

SciSays Storytelling Workshop

Mary Madera
3/12/20 20

This PDF has been **expanded** (**) for at-home use for people who wish to participate but were unable to join the in-person workshop on 3/12/2020 due to COVID-19 caution.

We encourage people to go through the workshop on their own and all references are provided!



Throughout this presentation, I will be using my own research for examples.

I study strawberry flavor: researching the genetics and aroma metabolites that diversify and contribute to flavor. The goal is to efficiently breed more flavorful strawberries.

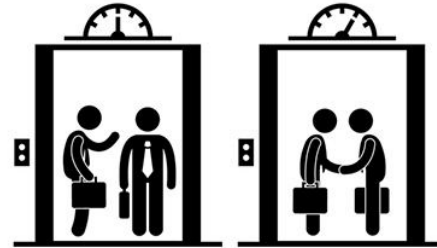


**Mary
example:**



Agenda

1. Self-check in: pitches and messages
2. Science Storytelling
3. Apply your skills
4. Draw your research
5. Pitches in 60, 30, and 15
6. Resources



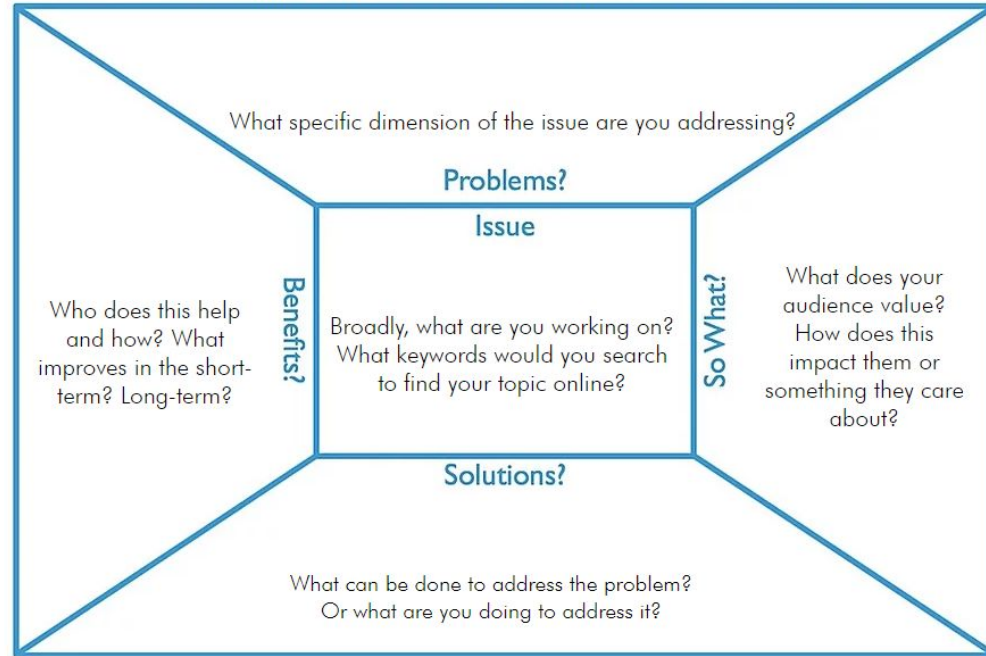
Welcome! To begin, take 10 minutes to

1. Write out your elevator pitch*
2. Complete your Message Box

*Choose whichever audience and pitch you wish to work on during this workshop

The Message Box

Audience: Who is impacted by this? Who can change this? Who cares about this?



<https://www.compasscicomm.org/message-box-online>




Science Storytelling: Sara ElShafie



The first half of this workshop is adapted from Sara's amazing workshops. We encourage you to check out her website and attend her workshops if possible:

I am passionate about making science accessible and exciting.



I am a Doctoral Candidate in the [Department of Integrative Biology](#) at the University of California, Berkeley. My [research](#), based at the [UC Museum of Paleontology](#) at Berkeley, investigates climate change impacts on animal communities over time.

I also work at the intersection of science and entertainment to make science accessible and exciting for the masses. I have developed a [workshop series](#), organized a [symposium](#), and I consult on science storytelling projects.

<https://www.sara-elshafie.com/>



Sketch notes by [Mark Simmons](#) from the 2018 workshop at UC Berkeley on visual storytelling for science communication, presented by ElShafie with Character Art Director Matt Nolte and Production Designer Steve Pilcher, with contributions by K.C. Roeyer, of Pixar Animation Studios. Sketch notes courtesy of Mark Simmons. Pixar content © Disney/Pixar, used [on Sara's site] with permission.



**Rosalie and I attended this workshop and really enjoyed it; it was the inspiration for this mini-workshop! More information can be found at the website below.

<https://www.sara-elshafie.com/workshopsx>



Take a second and write down what you think makes a great story.



What makes a great story?

Drawing from the minds of Pixar, Sara ElShafie, and life experience:



Great stories:

1. Find common ground
2. Have a relatable main character
3. Have a focal point
4. Have a sequence of events
5. Have a take-away/purpose



Find common ground

Grab their interest! Find a unifying topic.

A quick lead-in sentence or question is a great way to connect with your audience and make them want to hear more. This may be unique for each group you talk to, so have a few options ready.

- Are they also trying to eat cheap, healthy food?
- Also confused about what vitamins really do?
- Also counting down the days until summer?



Many example: People like food that tastes good; most supermarket strawberries taste watery or sour.

**This can be of the “So What?” part of your talk. It could also be fun imagery, something that makes them laugh, or a quick poll question or statement of the current issue to get everybody on the same page for what you are about to say next.



Find common ground

Avoid Jargon!

This will also be unique to each audience.

- ** If you need jargon - really evaluate if you NEED it.
 - If you do - define it first.
- ** A good rule of thumb is that most general audiences remember up to 6th grade science concepts.
- ** Don't underestimate people, but it is always safe to reword technical language.
- ** Besides, if you can explain it to a 10 year old, chances are you've mastered the subject.



Many example: People like food that tastes good; most supermarket strawberries taste watery or sour.

Get creative rewording your research here:

<https://splasho.com/upgoer5/>

**This website is extreme in that only 1000 words are allowed. Use it as a tool to get creative, but your talks will likely need more than these 1000 words.



Relatable Main Character

You!

You make a great main character!

**What you research could also be the main character, depending on your story but you are more relatable.

Every day your life and research fill you with relatable stories:

- That time you were sleep deprived and missed that big meeting?
- That time you refused to quit and succeeded!
- That time your labmates went for coffee and that funny thing happened...
- **You are human → you have a voice worth sharing and you are relatable**



Mary example:
Me! I am the relatable main character.
Supermarket strawberries would also work.



Relatable Main Character

**On the topic of “me” vs “we”:

- Use “I” statements for your work, but credit by name or name and photo those that helped you. This will give your story flow, and will show your audiences what you have actually done and why you are there talking about it.
- When discussing overall lab aims or very highly collaborative work and goals (like many faculty seminars), use we. If necessary, you can begin by introducing your lab or working group as a whole, so the audience will be comfortable when you switch between “I” and “we”.
- When discussing someone else’s work, use their name.



Have a Focal Point

Pick one aim and stick to it.

It's hard for researchers to whittle down or simplify their work, and its equally hard for audiences to keep up through excessive details and subplots.

1. Find a common theme of your research
2. Or choose just one of your subprojects



Improved strawberry
flavor.

****On over-simplifying research:** For general audiences, it is perfectly acceptable and encouraged to over-simplify your work so your audiences can understand it.

****Consider:** they can walk away confused and distracted by accurate details, or they can walk away with a clear idea of your overall goal and feel informed and interested enough to contact you for the accurate details.



Have a Focal Point

Pick one aim and stick to it

If audiences want more details, they'll ask follow-up questions. You can also give out your contact information and they'll contact you.

**Business cards are very handy.

**Many people are going paperless

** Have your email /Twitter handle on the first and last slides

** Swap info in person with smartphones right away

Choose what's best for you.



Improved strawberry
flavor.



Sequence of Events

Build your story.

Great stories pose a problem and search for a solution or build up to a climax and end with a resolution.

There are many ways to do this:

- Frame the problem → the need → your methods → the solution
- Research question → How you are answering it → What have you found?
- What did you research first → what went wrong → how did you fix it → where did it lead?



High yielding berries taste bad →
I find compounds in different
kinds of berries →
I find their genes →
Breed new varieties →
Test consumer approval →
Release to market



Impart a Message or a Take-Away

What are they taking away from listening to or talking with you?

This may also change from audience to audience. Pitches and presentations may serve different purposes, but you are always trying to leave your audience with something.

1. Why your work is worth funding
2. Why your research is new and exciting
3. What they can learn from your research or experiences
4. Why they should give grad students more free food



We can and should be breeding strawberries with better flavors that serve farmers and consumers equally.

It doesn't have to be profound! If you don't know what they should take away from your talk, chances are they won't either.



Impart a Message or a Take-Away

What are they taking away from listening to or talking with you?

****For many projects, the goal and take-away is something much larger than one person, like solving a food system or curing a disease.**

**It may be worth it to spend an extra sentence in a pitch or 5-10 minutes of a presentation to start very broad with these large, multi-group goals and give broad, extended background before explaining the smaller, hyper-focused goal and impact of your work.

**This background invests listeners and poses the problem, and then fits your work into it.

**For very general audiences, it is great to either show them the immense group effort that is science, or conversely, perhaps stay very, very broad with your work (see over-simplifying).

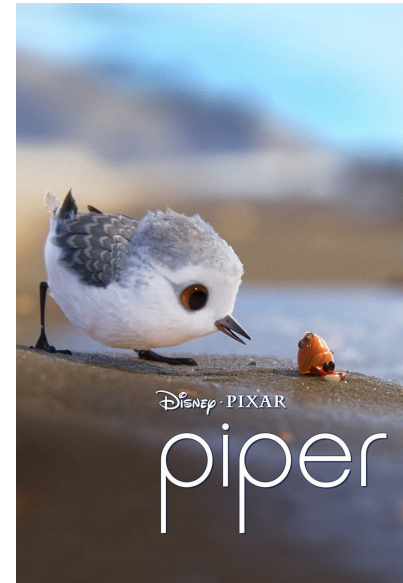


Try it out:

Watch: Pixar's Piper
(Any short story will work)

Identify:

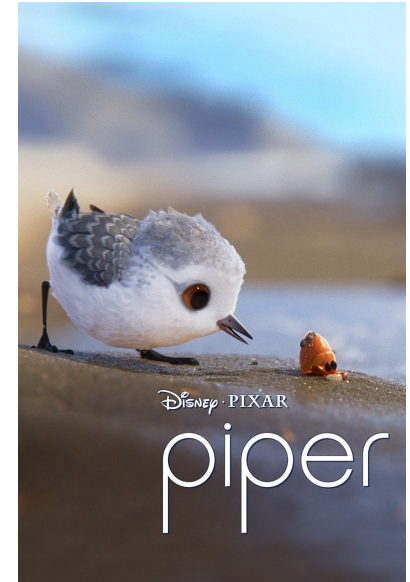
1. Common ground?
2. Main Character? Were they relatable?
3. Focal point?
4. Sequence of events?
5. Take-Away?



Try it out:

****Popular stories like this hit all the points in creative ways:**

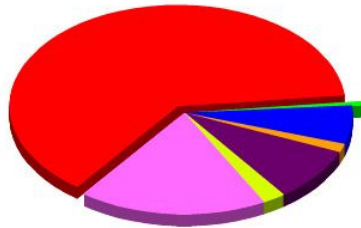
1. This story explored common human themes like bravery and learning new things, and caught our attention with imagery (cute animals) without any words (no jargon!).
2. Piper! We aren't birds, but found relatable qualities in this chick.
3. Piper is a bird learning to fend for itself.
4. Failed → Got scared → Observed → Got creative → Tried → Succeeded
5. Be brave, creative, and refuse to quit



Visualize your research

1. Graph your science story. Interpret/format this however is best for your story.

Use of time before 15 page essay due in 12 hours



- Writing
- Making the margins really small
- Making a cover page
- Inserting huge quote boxes
- Skimming your research notes
- Crying because you're going to fail your class
- Facebook

GraphJam.com



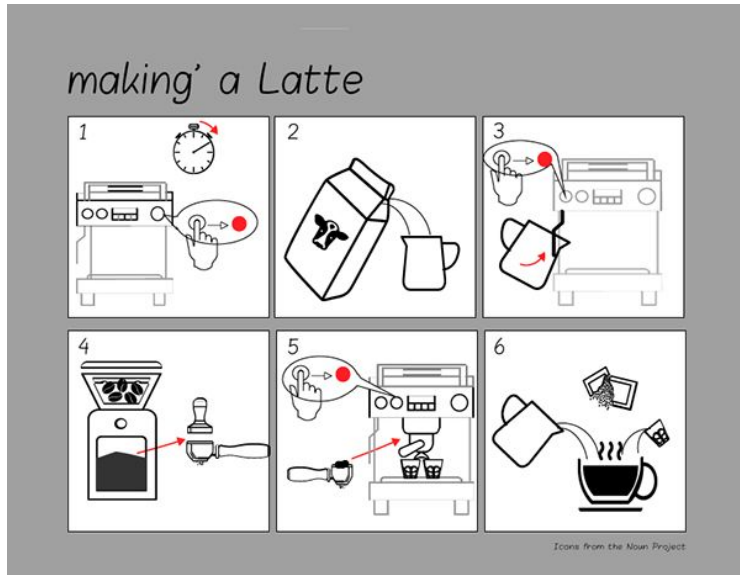
JORGE CHAM © 2009

WWW.PHDCOMICS.COM

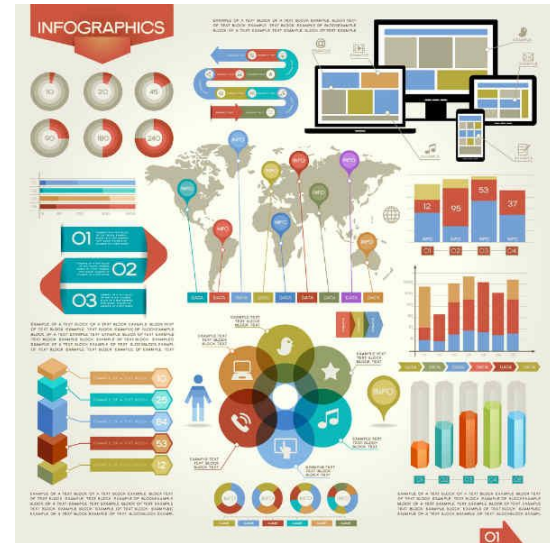


Visualize your research

2. Draw your science story; translate your work into images.



**Infographics are great examples of using images to explain concepts!



Visualize your research

Do you have:

1. Common ground?
2. Relatable main character?
3. Focal point?
4. Sequence of events?
5. Message?

****All participants found drawing their work to be extremely helpful! It is a great way to find a story element you missed or a creative replacement for jargon or a concept that you drew but didn't think to include in your pitch.**



Rewrite your elevator pitch

Write a 60 second elevator pitch using the storytelling points.

Find a partner and recite your 60 second pitch. Have them time you for reference.

****Speaking your pitches out loud and receiving feedback is the best way to improve them. Many written pitches have elements that do not translate well when spoken. These adjustments also improve your written version.**



Mary's 60 Second Workshop Pitch

Target Audience: General Public

Time: 44 seconds

Most store bought strawberries are watery, sour, or taste like cardboard. However, breeding programs and growers have put lots of resources into breeding higher yielding or disease resistant varieties but haven't bred for flavor. My research uses up to date genomics and metabolomics technology to better understand what is contributing to and driving strawberry aroma and flavor. By comparing exotic and wild cultivars with those most widely grown and sold in stores, I can identify the key compounds separating the most and least flavorful types of berries. By complementing this work with consumer preference panels, I can help breed high yielding, farm favored berries that consumers love eating with the goal of releasing sustainable strawberries that are as fruitful for growers as they are tasty for the people who buy them.

Group critique:

- Good opening line, relatable
- Remove JARGON: Yielding, breeding, genomics, metabolomics, cultivars, compounds.
- "Breeding" could be replaced with searching, looking for, growing
- Releasing berries sounds scary, replace with growing or producing.
- Ending was quippy, good, but maybe rework.
- The beginning and ending together made it sound too over the top, like I am trying to hard or exaggerating the effects.

Shorten your pitch

Shorten your pitch to 30 seconds.

**Find a partner and recite your 30 second
pitch.**



Mary's 30 Second Pitch

Target Audience: General Public

Time: 26 seconds

Most store bought strawberries are watery, sour, or taste like cardboard. However, growers have put lots of resources into looking for berries that grow better or are disease resistant but haven't searched for better flavor. My research uses up to date technology to better understand what drives strawberry flavor by looking to wild strawberries and their flavors. By complementing this work with consumer preference panels, we hope to produce berries that are both fruitful for farmers and enjoyable for consumers.

****Other useful tips:** Gene names and species names are not necessary in pitches like this. Listeners get caught up on the technical names and stop listening. Your slides, posters, or follow-up conversations can reveal what gene you discovered or what type of invader/pathogen, plant, animal etc. you are working on. Limit long, multisyllabic words for flow. Pathway components → parts of a pathway or just “a pathway”.

Group critique:

- Better
- Remove **JARGON:** consumer preference panels → taste testers
- Rather than spend time discussing what I'm not studying (yield and disease resistance), go straight for flavor, like - underrated or previously ignored trait, flavor, etc.
- Use of fruitful pun liked by some not others, careful with being over the top

Find your focal point

Shorten your pitch to 15 seconds.

**Find a partner and recite your 15 second
pitch.**



Mary's 15 Second Pitch

Target Audience: General Public

Time: 16 seconds

Most store bought strawberries are watery, sour, or taste like cardboard. However, growers have put lots of resources into disease resistant berries but not berries with better flavors. My research hopes to better understand flavor to produce more flavorful strawberries that are both fruitful for farmers and enjoyable for consumers.

Group critique:

- Better
- To the point
- Easy to follow

Resources

<https://www.compassscicomm.org/message-box-online>
<https://www.sara-elshafie.com/>
<https://www.sara-elshafie.com/scicomm/publications>
<https://splasho.com/upgoer5/>

Elevator Pitches:

1. **An Introduction for All Occasions: The Elevator Pitch**
<https://www.aslo.org/science-communication/elevator-pitch/>
2. **Communication: Two minutes to impress**
<https://www.nature.com/naturejobs/science/articles/10.1038/nj7435-137a>
3. **Elevator Pitches for Scientists**
https://medschool.vanderbilt.edu/wp-content/uploads/sites/9/files/public_files/Elevator%20Pitches%20for%20Scientists_Uyen_0.pdf

Scientific presentations: A cheat sheet

<http://blogs.nature.com/naturejobs/2017/01/11/scientific-presentations-a-heat-sheet/>

Have a favorite tutorial website? Tweet us!

