyrics of two musicians. Discuss the differences and similarities between the two artists.

Tip! Use sites like Genius to download an artists' song lyrics.

3 Using the lyrics common to both artists, teams write a brief song.

Teams get bonus points if:

• their song rhymes and/or

• they come up with a tune to sing it to, and/or

• they perform it karaoke-style for the group.

4 Facilitator describes how this activity is similar to coding qualitative data, particularly when comparing different sets of text.

As a full group, discuss how this type of analysis can be useful in your professional context.

EXPLORE YOUR DATA

The activities in this section help you to better understand the range of values in the data set, an important first step in analysis. It's a great way to get teams on the same page when it comes to available evidence.

What the terms mean

Average: The middle point of a set of data, calculated by summing all values in the set and dividing by the number of figures.

Data distribution: The range of values in a data set, usually expressed through a histogram or similar chart.

Number line: A horizontal straight line that represents numbers in order.

Explore Your Data Activities

Mind the Gap

P.21
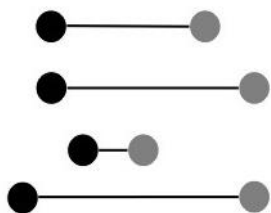
Visually explore the distribution of data, compare it, and discover gaps that may be important.

High-Low

P.24
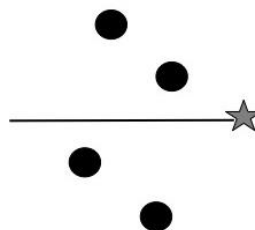
Explore the distribution of data in relation to the overall mean of the data.

Data Sculpture

P.26
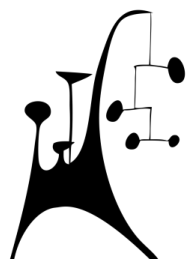
Create a 3D representation of a data set to playfully explore evidence.

Data Placemat

P.27
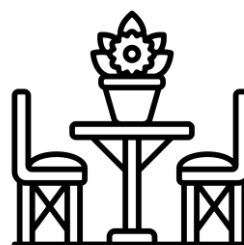
Use emoji stickers to annotate a concise set of information about a program or initiative.

Sticky Tree

P.28
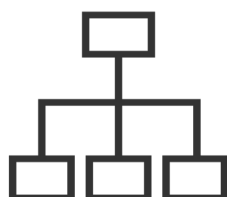
Gather qualitative data from multiple interest holders and categorize it as a team.

MIND THE GAP

Group Size   Small to Medium
Time   30-45 mins.
Virtual?   Yes

Mind the Gap is and activity that can be useful for exploring where there are meaningful differences among groups.

In this activity, the focus will be visualizing data to look specifically at differences in order to generate ideas about what may contribute to the differences.

OBJECTIVE

Explore the distribution of data, compare data, and discover gaps that may be important.

MATERIALS

☐ Blank sheets of paper for everyone in the group

☐ Writing utensils

☐ Simple data set that you are interested in analyzing the differences in (ex. Girls vs. Boys, Pre-test vs. Post-test scores, Self-assessment vs. External assessment)

ROOM SET UP

A classroom-style room with tables works best so that people can work in groups and have a surface for writing.

ADAPTATIONS

Try this method with other types of data that you may be interested in analyzing. For example, you may have different types of data that can be assigned to people by categories based on community characteristics to launch a conversation.
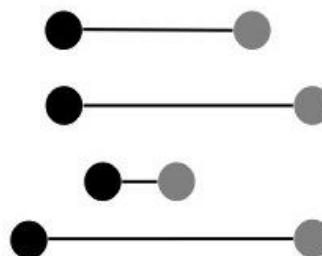
SELECTING DATA & PREP

Prior to meeting, make sure to gather the data you would like to use, review the questions below to guide you in making sure that the data you will be using is ready to go.

What are you calculating?

For example, if you are calculating pre-test versus post-test total score, verify that there is a column (or variable) with those scores in it.

TIP! Consider typing up the data so that it's in a table or worksheet to make it easier to manage with the group.

TIP! If your group is pressed for time, do the calculations in advance so that the group can focus on plotting and discussing data. Alternately, break this activity out into multiple sessions.

TIP! If you are using pre-test/post-test make sure you are able to match the pre-test score to the post-test score for each individual.

What variable will be used as the "grouping" category?

What characteristics would be helpful to compare by groups? Is that information in your data?

ACTIVITY STEPS

1	Pass out the data you would like to analyze and walk through it with the group.

Guiding Questions:

- What figure are you interested in learning more about?
- What groups are the most meaningful for us to compare?

Example Data Set:

Based on this data set, the group may decide that it is interested in seeing pre-test and post-test changes for boys versus girls.

STUDENT	GENDER	PRE-TEST	POST-TEST
Student 1	Male	4.1	4.3
Student 2	Female	3.5	3.1
Student 3	Female	2.47	2.6
Student 4	F	3.7	4.1
Student 5	Male	4.5	4.5
Student 6	Female	4.6	4.6
Student 7	Male	3.2	3.3
Student 8	Male	2.1	2.5
Test scores on a scale of 1-5			

2	Ask participants to calculate averages (sum of the all the values divided by the number of values)

Values to Calculate:

- What is the total average for the entire data set?
- What are the averages for each of the groups we are interested in comparing?

Example Calculations:

Based on the example data set in Step 1, you would calculate:

Pre-test avg. for boys: 4.1+ 4.5 + 3.2 + 2.1 = (13.9) / 4 boys = 3.48

Post-test avg. for boys: 4.3 + 4.5 + 3.3 + 2.5 = (14.4)/4 boys = 3.65

Pre-test avg. for girls: 3.5 + 2.47 + 3.7 + 4.6 = (14.27) divided by 4 girls = 3.57

Post-test avg. for girls: 3.1 + 2.6 + 4.1 + 4.6 = (14.4) divided by 4 girls = 3.6

Pre-test avg. for boys and girls: 4.1 + 3.5 + 2.47 + 3.7 + 4.5 + 4.6 + 3.2 + 2.1 = (28.17) divided by 8 boys and girls = 3.52

Post-test avg. for boys and girls: 4.3 + 3.1 + 2.6 + 4.1 + 4.5 + 4.6 + 3.3 + 2.5= (29) divided by 8 boys and girls = 3.62

3	Ask participants to set up their individual sheets with the following: 1. Draw a line across their sheets of paper; one line for every group we calculated averages for. 2. Label the length of the line.
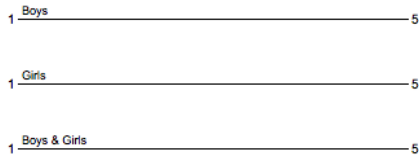
1 Boys ─────────────── 5 1 Girls ─────────────── 5 1 Boys & Girls ─────────── 5	Using the example data from Steps 1 and 2, you would draw three lines for: boys, girls and boys/girls together. The line would be labeled with a 1 one for the smallest (left of the line) and right for the biggest number (right of the line).

4	Guide participants in plotting the figures by asking them to draw a bubble along the line that approximately corresponds to the values for each group.
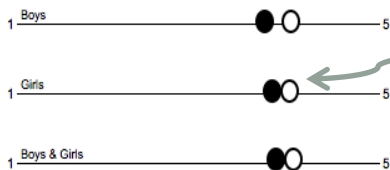
1 Boys ──────●○── 5 1 Girls ──────●○── 5 1 Boys & Girls ─────●○── 5	The dots correspond to the group averages you calculated in step 2. **TIP!** In this figure, a filled-in bubble represents the pre-test scores and open bubble represents a post-test score to make it easier to tell them apart. You can also use different colors.

5	When participants are done plotting their scores, have them determine where the greatest differences or gaps in the data occur.

6	Ask participants to share out their responses to the following questions: • Where are the greatest differences? • Why might these differences occur? • What additional information might you need in order to better understand these differences?

Exploration Activities

HIGH-LOW

Group Size Small to Medium
Time 15-30 mins.
Virtual? Yes

High-Low can help to determine how data is distributed relative to the mean so you can identify focus areas for further discussion. It can also serve as a refresher on concepts like number lines and averages.

OBJECTIVE

Explore the distribution of data in relation to the mean of the data set overall.

MATERIALS

- ☐ Blank sheets of paper for everyone in the group
- ☐ Writing utensils
- ☐ Simple, small data set that you are interested in analyzing differences in (ex. Girls vs. Boys, Pre-test vs. Post-test scores, Self-assessment vs. External assessment)

ROOM SET UP

A classroom-style room with tables works best so that people can work in groups and have a surface for writing.
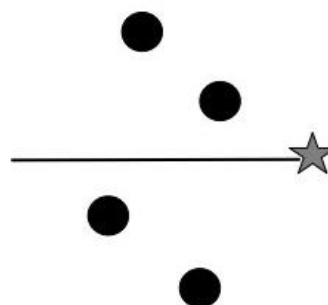
ACTIVITY STEPS

1 Begin by calculating the overall average score for your data set and draw a line in the middle of your paper. Write the average next to the line.

TIP! If your group is pressed for time, do the calculations in advance so that the group can focus on plotting and discussing data. Alternately, break this activity out into multiple sessions.

2 Place scores for variables that are higher than the average above the line. Place lower scores below the line.

3 You can do successive rounds of mapping to get a deeper understanding of a category that fell below the mean.

Discuss what your data tells you and develop action steps based on what you learn.

Still not sure how to use this activity?
See the example scenario on the next page.

HIGH-LOW ACTIVITY | EXAMPLE SCENARIO

You're using a new STEM (Science, Technology, Engineering, and Math) curriculum this year, but you know you won't have time to get through every lesson. To tailor the curriculum to your students, you use the end of the year cumulative assessment in the curriculum as a pre-test to determine where you should focus your efforts for the year.

Overall, students average a score of 43 (out of 100) on this pre-test and you have broken down the scores for each topic (Science, Technology, Engineering, and Math).

You decide to map the highs and the lows for this assessment, drawing the average score line (43) in the middle of a piece of chart paper. Students scored an average of 57 for the technology portion of the test, 31 for engineering, 39 for math, and 51 for science.

You map the scores for technology (57) and science (51) above the average score. Similarly, you map the scores for engineering (31) and math (39) below the line. From this graph, you see that you should focus on the engineering and math lessons, since these had the lowest average scores.

You decide that you want to get an even deeper understanding of how to focus your math lessons. There are 4 math lessons in the curriculum, and you have the average score for each lesson. Again, draw a line to represent the average overall score for the math portion of the test on a new piece of paper. Then map the average scores for each lesson where they fall in relation to the average.

Based on what you see, you can determine which lessons would be more helpful for you to focus on.

Exploration Activities
DATA SCULPTURE

Group Size Small to Medium
Time 20-30 mins.
Virtual? No

This activity encourages participants to be playful with data, and to appreciate that there are many ways to interpret and share information.

OBJECTIVE

Create a 3-dimensional representation of a simple data set.

MATERIALS

- ☐ Craft materials like pipe cleaners, construction paper, and bottle tops
- ☐ Scissors, glue, tape
- ☐ Handout with a few simple data sets on a topic of general interest (e.g. favorite snack foods by US region, cost of different cars)

TIP! Don't provide pens or markers, so that teams will *build* something, not draw it.

TIP! For this exercise, don't use data the group knows well. They'll focus on the details rather than the activity.

ROOM SET UP

A classroom-style room with tables works best so that people can work in groups and have a surface for writing.

SOURCE

dataBASIC.io (ND). *Build a Data Sculpture*. Engagement Lab at Emerson College and MIT Center for Civic Media.
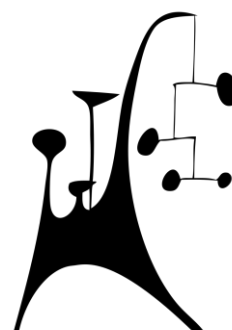
ACTIVITY STEPS

1	Share a few sets of data presented in a conventional way, like a table or graph. Explain that the group is going to re-interpret these data sets using craft materials, as a fun way to review the information.
2	Group participants into pairs or trios and invite them to build a physical representation of one of the data sets. Encourage them to be playful and quick.
3	Teams take turns sharing their data sculpture with the full group. The facilitator points out similarities in the ways that teams interpret the data, and asks the group to share their observations. Ask participants to share how the activity made them feel about data, and how they may use it in their own work.

The Data Basic website has more detailed instructions if you want to learn more.

Exploration Activities
DATA PLACEMAT

Group Size Small to Medium
Time 60-120 mins.
Virtual? Yes
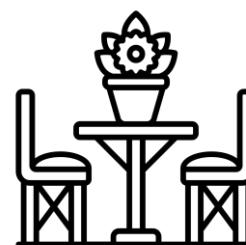
Data Placemats are thoughtfully curated, visually engaging, data presentations about a program or initiative.

In this activity, participants use stickers and markers to annotate the placemat, encouraging greater engagement with the information.

OBJECTIVE

Deeply explore data on a program or initiative and identify topics for follow up conversation.

MATERIALS

☐ Handout with data placemat for a program or initiative (see Source for more)

☐ Poster-sized data placemats

☐ Stickers with emojis for different sentiments. We suggest "Celebrate," "Eek!", and "Curious."

☐ Markers

ROOM SET UP

A room with tables for small group work, sufficient wall space for placemats, and room to walk around.

SOURCE

Depict Data Studio (2021, June 15). Data Placemats: A 3-Step Process for Increasing Data Use (Web log comment). Retrieved from https://depictdatastudio.com/data-placemats-a-3-step-process-for-increasing-data-use/

ACTIVITY STEPS

1 Welcome the group by explaining that they will reflect on a set of information about their program or initiative called a "data placemat."

The goal is for participants to draw their own conclusions from the information, rather than reading someone else's interpretation.

2 Orient participants to the placemat, including what information is included and how it is presented. Address any clarifying questions.

3 Working in pairs or trios, participants annotate their poster-sized data placemats with the emoji stickers. If needed, they can make additional notes on the placemat using markers.

4 Each group briefly presents their annotated placemat to the full group.

The facilitator asks reflection questions like: "What additional information might we need?," "What do we need to follow up on?," and "What actions do you want to take in the future?"

STICKY TREE

Group Size Small to Medium
Time 45-60 mins.
Virtual? Yes

Members of your organization may be collecting qualitative data aligned with a pre-determined set of questions (e.g., focus group, interviews). The Sticky Tree activity provides a structure to gather multiple perspectives while synthesizing the data as a group.

OBJECTIVE

In successive rounds, participants will co-analyze qualitative data that is summarized into bite-sized takeaways written on sticky notes.

MATERIALS

- ☐ Sticky Wall or large poster paper
- ☐ Markers in a variety of colors
- ☐ Sticky notes or index cards
- ☐ Participants' qualitative data notes
- ☐ Guiding questions

ROOM SET UP

A space with empty wall space and room for people to walk around works best.

SOURCE

Learning for Action, *Participatory Qualitative Analysis*. Presented by JT Taylor and Emily Drake at American Evaluation Association Conference, October 2014
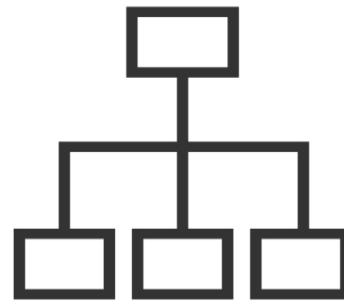
FOCUSING YOUR DISCUSSION & FACILITATOR PREP

This activity requires prep by the facilitator and the participants. The facilitator should be familiar with the structure of how qualitative data was collected (e.g., through structured interviews, focus group questions, observation guidelines). The participants should prep by reviewing their notes on how the data was collected and the content so that the content is fresh in their mind.

The facilitator should prep an open-ended question about the data or a research question. We recommend taking a measured approach when starting off and limiting the topic to just one question.

TIP! The facilitator should consider whether a template notes sheet would help the group to have similar notes prepped for the session.

TIP! If you have a larger group, you can split it into small groups to answer the question on sticky notes together.

ACTIVITY STEPS

1 As the facilitator, you will present the pre-chosen question to the group and field any clarifying questions that arise. You may want to post the primary question on your sticky wall to help focus the conversation during the next steps.

2 Give participants 5-10 minutes to review the set of notes they brought with them. Instruct participants to brainstorm their findings – the information in their notes that addresses the pre-chosen question – and write them on sticky notes.

After the brainstorm time has passed, ask each person to give you their favorite or most applicable 1-2 notes. Ask each person to initial their note in case you need to ask follow-up questions or need to clarify what is written.

3 Once you have collected all the notes, read each note aloud to the group and post them to the sticky wall as you read them.

After you've read all the notes, ask participants to help decide grouping of similar items. As time and room allows, you may consider asking people to get up and participate in moving the stickies around into groups.

The goal of this step is to have all the sticky notes posted on the sticky wall and grouped together. Hold off on naming the groupings for the next step.

4 As a group, determine a label for each group of notes. Include a brief description based on their common theme.

TIP! This activity can include multiple rounds. To determine if another round is needed, briefly recap the groupings and their labels. Ask the group whether the groupings sufficiently address the question. To complete another round, ask participants to write additional notes on sticky notes that may reflect any missing information and then go through steps 1-4 again.

5 After completing the desired number of rounds ask participants, "What insight into answering the question do we get from this group?" for each theme of notes.

COLLECT MORE INFORMATION

Numbers only tell part of the story. The hands-on activities in this section help teams to gather more **qualitative** information to help explain the patterns in the **quantitative** data.

What the terms mean

Quantitative data: Data that is expressed through numbers and can be mathematically analyzed.

Qualitative data: Data that is not numerical but can be described with characteristics.

Mixed methods: Studies that use both quantitative and qualitative data.

Equity gap score: Ratio of the group with the highest score/rating to the group with the lowest score/rating.

Collect More Information Activities

Trend Timeline

Explore milestones and identify important organizational highlights by visualizing the activities, organizational changes, and external influences that have affected your program over a self-defined time period.

P.32
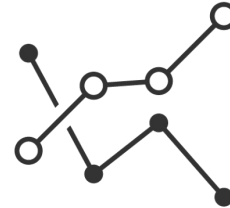
Yarn Slope Graph

Visualize changes that occur over time. Time series graphs can help with spotting patterns, trends, or shifts in your program.

P.34
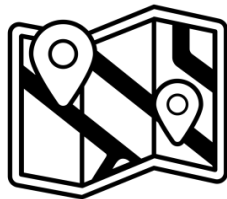
Asset Mapping

Build awareness of the strengths of a community. Create a shared map with community assets like organizations, businesses, services, and people.

P.36
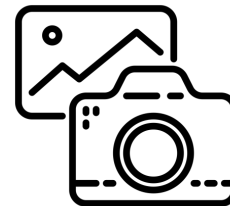
Photovoice

Learn how participants perceive a topic through use of photographs and accompanying text.

P.38

Equity Gap Score

Detect consequential differences between groups and explore what may be contributing to those differences.

P.40

TREND TIMELINE

Group Size Any size
Time 30-45 mins.
Virtual? Yes

Explore how organizational milestones have influenced your program. Gain a deeper understanding of how your program has changed over time.

This activity is a great way for staff to contribute their insights on how milestones are connected to the key metrics you rely on, an example of mixed methods.

OBJECTIVE

Review key metrics and milestones to understand if/how they are related.

MATERIALS

☐ Markers in a variety of colors

☐ Tape

☐ A large paper surface (you may need to tape several sheets of easel paper together) on the wall

ROOM SET UP

Choose a space with enough room for the wall chart.
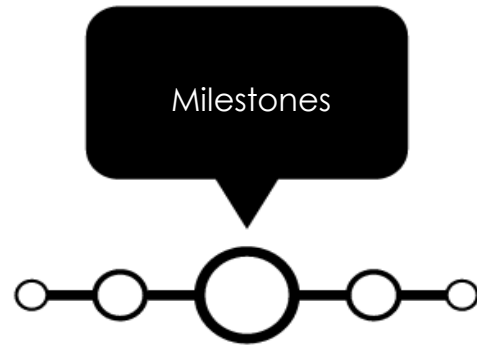
Select the time intervals (e.g. days, months, fiscal quarters, years, etc.)

SELECTING DATA & PREP

Prior to meeting, prep the paper surface you will be writing on. Mark a timeline for any given period you are looking at (e.g., days, months, fiscal quarters, years, etc.). Place key metrics (e.g., number of youth served, hours of training completed, number of staff hired, etc.) at relevant intervals along the line.

TIP! Brainstorm in advance to get a good sense of the timeframe you would like the group to focus on and to make sure you've included all the metrics that you would like to explore.

ACTIVITY STEPS

1	Post the wall chart timeline on the wall for everyone to see and discuss what the group is looking at.
2	Ask the group to think about the key organizational milestones that took place in the same time period.
3	Discuss how the key metrics might be related to the organizational milestone.

TREND TIMELINE | EXAMPLE SCENARIO

Your arts education organization is finishing up the last cycle of a three-year initiative and you are bringing the group together to debrief. You want to further understand what happened over the past three years.

You made a big chart with a three-year timeline across the bottom and have put in key metrics about the number of lessons your organization delivered over the past three years, resulting in more youth being able to attend lessons. You ask the group what trends they see—that the organization has increased its total lessons exponentially every year of the initiative.

You ask the group to think about the most important organizational highlights that took place throughout the past three years. They mention that following the first year the organization received additional grant funding, which allowed for growth in staff. Because there was more staff, the capacity to do more presentations grew. They also mention that after the second year, the organization partnered with several school districts in the area, which increased the number of classroom presentations given.

The group discusses how the organization's funding and collaboration with school districts is related to the increase in number of presentations by the organization.

YARN SLOPE GRAPH

Group Size   Any size
Time   15-30 mins.
Virtual?   Yes
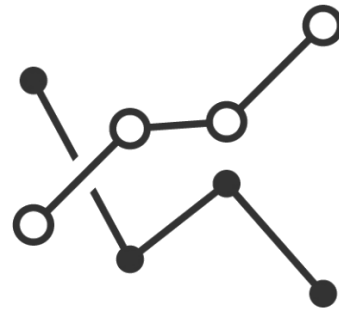
Yarn Slope Graph gets groups working side-by-side in creating a graph of one or more types of data that is plotted over time, using common office supplies.

OBJECTIVE

Place data on a life-size slope graph to analyze changes and trends over time.

MATERIALS

- ☐ Foam core board or large piece of chart paper (large corkboard could work also)
- ☐ Thumb tacks if you are using a surface that can be pierced; tape if you are using paper surface
- ☐ Yarn or string
- ☐ Scratch paper
- ☐ Sticky notes
- ☐ Markers in a variety of colors
- ☐ A data set you would like to graph over time, with calculations

ROOM SET UP

Choose a space with enough room for the wall chart.

ADAPTATIONS

Add layers to your story by using multiple pieces of data, and assign each type of data to smaller breakout groups.

SELECTING DATA & PREP

Prior to the meeting, make sure to gather the data you would like to use, review the questions below to guide you in making sure that the data you will be using is ready to go.

What is your time period?

Determine what time interval to use (e.g., days, weeks, months) and make sure the data set you bring to share with the group is calculated that way.

Percentage, counts, averages.

When calculating data to prep for visualizing, think through the scale and number format that you will be using. For example, if you are calculating youth attendance by month, you would plot the count of youth, at monthly intervals. However, if you were plotting your program's progress towards average daily attendance (ADA) goals, you would plot the percentage towards fulfilling your goal. Alternatively, if you were plotting the level of youth satisfaction measured annually through a survey with a scale of 1-10, you may decide to plot the average.

TIP! If you are using multiple types of data, make sure to think about how different values can be converted so that they are expressed in the same unit.

ACTIVITY STEPS

1	Write in the time period intervals as the x-axis and the appropriate unit for your y-axis.
2	Take your yarn and tape or pin it to the surface at each data point.
3	Ask the group to brainstorm some key events or changes that were made during this timeline and instruct people to write them down on sticky notes.
4	Depending on the size of the group, either ask people to share out and place their item on the graph, or collect, group, and summarize the groups' input before placing the items on the graph.
5	Take a step back and discuss what you see. Which events appear to have the most impact? What is the data telling you about the relationships you see?

YARN SLOPE GRAPH | EXAMPLE SCENARIO

You want to make a graph of your summer program's attendance. You have averaged the overall attendance for each month. It makes the most sense to measure time in monthly intervals. You draw the x-axis on the plotting surface and label the x-axis with months 1-3 along the bottom. Your y-axis represents the count of participants.

Then you plot the average attendance for each month. In Month 1, you averaged 104 participants. At the Month 1 mark, you pin your yarn to the place that represents 104 participants. During the second month, there was an average of 82 participants; you pin the yarn there. In Month 3, an average of 95 participants came to your program, so you pin the yarn to its final point and cut off the tails.

Next, you brainstorm with your team about the important things that happened in your program and put them on your time line. For example, your program worked really hard to get kids signed up for Month 1 before summer started. You know enrollment dropped during Month 2 because many people went on vacations, but you worked hard to get the word out. The local TV station also did a short feature of your program on the news, and by the time Month 3 came along, enrollment went back up.

Discuss these events in relation to the timeline and the data you have plotted. What are the relationships and impact that seem likely?

Collect More Information
ASSET MAPPING

Group Size Small to Medium
Time 60-120 mins.
Virtual? Yes
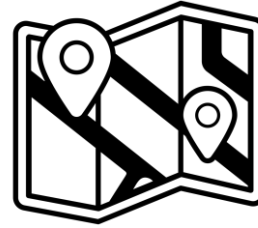
Create a shared map with community assets, including organizations, businesses, services, and people.

This activity is a great way to build groups' awareness of the strengths of the community, and to identify priorities for additional services or other assets.

OBJECTIVE
Understand the assets in a specific community.

MATERIALS
☐ Markers in a variety of colors
☐ Large sticky notes
☐ A handout with the pre-set assets on the map, with space for additions
☐ A handout with the community map
☐ A large map of the community on the wall

ROOM SET UP
Choose a space with enough room for the map, and for small groups to gather at tables.

SOURCE
UCLA Center for Health Policy Research, Health DATA Program (2023), *Asset Mapping.*

SELECTING DATA & PREP
Prior to meeting, pre-set the map with key assets in the community, especially those that the group already knows exist. This usually includes schools, businesses, community centers, and parks. This will help to focus the group's time on adding new information to the Asset Map.

Include these entries on a handout for the group to review before making their own contributions to the map.

TIP! The facilitator will need to decide on how much information to put in the map ahead of time. This will likely depend on the purpose of the map and the group's familiarity with the community.

ADAPTATIONS
Asset Maps can be used to organize community members to take action, or to inform changes to an existing service or program. See the Source for more.

ACTIVITY STEPS

1	Explain the purpose of the work session to the group – to create a comprehensive list of the organizations, services, places, and people in the community. The Asset Map will help to inform future decisions about what additional services or assets the community may need. Walk the group through the pre-set map, including the boundaries of the community and the services/organizations that are already on the map.
2	On their own or in pairs, invite group members to add to the list of assets they want to include in the map. Ideally, their list will include the type of asset (e.g. place, service, person), its location, and details about who offers it. (See example below.) **TIP!** Encourage the group to look up details of each asset on the Internet.
3	Have group members write the name of their top three or four assets on a large sticky note. Invite participants to place their asset on the large map, describing for the group what the asset is and why they included it. If someone has the same asset listed, they stack their sticky note on top.
4	Once participants have added to the map, invite the group to take a moment and think about any assets that are missing from the map. Add those. Collect participants' worksheets to complete the asset list and share with participants. (See example below.)
5	Take a step back and discuss what you see. What strengths does this community have? What needs are yet unmet? What might this group do to address those needs? How can community strengths support this?

Example list of community assets

Type	Name	Location	Details
Place	*MLK Elementary*	*2255 Wood Street*	*355 K-12 students*
Service	*Health Clinic*	*1122 Market Street*	*Sliding scale med care*
People	*Marva Banks*	*District 2*	*City Council member*

Collect More Information
PHOTOVOICE

Group Size   Any size
Time   120 mins.
Virtual?   Yes

Learn how participants perceive a topic through use of photographs and accompanying text.

OBJECTIVE
Collect additional information about factors affecting an outcome of interest, like survey results or a program observation.

MATERIALS
☐ Smart phones, instant cameras or digital cameras
☐ Printer (color is ideal)

PREPARATION
Select a metric of interest in advance, ideally based on a prior group discussion.

Facilitators should be familiar with Photovoice methods; review the Sources and online tutorials in advance.

ADAPTATIONS
Many! See Sources for more.

SOURCES
Apaza, V. and DeSantis, P. (ND) *Facilitators' Toolkit for a Photovoice Project.*

UC Davis Tobacco Control Evaluation Center (ND), *Instrument Essentials for Assessing Photovoice Activities.*
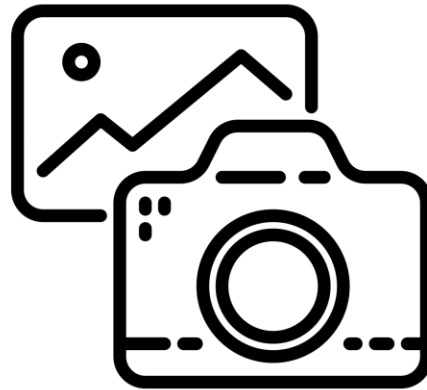
ACTIVITY STEPS

1	Tell the group that they will use an approach called Photovoice to explain their perspective on a metric of interest to the group. **TIP!** Watch a brief Photovoice video tutorial together.
2	Participants take a few photos in the immediate area that describe what they know about the metric of interest. They select one that best reflects their opinion.
3	Participants share their photo and a description of how the image relates to the metric of interest. This can be verbal or written.
4	Once everyone has shared, the group discusses the themes that they observed in presentations, and how that contributes to the group's understanding of the metric.

Bringing family traditions - like food - into their own businesses.

Building generational wealth for Black and Brown communities.

Outcome of Interest -
Businesses in the US are more likely to be founded by Black and Latino/a people than in the past.

FIGURE 2. Racial and Gender Composition of Business Owners by Year of Business Formation

Note: NH = non-Hispanic.
Source: NORC, Entrepreneurship in the Population Survey: 2022.
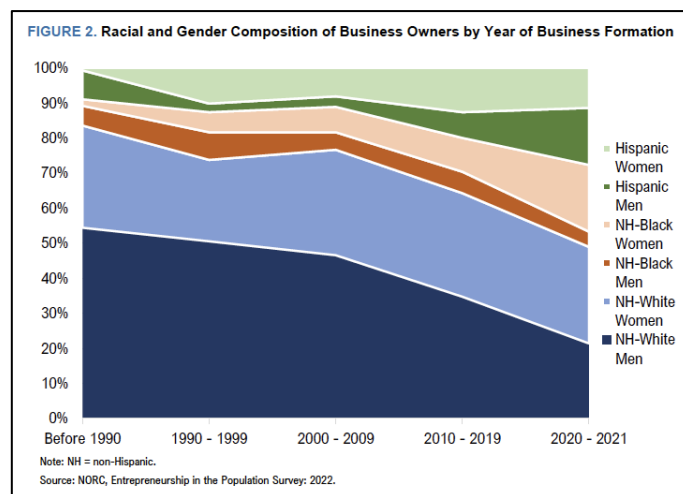
New opportunities in sports-related businesses.

Changing ideas about what a business owner looks like.

Collect More Information

EQUITY GAP SCORE

Group Size   Any size
Time   30-60 mins.
Virtual?   NA

Use Equity Gap Scores to detect substantial differences between groups and explore what may be contributing to those differences.

OBJECTIVE

Systematically identify differences between groups for an important metric. Collect more information as needed.

MATERIALS

☐ Poster with metric of interest, including averages by group and equity gap score. (See the next page for an example.)

☐ Handouts with same information as posters.

☐ Markers in a variety of colors

ROOM SET UP

Choose a space with enough room for the posters.

WHAT'S AN EQUITY GAP SCORE?

An Equity Gap Score is a number that helps to contextualize a statistic. It is the ratio of the highest group score to the lowest group score. Metrics with an Equity Gap Score greater than one require more investigation.

SOURCE

Krause, Heather (2019, Oct 22). Supercharge Your Averages with an Equity Gap Score (web log comment). Retrieved from https://weallcount.com/2019/10/22/supercharge-your-averages-with-an-equity-gap-score

ACTIVITY STEPS

1	Tell the group that they will be using Equity Gap Scores to look for group-level differences in the data that need a closer look. Orient the group to the contents of the handout.
2	Working individually or in small groups, participants note which groups appear to have a substantial difference, as indicated by an Equity Gap Score greater than one.
3	In small groups, participants identify the group-level differences they want to better understand. They share additional evidence that may explain the differences between groups.
4	Each small group shares their additional evidence with the full group. Depending on the context, the group may begin developing solutions to address the identified gaps.

EQUITY GAP SCORE | SAMPLE HANDOUT

Focal metric: Staff survey responses to the question, "At work, I am recognized for my accomplishments."
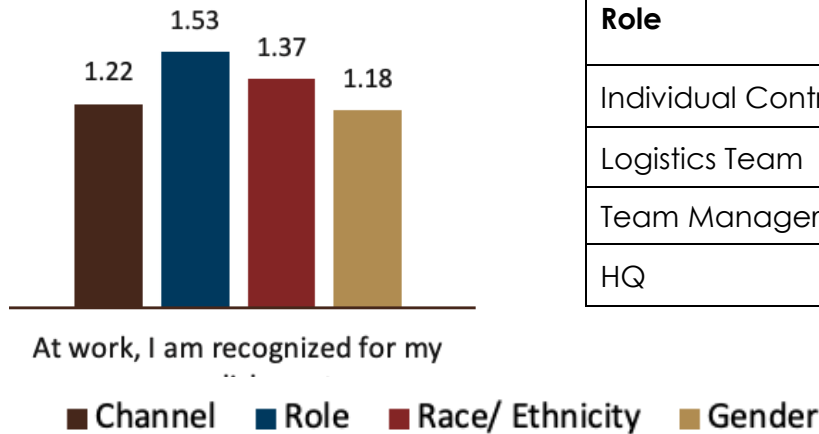
Role	% "Agree" or "Strongly Agree"
Individual Contributor	59%
Logistics Team	78%
Team Manager	90%
HQ	75%

EQUITY GAP SCORE | EXAMPLE SCENARIO

Team leaders are reviewing results of the latest staff survey. To start, the team reviews the Equity Gap Scores for each survey item. They note that the scores for one survey question are all above 1. This is a signal to take a closer look at the results.

For the question, "at work, I am recognized for my accomplishments," the Equity Gap score ranges from 1.18 to 1.53. Team leaders decide to look more closely into the data broken out by Role, since that has the highest Equity Gap Score, suggesting that there is a substantial difference between groups.

They find that the level of agreement for Individual Contributors – people who interact directly with clients and do not supervise anyone – is much lower than for other roles. Managers on the other hand, appear to be satisfied.

Team leaders identify several factors that are likely contributing to the lower scores, including persistent short-staffing among Individual Contributors (leading to burnout) and limited training for their supervisors.

Team leaders decide to brainstorm solutions using Lightning Decision Jam (see page 56).

IDENTIFY ROOT CAUSES

To make effective data-informed decisions, teams need to identify the factors that contributed to it. Activities in this section help teams to systematically identify the root causes that contribute to the outcome they observe.

What the terms mean

Contribution: The part played by a person or thing in bringing about a result or helping something to advance.

Qualitative data: Data that is not numerical but can be described with characteristics.

Root cause: The core issue or event that is behind others. The start of a cause-and-effect chain of events.

Root Cause Activities
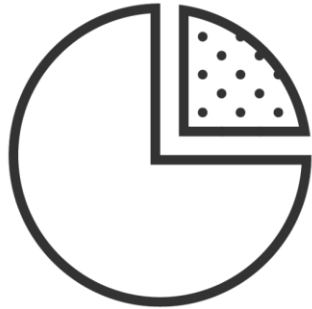
Easy as Pie

Visualize the possible influences that impact an outcome by visualizing the larger outcome as a pie (the whole) and assigning slices to all the factors.

P.44

The Tip of the Iceberg

Go beneath the surface to explore how your work is contributing to your organization's mission.

P.47
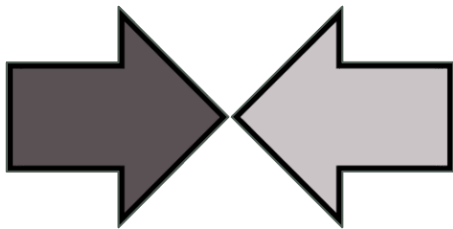
Force Field Analysis

Visualize the forces working internally and externally that contribute to the impact that your organization seeks to make.

P.49
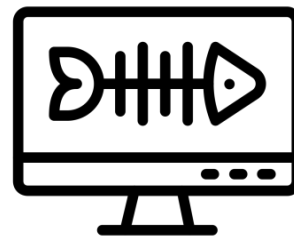
Fishbone Diagram

Facilitate a conversation framed around the multiple causes contributing to an observed outcome.

P.51

Root Causes

EASY AS PIE

Group Size Small to Medium
Time 30-45 mins.
Virtual? Yes

Brainstorm all the slices and estimate how much each slice contributes to the whole pie
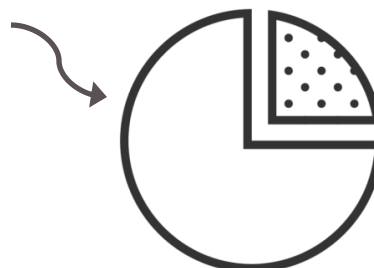
Easy as Pie is best for exploring how your organization's activities are contributing to a major goal or outcome.

OBJECTIVE

Visualize all the possible influences that impact an outcome by representing the larger outcome as a pie (the whole) and assigning slices to all the factors, both within your sphere of influence and outside of it.

MATERIALS

☐ Markers in a variety of colors
☐ Tape
☐ Sticky notes
☐ Prep one piece of chart paper by drawing a large circle on it, representing an empty "pie" for each outcome that you plan to talk about

TIP! You are not limited to analyzing only one outcome, but it's best to focus the group's attention on one at a time.

TIP! If you have a large group, you can split into smaller groups and have each subgroup analyze different contributing factors.

ROOM SET UP

A space with room for people to walk around works best.

ACTIVITY STEPS

1	Announce to the group members that you will be exploring how they are contributing to a major goal or outcome in order to better understand the impact that they are making.
2	Begin a brainstorm conversation with the group by asking what the "big picture" goal or outcome is.

Once the goal or outcome is named, write it over the large circle (the "pie").

For example, some major youth outcomes might be increasing high school graduation rates or college enrollment rates.

TIP! If you have a large group, you can split people into smaller groups and ask each group to come to an agreement about one outcome that they would like to focus on.

3	Once you have determined the outcome you will focus on, hand out small pieces of paper (sticky notes are really handy if you have them!) and ask the group to come up and write things that they feel contribute or can affect this outcome. Keeping with our example of increasing high school graduation rates, participating in academic support activities in your program may be one example.

Ask people to jot down their ideas and post them on the board next to the pie.

TIP! Keep an eye on what is being posted, and try to group similar items/themes as they get placed on the wall, this will help the group see similarities and make the next step smoother. |
| 4 | Next, start a discussion with the group to determine what the value of the slice is, relative to the big picture. The value should be expressed as percentage value (e.g., 5%, 10%, 14%, 50%), and speak to your group's assessment of the relative contribution of the slice to the outcome. For each slice, ask the person who posted the slice to share why they came up with that item and assigned the value.

TIP! As the group assigns values to each slice, write the value assigned (%) on the upper right of the sheet of paper. Wait until all slices have been discussed and quickly double check that the percentages add up to 100%.

TIP! Be sure your program is one of the influences included. |
| 5 | Once all the slices have been discussed and values have been designed, draw in the slices of the pie.

Discuss the implications with the group and prompt them to pay attention to the relative percentage values assigned to each slice, paying special attention to the slice or slices that are drawn from your program. |

Still not sure how to use this activity?
See the example scenario on the next page.

EASY AS PIE | EXAMPLE SCENARIO

Your organization aims to reduce child and adolescent obesity in your neighborhood, but your staff doesn't seem to think that their work is making an impact because obesity rates for youth are still climbing. You gather all program staff and ask them to think of some things they are trying to impact through their work. They see promoting healthy eating and nutrition as one of the biggest outcomes of their work and you all agree to focus your attention on this. Participants go up to the chart paper on the walls and write down things that they feel contribute to or can affect this outcome (for example, participating in your program, having better access to fresh and local foods, minimizing fast food restaurants in the area, and accessibility of information).

When the group is done brainstorming, everyone comes back together to decide how much each factor that they wrote down contributes to the overall pie, or big picture. To help group members visualize this, you have drawn an empty "pie" on a piece of chart paper. For example, the group might decide collectively that participating in the program has a greater impact on promoting healthy eating and nutrition than minimizing fast food restaurants because you provide youth with healthy snack options, whereas the work being done to decrease fast food joints in your community is slower.

The group decides that the program accounts for 20% of this outcome and the decrease in fast food accounts for only 5%. You think that access to fresh and local foods is a huge contributor to this outcome, and therefore decide that it accounts for 50% of the pie. The group also decides that accessibility of information is also a large contributor to this outcome, and you decide that this accounts for 25% of the pie.

Lead a group discussion to talk about what you see and the implications it has. The group now has a better understanding of how their work may contribute to the bigger picture of reducing youth obesity rates.

Root Causes

TIP OF THE ICEBERG

Group Size Small to Medium
Time 45-60 mins.
Virtual? Yes

Go beneath the surface to explore how your work is contributing to your organization's mission. This activity starts of by naming an activity – the work described at the "surface" – and then the discussion will move into the underlying connection(s) to other factors that are often hidden beneath the surface.

OBJECTIVE

Facilitate a conversation framed around the concept of the iceberg (surface versus deeper level) to help the group understand different factors that contribute to what is observed.

MATERIALS

- ☐ Markers in a variety of colors
- ☐ Sticky notes
- ☐ Chart paper, prepared in advance (see detailed preparation to the right)

ROOM SET UP

A space with empty wall space and room for people to walk around works best.

PREP

The image of the iceberg is the central visual to guide participants through the discussion. To prepare the iceberg image, follow the steps below:

Draw an iceberg on a piece of chart paper.

The iceberg jutting out from the water is symbolic of the visible activity.

Draw the waterline close to the top of the iceberg so that the majority of the iceberg is actually below the water.

The area below the water line is the space that will used to place factors that emerge during the discussion.

ACTIVITY STEPS

1	Announce to the group that you will be exploring how your organization is contributing to a major goal or outcome in order to better understand the impact that you are making.
	Explain to the group that their work can sometimes be like an iceberg: What you see on the surface is not always the whole picture and sometimes there are underlying factors that contribute to what you observe
2	As a group, decide on a goal your organization is trying to fight for, or an issue you are trying to mitigate. Write this at the top of the chart paper.
	TIP! If your organization already has a clearly defined mission or outcome statement, use that!
3	Tell the group to brainstorm factors that they see or information they know of that make any kind of contribution to the larger goal Ask participants to share out and write the group's ideas on the tip of the iceberg.
4	Have the group break into small groups and ask them to think about additional factors that are often hidden or forgotten – underneath the iceberg – that may affect your goal. Share out and write these on the iceberg below the waterline
5	Ask the group to think about how their work maps onto this iceberg. Discuss the implications of the iceberg and how you can continue to contribute to the larger goal.
	To generate a starting point if your group is not sure what to discuss, refer back to the iceberg visual and ask participants to share what they wrote down and how it connects to the visual.

Root Causes

FORCE FIELD ANALYSIS

Group Size Small to Medium
Time 45-60 mins.
Virtual? Yes

Analyze the forces that are working for and against the impact your organization seeks to make.

OBJECTIVE

Visualize the forces working within and external to your organization that influence the impact that your organization seeks to make.

MATERIALS

☐ Writing instruments

☐ Tape

☐ Sticky notes

☐ Chart paper, prepared in advance

ROOM SET UP

A space with empty wall space and room for people to walk around works best.

SOURCE

Gray, D., Brown, S., & Macanufo, J. (2010). Force field analysis. *Game Storming: A Playbook for Innovators, Rulebreakers, and Changemakers, 174-176.* Sebastopol, CA: O'Reilly.

Force For Change → Goal ← Force Against Change
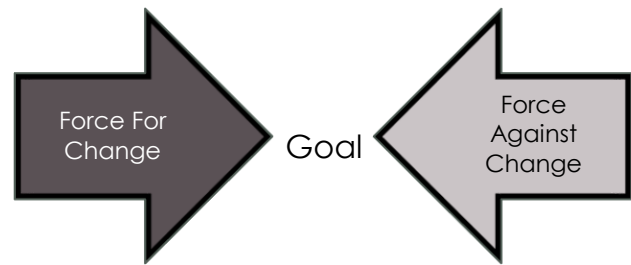
PREP

Forces of change influencing your organization's work are categorized as "for change" or "against change," with the goal placed between the two forces. To prepare the visual aid for this activity, follow the steps below:

Write the main goal of your organization, or the impact your organization hopes to achieve, on a piece of chart paper. You can also draw an image to represent that goal if you'd like.

Place another piece of chart paper to the left of the goal. Draw an arrow pointing towards the goal labeled as "Force FOR Change."

Place another piece of chart paper to the right of the goal. Draw an arrow pointing towards the goal labeled as "Force AGAINST Change."

ACTIVITY STEPS

1	Introduce the chart paper and tell participants that they will be taking stock of the organization's contribution to the goal. The goal may be your organization's mission or milestone goal decided as a group.
2	Ask each person to take 5-10 minutes to generate ideas about what elements are working *for* that goal. Advise them that these can be factors put in place by your organization or external factors. Have them write these on sticky notes (one idea per sticky).
3	Have the group complete the same task for factors that are working *against* that goal.
4	Next, draw a simple scale (1-5) and tell the group that a 1 means the force is weak, while a 5 means the force is strong. Ask the group to review each idea FOR change and add a number to each sticky note so that they are giving weight to each idea. Carry out the same task for each idea AGAINST change.
5	Collect all of the sticky notes FOR change and put them up on the wall.
	Ask the group to sort them until you have clustered most of the FOR change stickies, and then develop an overarching category for each cluster.
	Write the categories from step 6 on the arrows pointing toward the change topic or goal on your main chart.
	As you categorize each cluster, calculate the average score for each using the rankings given to each sticky in that category.
6	Repeat step 5 for all of the sticky notes generated AGAINST change.
7	Summarize the overall findings with the group by recapping the "story" now written in your force field image. Make sure to read the categories on each arrow, including the numeric totals.
	Ask the group to talk about what strikes them about the image, how it relates to the work each person contributes to the mission and what might be next steps, based on the discussion.

Root Causes

FISHBONE DIAGRAM

Group Size   Small to Medium
Time   60-120 mins.
Virtual?   Yes
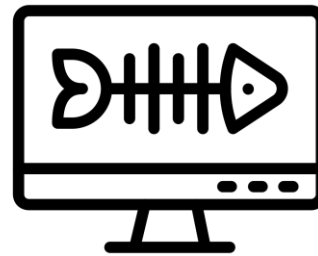
Use a fishbone diagram to document the multiple causes of a problem, which should make the resulting solution more effective.

OBJECTIVE

Facilitate a conversation framed around the multiple causes contributing to an observed program to help the group understand different factors that contribute to what is observed.

MATERIALS

☐ Markers in a variety of colors

☐ Sticky notes

☐ Large chart paper, prepared in advance (see detailed preparation to the right)

ROOM SET UP

A space with empty wall space and room for people to walk around works best.

SOURCE

Simon, K. (2023, June 2). The Cause-and-Effect (aka Fishbone) Diagram (web log comment) Retrieved from www.isixsigma.com/cause-effect/cause-and-effect-aka-fishbone-diagram/

PREP

The fishbone is the central visual to guide participants through the discussion. To prepare the fishbone image, follow the steps below:

On the large chart paper, draw a straight line across the page, with the problem listed at the end.

This is the "backbone" of the diagram.

Draw four lines at a 45-degree angle from the center line, 2 on the top and two on the bottom. Label them "People," "Policies," "Procedures," and "Tech."

This is where the different causes will be listed, grouped by type.

ACTIVITY STEPS

1	Announce to the group that you will be exploring the different likely contributors to a problem the team is trying to solve.
	Explain to the group that the problems we experience are often caused by multiple factors, and truly fixing something requires us to understand those factors as best we can.
	Walk the group through the diagram, especially the different "spines" for People, Process, Policies and Tech.
2	Recap the problem that the team is trying to solve.
	If the group hasn't yet decided on a problem to focus on, consider a quick voting exercise to identify one.
3	Have group members individually brainstorm the causes they know of that are contributing to the problem. Once they have listed the causes, have them group them by People, Process, Policies, and Tech. If they aren't sure yet, that's ok!
4	In pairs or trios, group members share their list of causes. They work together to name their top three or four causes that they want to share with the full group. Groups write their causes on individual sticky notes.
5	The full group gathers and shares their three or four causes, which the facilitator charts using the groups' sticky notes. If small groups have the same (or similar) cause, the facilitator marks that cause with an asterisk to indicate that more than one group named it.
	Once the small groups have shared their causes, invite the group to review the diagram to see if there are any causes that are missing. Add them, as needed.
6	Invite participants to prioritize a few of the causes on the graph. Criteria could include the cause that will most affect the problem, the cause that can be addressed most quickly, or the cause that is most in the group's control.
	Tip! The next section of this guide has some helpful activities for this step.

MAKE DATA-INFORMED DECISIONS

When it is time to move to action planning, it can be hard for teams to decide among alternative solutions. Activities in this section help teams to compare the relative benefit of different options, and more confidently choose one.

Decisions Activities

Magic Quadrant

This structured conversation activity can help your group to reach a decision based on your organizational goals. By categorizing potential solutions to reach a goal, participants will gain an understanding of the impact and related level of effort of each possible step.

P.55

Lightning Decision Jam

This group-based brainstorm is designed to help teams solve big problems in a short period. Through successive iterations, this activity helps teams clarify the root causes of a problem and identify productive next steps to address it.

P.56

Emergent Learning Table

Participants in an Emergent Learning Table create a shared map of facts and possibilities about an opportunity or problem. Framed as "what would it take to…" this activity invites groups to reflect on the past and consider the future.

P.57

MAGIC QUADRANT

Group Size   Small to Medium
Time   60-90 mins.
Virtual?   Yes

This structured conversation activity can help your group to reach a decision based on your organizational goals. By categorizing potential solutions to reach a goal, participants will gain an understanding of the impact and related level of effort of each possible step.

OBJECTIVE

Participants will generate potential steps and then categorize each step by the level of effort and impact.

MATERIALS

☐ Chart paper

☐ Markers

☐ Sticky notes

☐ A goal, topic, or decision that needs to be discussed by the group

ROOM SET UP

A space with empty wall space and room for people to walk around works best.

VARIATIONS

Do a Magic Quadrant exercise before starting a project to identify promising options.

Adjust the axes to fit the unique criteria the group is considering.

SOURCE

Gray, D., Brown, S., & Macanufo, J. (2010). Impact & Effort Matrix. *Game Storming: A Playbook for Innovators, Rulebreakers, and Changemakers, 241.* Sebastopol, CA: O'Reilly.

Benefit

High Impact & Low Effort	High Impact & High Effort
Low Impact & Low Effort	Low Impact & High Effort

Level of Effort

ACTIVITY STEPS

1	Start by asking the group "What do we need to reach our goal or make our decision?"
2	On a piece of chart paper, draw a 2x2 table with "Effort" along the bottom and "Likely Benefit" along the side.
3	Explain what the quadrants mean (see image above). Generate a discussion with the full group on what it means for your organization to choose activities in each of the quadrants. Decide as a group which quadrant you wish your futures activities to be in.
4	Ask participants to jot down ideas on sticky notes about steps that may help to reach your goal. Post the sticky notes on the magic quadrant at the appropriate levels of impact and effort.
5	Discuss what the group decides and the implications.

Decisions

LIGHTNING DECISION JAM

Group Size Small to Medium
Time 45-60 mins.
Virtual? Yes

This group-based brainstorm is designed to help teams solve big problems in a short time. Through successive iterations, this activity helps teams clarify the root causes of a problem and identify productive next steps to address it.

OBJECTIVE

Teams identify a big problem and effective ways to address it.

MATERIALS

- ☐ Sticky notes
- ☐ Chart paper or large wall
- ☐ Markers
- ☐ A goal, topic, or decision that needs to be discussed by the group

ROOM SET UP

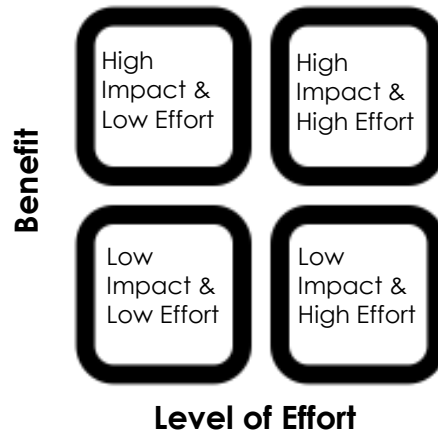A space with empty wall space and room for people to walk around works best.

SOURCE

AJ&Smart (ND) Lightning Decision Jam (web log comment). Retrieved from https://go.ajsmart.com/ldj

Includes detailed agendas and videos!

ACTIVITY STEPS

1	Individuals brainstorm the problems they are facing with the issue. They write each on a sticky note.
2	Each person presents their problems to the group. The facilitator groups similar problem statements together.
3	The group votes on which problem to focus on in the rest of the Jam. Each person gets two votes.
4	The facilitator rephrases the problem into a systematic challenge, using "How Might We" statements. E.g. "our meetings always start late" to "How might we start meetings on time?"
5	Individuals brainstorm solutions to the How Might We statement, writing their ideas on sticky notes. Then they share with the group.
6	The group votes on the solutions that would best solve the issue. Each person gets two votes.
7	The facilitator uses Magic Quadrant (See the prior activity) to prioritize solutions. Then they ask for volunteers to implement brief pilots of the solutions.

EMERGENT LEARNING TABLE

Group Size Small to Medium
Time 60-90 mins.
Virtual? Yes

Participants in an Emergent Learning Table create a shared map of facts and possibilities about an opportunity or problem. Framed as "what would it take to…" this activity invites groups to reflect on the past and consider the future.

OBJECTIVE

Participants clarify what the group already knows, and needs to learn, about a shared opportunity or problem.

MATERIALS

- ☐ Emergent Learning Table template (see next page)
- ☐ Markers
- ☐ Sticky notes
- ☐ A goal, topic, or decision that needs to be discussed by the group

ROOM SET UP

A space with empty wall space and room for people to walk around works best.

SOURCE

Emergent Learning Community (ND). Emergent Learning Table Conversations (Web log comment). Retrieved from https://emergentlearning.org/table-conversations/

ACTIVITY STEPS

1	Explain that Emergent Learning Tables are structured conversations for groups with a variety of perspectives and experiences to co-create solutions to a shared problem or opportunity.
2	On chart paper, make a 2x2 matrix with past/future on the x-axis and thinking/facts on the y-axis. Write "How might we [fill in the problem or opportunity]" at the top. (See the next page.)
3	Invite participants to brainstorm their answers to the following: • Our ideas about what to do now. • When and how we might test our thinking. • Stories and data related to this question. • Meaning we make from stories and data.
4	Team members share their answers to each question with one another, using sticky notes to put the main ideas in each section of the matrix.
5	Discuss the Opportunities that merit further time and resources, such as with a Magic Quadrant.

EMERGENT LEARNING TABLE DIAGRAM

Past | *What will it take to…* | Future

Thinking

Facts and Events

Meaning we make from the stories & data	Our ideas about what to do now
Insights / **Ground Truth**	**Hypotheses** / **Opportunities**
Our stories and data related to this question	When and how we might test our thinking
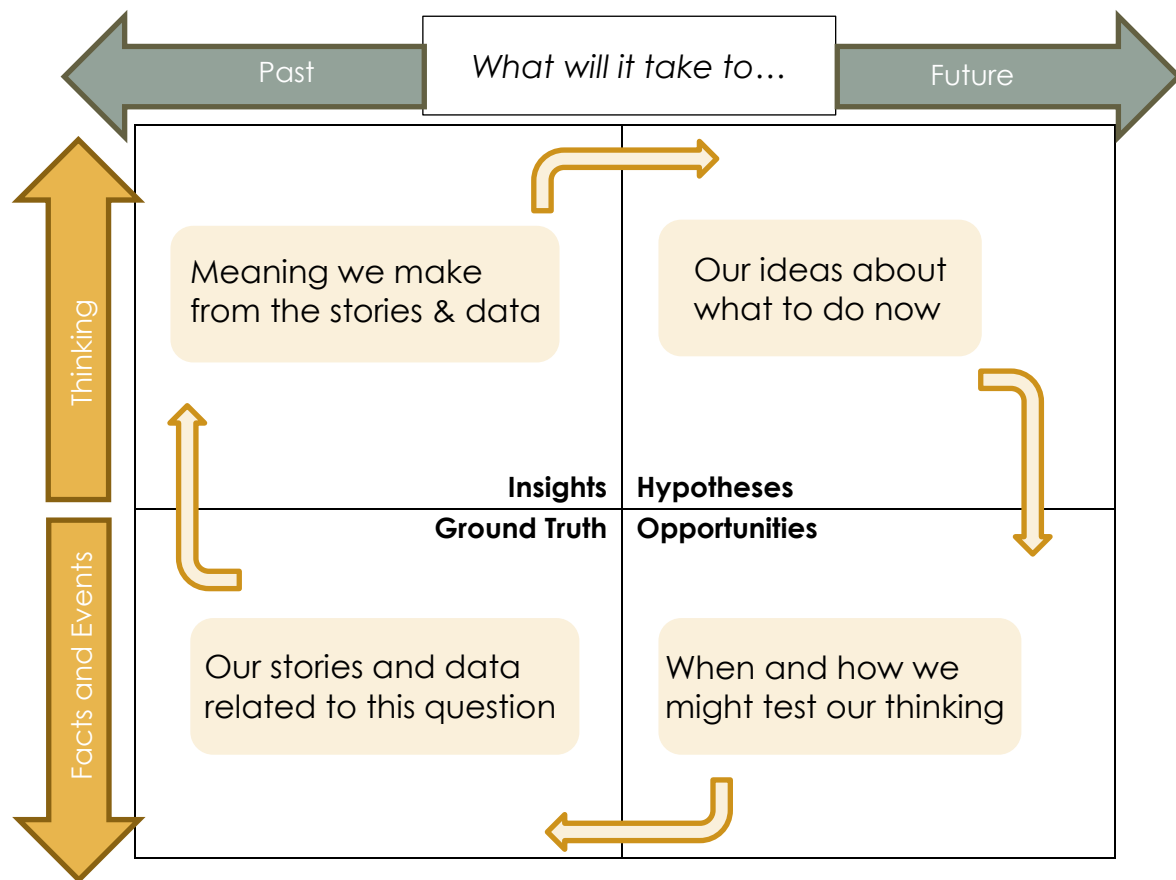
Source: Emergent Learning, www.emergentlearning.org

COMMUNICATE FINDINGS

Activities in this section are meant to provoke **conversation** and help get your audience more **invested** and **interested** in the data.

What the terms mean

Findings: What is discovered after analyzing data.

Recommendations: Actions that can be taken to change or adapt based on the findings.

Communicating Findings

T-SHIRT SLOGAN

T-shirt slogans are memorable and to-the-point. This activity will guide participants through the process of summarizing what a set of data reveals into a slogan that is then shared and discussed by the group.

P.61

FINDING COOKIES

Communicate key findings through this fun (and edible) presentation method. This activity can help your group move from findings to recommendations through an interactive group discussion.

P.63

SCRATCH OFF GRAPHS & FINDINGS

Share and build excitement while revealing key pieces of data through this hands-on presentation method.

P.64

HASHTAG HEROES

Crowdsource key findings using brief phrases inspired by social media.

P.65

DATA PARTY

A flexible approach to engage teams in reviewing evaluation findings in a fun, celebratory environment

P.66

BLACK OUT POETRY

Spark creativity and whimsy in sharing evaluation findings.

P.67

Communicating Findings

T-SHIRT SLOGAN

Group Size   Any size
Time   15-30 mins.
Virtual?   Yes

T-shirt slogans are memorable and to-the-point. This activity will guide participants through the process of summarizing what a set of data reveals into a slogan that is then shared and discussed by the group.

OBJECTIVE

Participants will synthesize findings from a set of data into summary statements, written as t-shirt slogans.

MATERIALS

- ☐ T-shirt handouts for all participants (page 62)
- ☐ Markers in a variety of colors
- ☐ Data

ROOM SET UP

A space with tables or areas for small groups to work.

SELECTING DATA & PREP

Prior to meeting, make sure to gather the data you would like to use, review the questions below to guide you in making sure that the data you will be using is ready to go.

What data is most meaningful to summarize?

Consider selecting data that is actionable and most meaningful to the group you will be gathering for this activity.

**What format will you use distribute data to the group?**

Remember the goal of the activity is to summarize findings at a high level.

TIP! You may consider speeding the process up during the group breakouts by providing computations in advance.

ACTIVITY STEPS

1	Divide your group into small teams (2-3 people each) and distribute the data you would like them to examine.
2	Pass out the T-shirt handout to each team and ask the group to think about what the data means and how they can convey that message through a t-shirt slogan.
3	Ask teams to work together on a design for their t-shirts.
4	Come back together and have groups share their t-shirt slogans.
5	Debrief the activity by asking questions such as: a) What are some common themes you recognize across the different t-shirts? b) What challenges did you have in coming up with a slogan? c) What did you learn about converting numbers and data into a meaningful message?
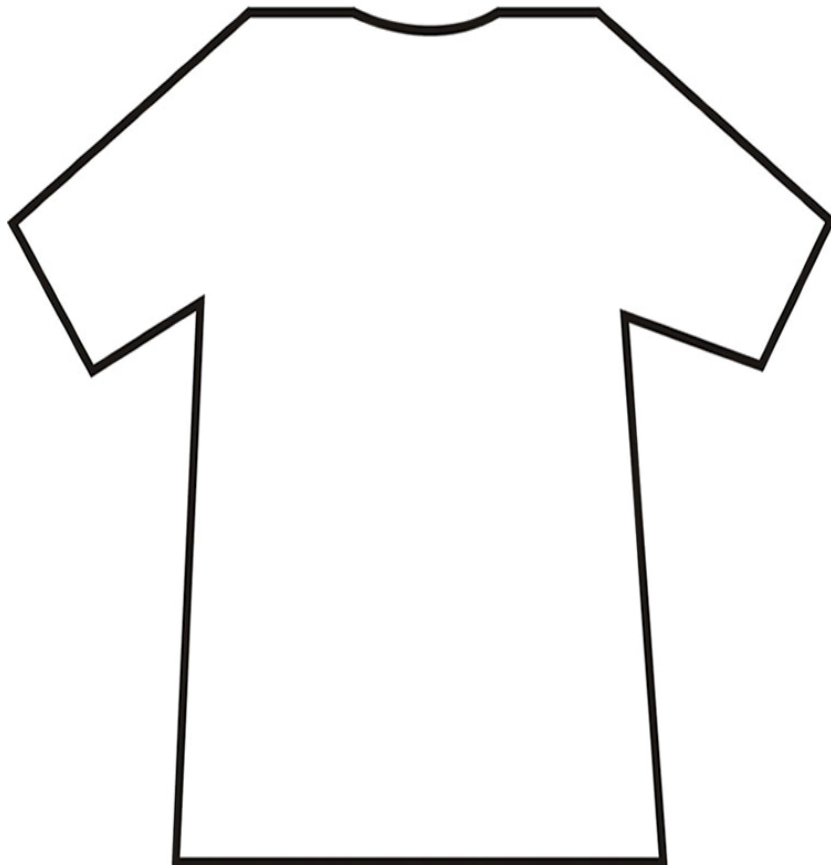
FINDINGS COOKIES

Group Size   Any size
Time   15 mins. (once baked)
Virtual?   No

Communicate key findings through this fun (and edible) presentation method. This activity can help your group move from findings to recommendations through an interactive group discussion.

OBJECTIVE

Participants will receive custom fortune cookies with key findings stuffed in them to share. Participants will serve as the spokesperson for each finding and help to generate a discussion.

MATERIALS

☐ Homemade fortune cookies: http://allrecipes.com/recipe/fortune-cookies-so-easy/

☐ Small strips of paper with findings on them. Every strip should have a different finding on it.

ADAPTATIONS

If you are in a time crunch, use plastic eggs instead of cookies.

ROOM SET UP

A room that allows for everyone to have a group discussion works best.

SOURCE

Evergreen, S. (2014, February 19). Findings Cookies (Web log comment). Retrieved from http://stephanieevergreen.com/findings-cookies/

ACTIVITY STEPS

1	Frame this activity for your audience – these are not fortune cookies, they are findings cookies. Share the process of how you arrived at each finding, especially whether you used any guiding principle or questions.
2	Distribute the findings cookies you prepared in advance to each participant. Ask each person to take a few minutes to open up his or her findings cookie and read the finding inside. After reading their finding, participants should take 1-2 minutes to think about what they read so they can share out their findings, along with anything that strikes them about the finding. Make sure your audience understands what the findings mean and offer to answer any questions they might have.
3	Taking turns, ask each person to share their finding and say what it means to the work they contribute, as well as the work of the whole group.
4	After each person has had a chance to share, discuss what the findings implicate and move toward making recommendations.

Communicating Findings

SCRATCH OFF GRAPHS & FINDINGS

Group Size   Any size
Time   15-20 mins.
Virtual?   No

Share and build excitement while revealing key pieces of data through this hands-on presentation method.

OBJECTIVE

Participants will share data highlights from scratch-off findings and then discuss the implications of each finding.

MATERIALS

Prepare the scratch-off props in advance. Print your evaluation findings and graphs on cardstock, tape over the section you would like to be hidden, and then paint over the tape with scratch-off paint.

Scratch-off paint (mix 1 part dish soap to 2 parts acrylic paint). You may need to apply multiple coats and allow for ample drying time for the paint to dry completely

- ☐ Cardstock with evaluation findings and graphs printed on them
- ☐ Clear packing tape
- ☐ Coins to scratch off paint

ADAPTATIONS

Use stickers instead of scratch off paint.

SOURCE

Evergreen, S. (2013, January 30). Scratch-off Graphs (Web log comment). Retrieved from http://stephanieevergreen.com/scratch-off-graphs/

ACTIVITY STEPS

1	Explain to the group that they will be learning about key findings, and distribute the scratch-off findings. Distribute the scratch-off findings, along with a coin, to either individuals or to small groups.
2	Once you have distributed the scratch-off findings, ask each person/group to use the coin to scratch off the painted area. Once the finding is revealed, give each person/group a few minutes to read the finding and to think about a response to share to the group, based on the finding. **TIP!** Be sure to circulate during this period to assist anyone that may need help in understanding the findings.
3	After the discussion period, call the group back together and ask each person/group to share their findings along with anything that strikes them about the finding.
4	Once every finding has been shared, shift the conversation to what recommendations or actions emerged during the session.

Communicating Findings

HASHTAG HEROES

Group Size Any size
Time 30-45 mins.
Virtual? Yes
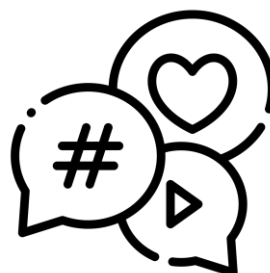
Crowdsource key findings using brief phrases inspired by social media.

OBJECTIVE

Participants will learn how to communicate key findings concisely, using social media-style summaries of key findings.

MATERIALS

Prepare a "Hashtag Heroes" worksheet with spaces for participants to write brief summaries of data highlights. It's helpful to set out suggested themes for the highlights, like "participation," "quality," and "satisfaction." (Or whatever dimensions make sense in your context.)

Select data for review, ideally something with a few different domains, like a survey results or data placemat.

ADAPTATIONS

Ask participants to vote on their favorite "posts" and use them in your organization's social media!

ROOM SET UP

It's ideal to have space on the wall or easels to post worksheets, so everyone can see them.

ACTIVITY STEPS

1	Explain to the group that they will be sharing brief highlights from the data by theme. The group will create brief, social media style posts to get their point across quickly.
2	Distribute the data to the group and invite them to review it for 5-10 minutes. Participants use a pen or highlighter to note especially promising information. **TIP!** Be sure to circulate during this period to assist anyone that may need help in understanding the data.
3	Invite participants to complete three to four "posts" based on the data, using the worksheet provided.
4	Participants post their worksheets around the room and circulate to read one another's' highlights. If the group is small enough, have participants read their posts aloud to the group.

Communicating Findings
DATA PARTY

Group Size Any size
Time 45-60 mins.
Virtual? Maybe

A flexible approach to engage teams in reviewing evaluation findings in a fun, celebratory environment.

OBJECTIVE

Participants will explore key findings from an evaluation using lightly-structured discussion protocols.

MATERIALS

Large format copies of study findings to post throughout the meeting space.

TIP! Create a different poster for each finding, with supporting data.

Handouts with the instructions for the data party and study findings. (See Sources for examples.)

ROOM SET UP

A room with ample wall space or easels for posters, room for participants to circulate in small groups.

ADAPTATIONS

Many! See the Sources for suggestions.

SOURCES

Back of the Napkin Consulting, (ND) *Data Party Toolkit.*

Lewis, Kendra, (ND), *Data Party Toolkit,* University of California 4-H Youth Development Program.

ACTIVITY STEPS

1	Welcome the group to the data party with a round of applause in appreciation for their hard work. Explain that the team will circulate around the room reviewing findings from the evaluation, then share their take-aways with the full group.
2	Invite participants to get into groups of 3-4 people. Distribute handouts with instructions and findings. Groups circulate around the room in 5-10 minute intervals, reviewing and discussing the findings on the poster. Participants note highlights from the data on their handouts. **TIP!** Circulate during this period to assist groups that may need help.
3	Once the group has visited each of the findings posters, invite them to share the highlights from each finding poster with the full group. Annotate the poster to show which findings were noted most often.
4	To conclude, invite the group to share their thoughts for what lessons to take into similar work in the future.

BLACK OUT POETRY

Group Size   Any size
Time   15-30 mins.
Virtual?   Maybe

Spark creativity and whimsy in sharing evaluation findings.

OBJECTIVE

Participants summarize study findings using poetry.

MATERIALS

Pages of magazines, books, or web pages with a fair amount of text.

Black markers.

Other color markers (if desired).

Study findings (either a handout or projected for the group to see.)

Example black-out poem.

Tip: Use washable markers, and have handwipes available if a sink isn't nearby.

VARIATIONS

Assign specific findings to participants if there are many to review. (e.g. "Everyone on the righthand side of the room, focus on the findings on page 32.")

ROOM SET UP

A room with enough table space for participants to draw on their pages. If desired, a "gallery" space to post the team's poems.

SOURCE

Spark Creativity, The Easy Guide to Blackout Poetry (Web log comment). Retrieved from https://nowsparkcreativity.com/2018/10/the-easy-guide-to-blackout-poetry.html

ACTIVITY STEPS

1	Explain to the group that they will share one of the findings from the evaluation using a poem they create from existing words. This is meant as a lighthearted and creative way to share findings. Distribute pages, markers, and study findings.
2	Ask participants to skim the evaluation findings, noting any words or data points that catch their eye. Then, participants skim their page, lightly circling words or phrases that are related to the findings. Once they are ready, participants use markers to black out the text they *don't* want in the poem. **TIP!** Be sure to circulate during this period to assist anyone that may need help in understanding the task.
3	Depending on the group size, invite participants to share their poems aloud, or to post them on a common space for others to read.

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Dabbling in the Data Playlists

One of the best ways to use the *Dabbling* activities is to mix them together, creating a hands-on, interactive experience for your interest holders.

Just like a good playlist of your favorite songs, putting together a mix of *Dabbling* activities can make data more memorable and meaningful.

Playlists include: Getting Comfortable with Data; Collecting Qualitative Insights on Quantitative Data; and Scan-Diagnose-Prioritize.
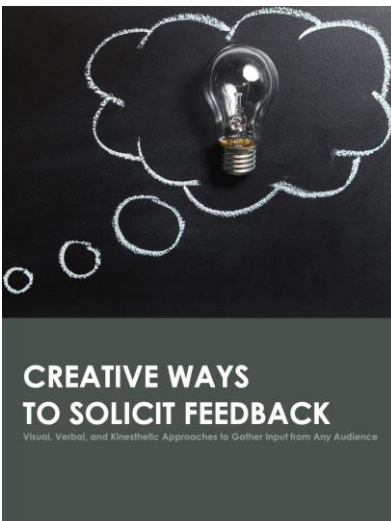
Creative Ways to Solicit Feedback

Many mission-driven organizations get buried under a seemingly bottomless pile of surveys, leading to survey fatigue for staff and participants alike.

We collected our favorite non-traditional ways to solicit input from stakeholders, like selfie stations, candy surveys, and collages, and put them into one place.

These approaches allow for more substantive back-and-forth between you and your interest holders and are designed for settings where traditional surveys aren't the right fit.

Download these resources and more at www.publicprofit.net

[public profit]