

Powerful Learning/Ambitious Teaching

Margaret Heritage

Formative Assessment Summit

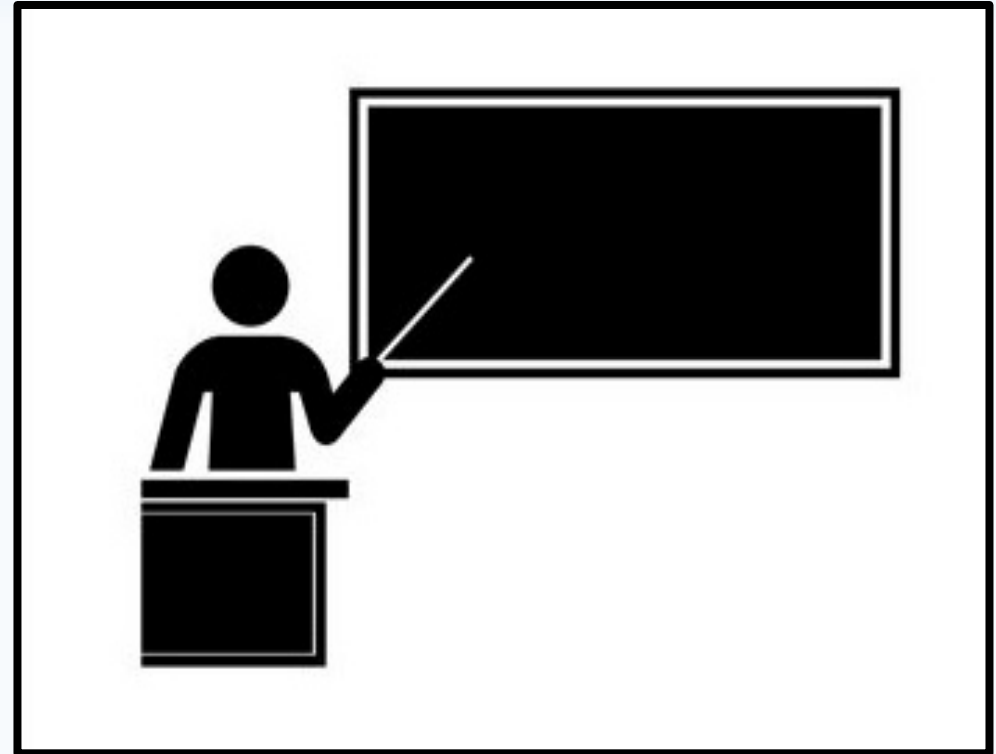
Phoenix AZ
June 13, 2019



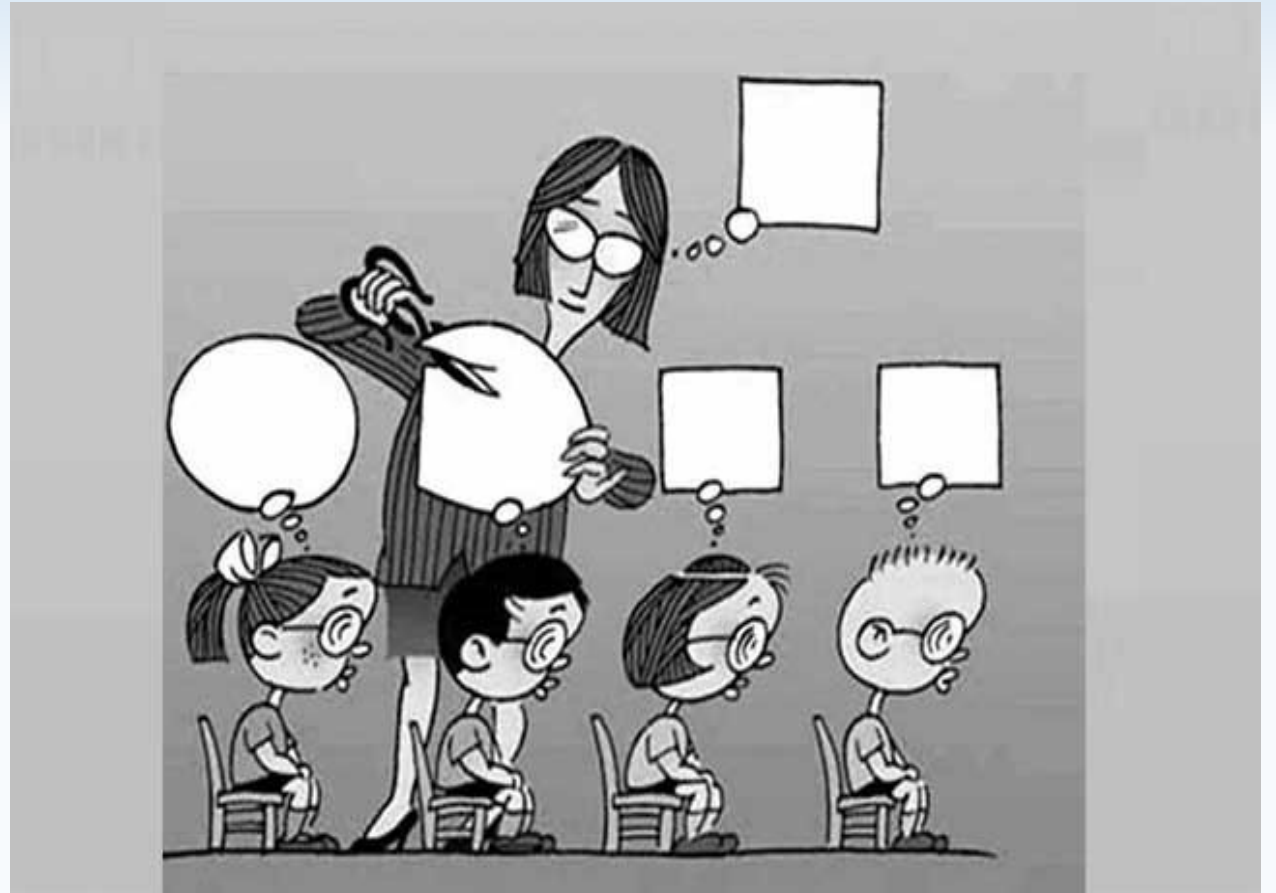
Educating students for
their future, not our
past.

Andreas Schleicher (2018)
Director for Education and Skills at
the OECD

Rethinking the work of teaching

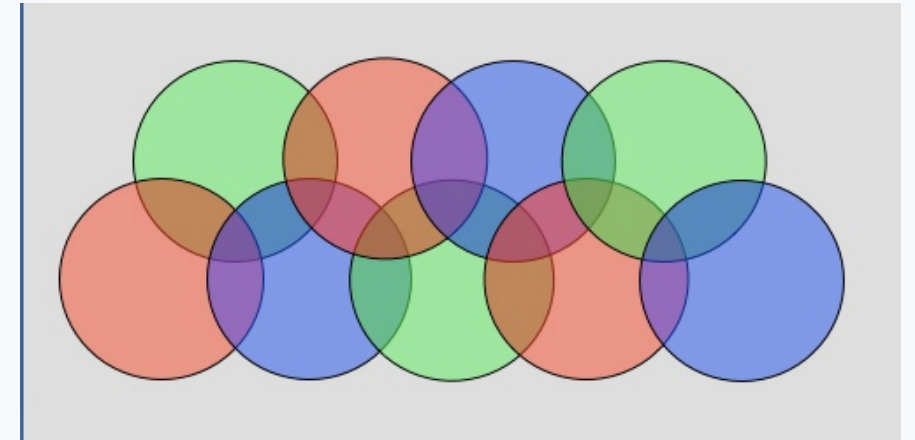


Rethinking the work of learning



Overview

- Powerful Learning ↔ Ambitious Teaching
 - Funds of knowledge
 - Expanding horizons
 - Active sense-making
 - Inquiry
 - Discourse
 - Apprenticeship in the disciplines
 - Guided participation/scaffolded assistance
 - Collaboration
 - Self-regulated learning processes
 - Learning identity
- Ambitious teachers



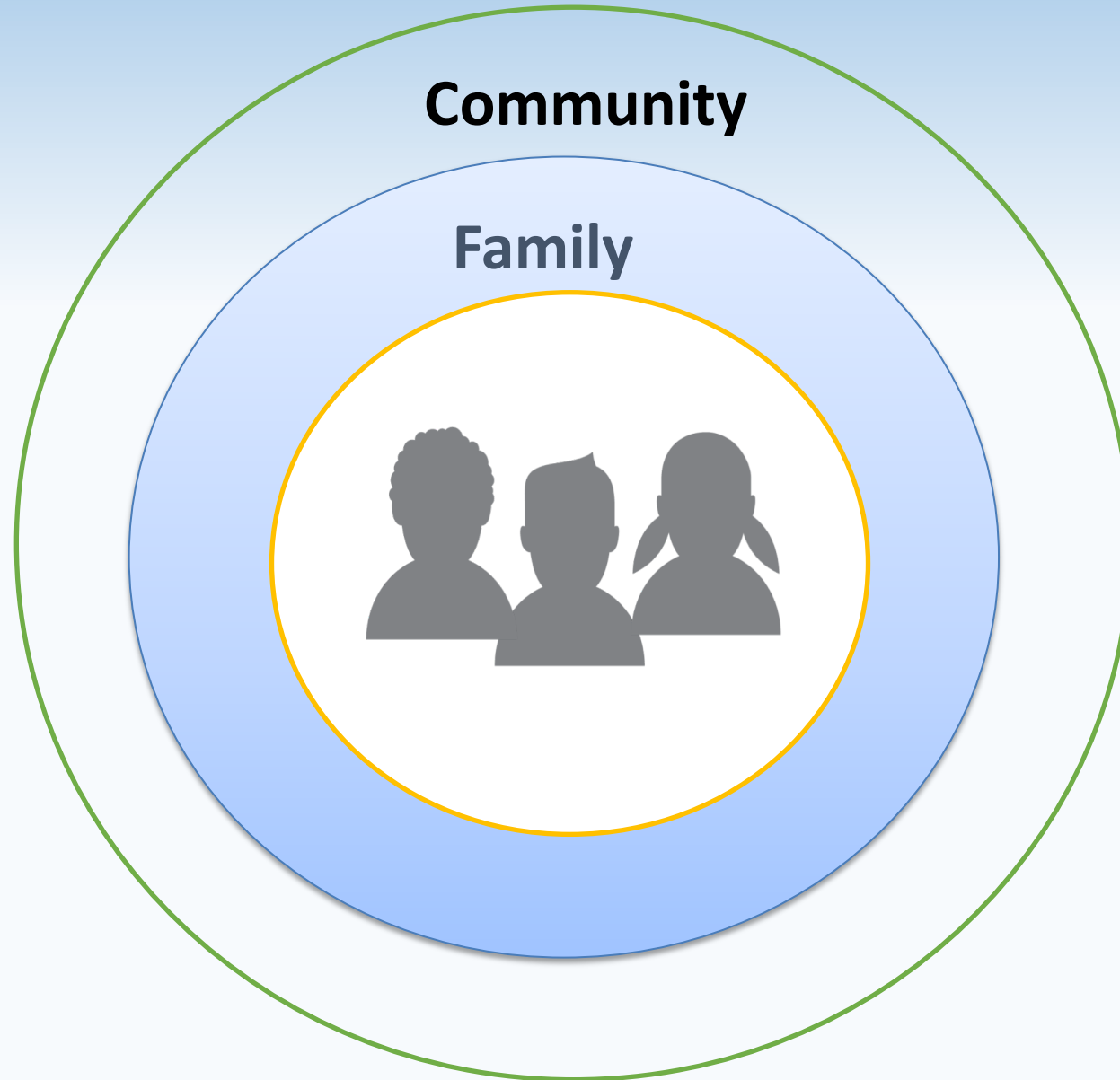
Powerful Learning I

“Allowing students to show up in classrooms as their authentic selves.”



Funds of Knowledge

Moll, Amanti, Neff, & Gonzalez,
1992



Ambitious Teaching I

One size does not fit all



Know who your students are

**Reflect who they are and the
knowledge they bring to the
classroom**

A Case in [Counter] Point

Female 1 :We just read a book, Habibi, and it was about a girl and she was Lebanese and she had to move to America...and like that is how it is with us.”

Interviewer: “Do teachers ever like in History or in English, do you ever read literature from your background?”

Female 1: “No.”

Interviewer: “Any history lessons from your background?”

Female 2: “Nope. Never. Like I can’t remember like I can’t think of one.”

Female 1: “Nope. I know it would be like a joke to us if they did. Like we would just start laughing ‘cause it’s so rare they did.”

Female 2: “Well, they don’t really teach us about cultures...they just teach us history. You basically don’t learn nothing about the achievements that Black people made.”

A Case in Point

- Analyzed sources related to the Haitian Revolution
- How it influenced and was influenced by the French Revolution and the Louisiana Purchase.



Powerful Learning II

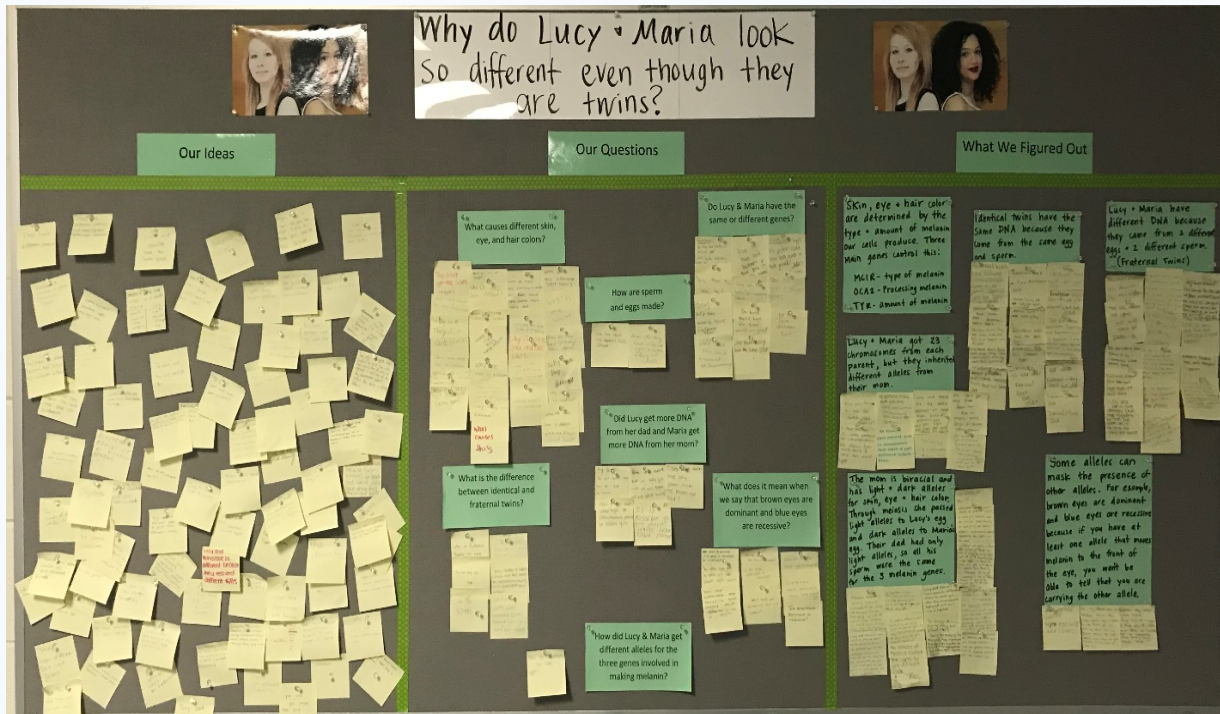
...by drawing on household's knowledge , **student experience is legitimized as valid**, and classroom practices can build on the familiar knowledge bases that students **can manipulate to enhance learning** in mathematics, social studies, language arts and other content areas

Gonzalez, 2005 p. 43

Ambitious Teaching II

- Leverage the knowledge students bring from their homes and communities to learning

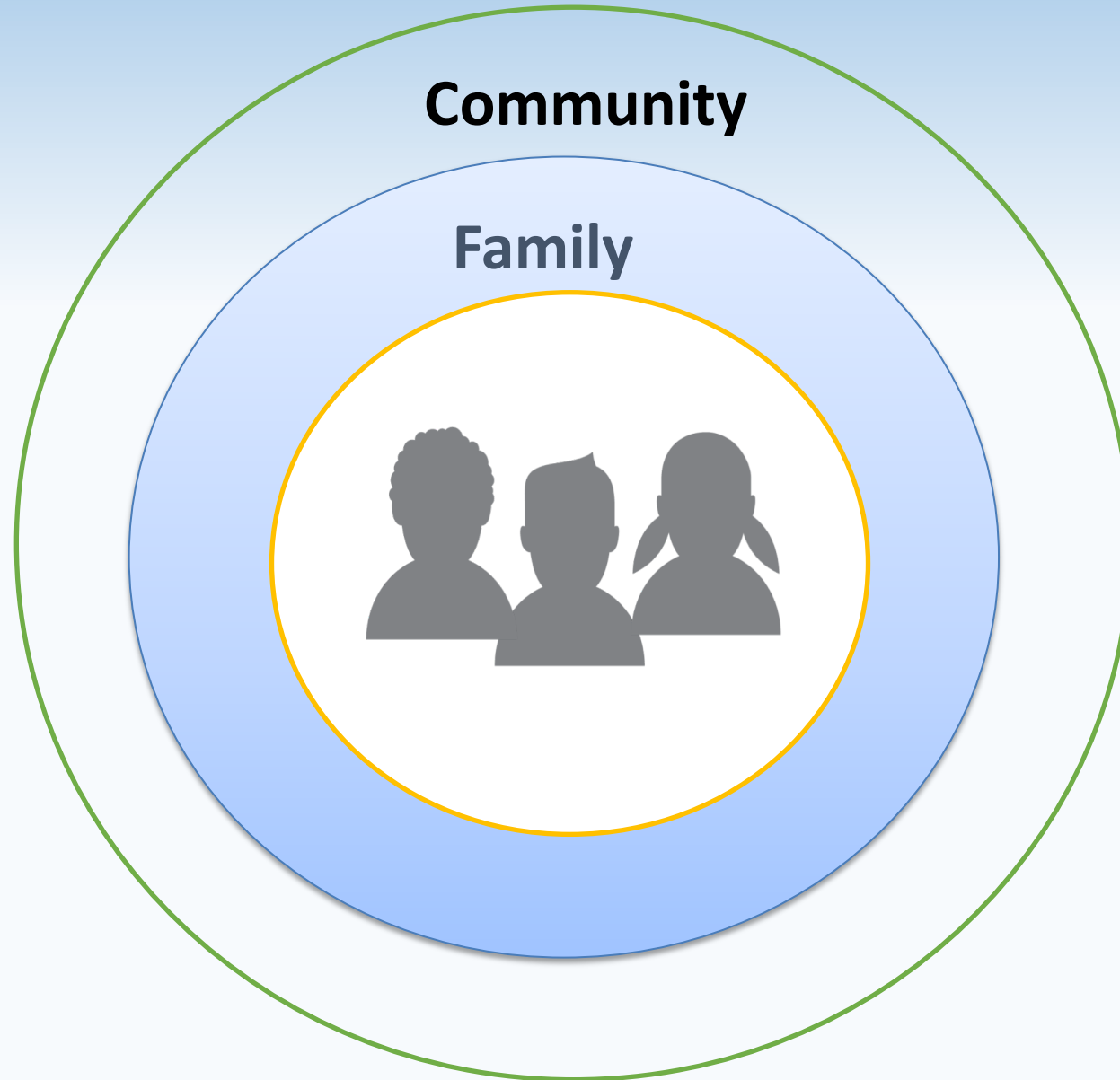
Ambitious Teaching II



“The initial lesson is perhaps the most important one of the unit because it allows me to formatively assess students’ thinking about a topic and to uncover their funds of knowledge that I can draw from. It also allows me to elicit their interests and experiences related to the phenomenon that I can draw on to motivate their learning.”

**Enhances students'
sense of themselves
as knowledge-
makers and knowers**

*Cowie, Harrison, & Willis, 2018,
p. 7*



Ambitious Teaching II

- Leverage the knowledge students bring from their homes and communities to learning
- Continuously expand their horizons

Ambitious Teaching II: Horizon Knowledge



Ball, Thames, & Phelps, 2008

Powerful Learning III

- Active sense-making



Traditional Lesson Paradigm (*NCTM, 2014*)

- Review
- Demonstration
- Practice

Use and connect mathematical representations

Teacher and student actions

What are *teachers* doing?

Selecting tasks that allow students to decide which representations to use in making sense of the problems.

Allocating substantial instructional time for students to use, discuss, and make connections among representations.

Introducing forms of representations that can be useful to students.

Asking students to make math drawings or use other visual supports to explain and justify their reasoning.

Focusing students' attention on the structure or essential features of mathematical ideas that appear, regardless of the representation.

Designing ways to elicit and assess students' abilities to use representations meaningfully to solve problems.

What are *students* doing?

Using multiple forms of representations to make sense of and understand mathematics.

Describing and justifying their mathematical understanding and reasoning with drawings, diagrams, and other representations.

Making choices about which forms of representations to use as tools for solving problems.

Sketching diagrams to make sense of problem situations.

Contextualizing mathematical ideas by connecting them to real-world situations.

Considering the advantages or suitability of using various representations when solving problems.

Powerful Learning IV

- Active sense-making
- Inquiry



Ambitious Teaching IV

Community Study: Walking in the Neighborhood



Source: Gabriela Cardenas, UCLA Lab School

Class Discussions

Why do people go on strike? (Fernando)

I wonder why these people are on strike?
(Esther)

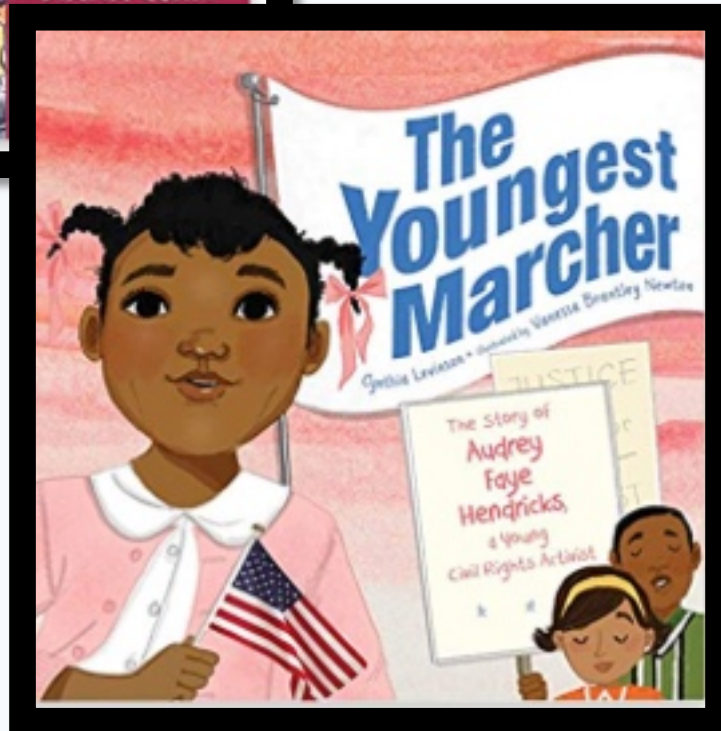
Well, I do see a sign that says equality and
I think that's what they want because
equality means that not one person is
more valuable or important than another.
We are all valuable and should be treated
the same. (Chloe)



I think they need to strike, it's
not that they want to. (Esther)

I agree with Esther. I think
people protest to get treated
fairly. They should have the right
to get what they need like to be
treated equally.(Lindsey)

Texts to Answer Questions Led to More Questions



- *When and how strikes were formed?*
- *Why would people need to ask to be treated fairly?*
- *Isn't everyone treated fairly?*

Teacher Helped Shape Guiding Questions for Investigation

- What is a right?
- In the course of history and time, have rights changed?
- How are rights constructed?
- Who has rights?
- Do we all have the same rights?
- What are some of your rights?

Primary Source Materials



On Strike To Protect Our Rights!



After months of trying to resolve our dispute through letters, petitions, attempts to meet with representatives of ISS, the building manager and its owner, we are left with no alternatives but to strike for our rights. ISS has responded to our organizing with illegal firings and threats in order to make us stop our activities. The National Labor Relations Board has alleged more than 40 violations of worker's rights by ISS here at 2029 Century Park East. We are on strike to stop the illegal treatment and to force ISS to obey the law.

The parking attendants don't face these problems, nor do the engineers or the elevator repair people at the building. All of them are protected by a union contract while we, the janitors, suffer nightly harassment in addition to poverty wages and no benefits. This simply is not fair.

Please call Ron Goins of ISS at 730-5500 and 2029's Building Manager Sam Kaufman at (213) 552-8100. Tell them that we all deserve to share in Century City's prosperity.

Justice for Janitors
Hospital And Service Employees Union Local 399
1247 W. 71st Street, Los Angeles, CA 90017
(213) 680-9567



Primary Source Materials

What do you notice?
Why do you think
this is happening?
What connections
do you see across
the images?



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Students' Thoughts

I have the right not to be perfect because we all make mistakes and I do not like to be perfect.

I want to always have the right to live with my brother because in some places today, families are separated.

I want to have the right to believe in God because he takes care of me and my family.

I have the right to be bilingual because if I'm not bilingual I cannot do things like talk to my grandma and read in more than one language.

Powerful Learning V

- Active sense-making
- Inquiry
- Engage in discourse with their teacher and each other to explore ideas and build on each other's thinking



Ambitious Teaching V



Focus on thinking and student ideas throughout the lesson

Narrating how ideas are being expressed and encouraging students to contribute their ideas:

Teacher: *Richard and Dean think the plant's getting more food.*

Susan ... and Stacey as well? Yes.

Susan thinks it's because this plant is getting more light.

What do others think? Tariq?

Stimulating further thinking:

Teacher : *I think I know what Monica and Jamie are getting at, but can anyone put the ideas together? Window – Light – Plants?*

Helping students compare and draw ideas together:

Teacher: *What do others think about Carolyn's idea?* (Many students nod.)

Yes? It's bigger because it has more light and can photosynthesise more.

So, Richard and Dean, how does your idea fit in with this?

Student 1: *Well that's two and then ... well you have to add them up all together, because eight is an equal number and so you can do ... but you can do this with a lot of numbers, but one thing it has is where maybe you have two groups and you can't do that with a seven because all the groups want the same amount. So you can't give three to one group and four to the other group, cuz that wouldn't fair. So you add, so it would have to add up to be four and four.*

Teacher: *So (student 1's name) is saying that the number eight is an equal number. And that it's an equal number whereas seven is not. Hmmm. (Student 2's name), what do you think?*

Student 2: *Of course, because, say you would count by twos like that, because you see it's an equal number, because four plus four is eight.*

Teacher: *Okay.*

Student 2: *And just like (student 1's name) said, seven is made with three and four.*

Teacher: *So you're saying (student 2's name) you agree that eight is an equal number.*

Student 2: *Yes.*

Teacher: *Equal in the sense that if we take that number and partition it into two groups we can end up with four and four?*

Student 2: *Yes. And these are the equal numbers, like if I counted by twos. Two, four, six, eight. Those are all equal numbers.*

Teacher: *All equal numbers? Does everyone agree?*

Student 3: *I'm in disagreement.*

Teacher: *What is your disagreement?*

Student 3: *I think every number is an even number, because if you take a five for example, you can split it into two and two, but then you take the extra one and you split it in half.*

Ambitious Teaching V

What ultimately counts is the extent to which instruction requires students to think, not just to report someone else's thinking.

(Nystrand, Gamoran, Kachur, & Prendergast, 1997, p.72).



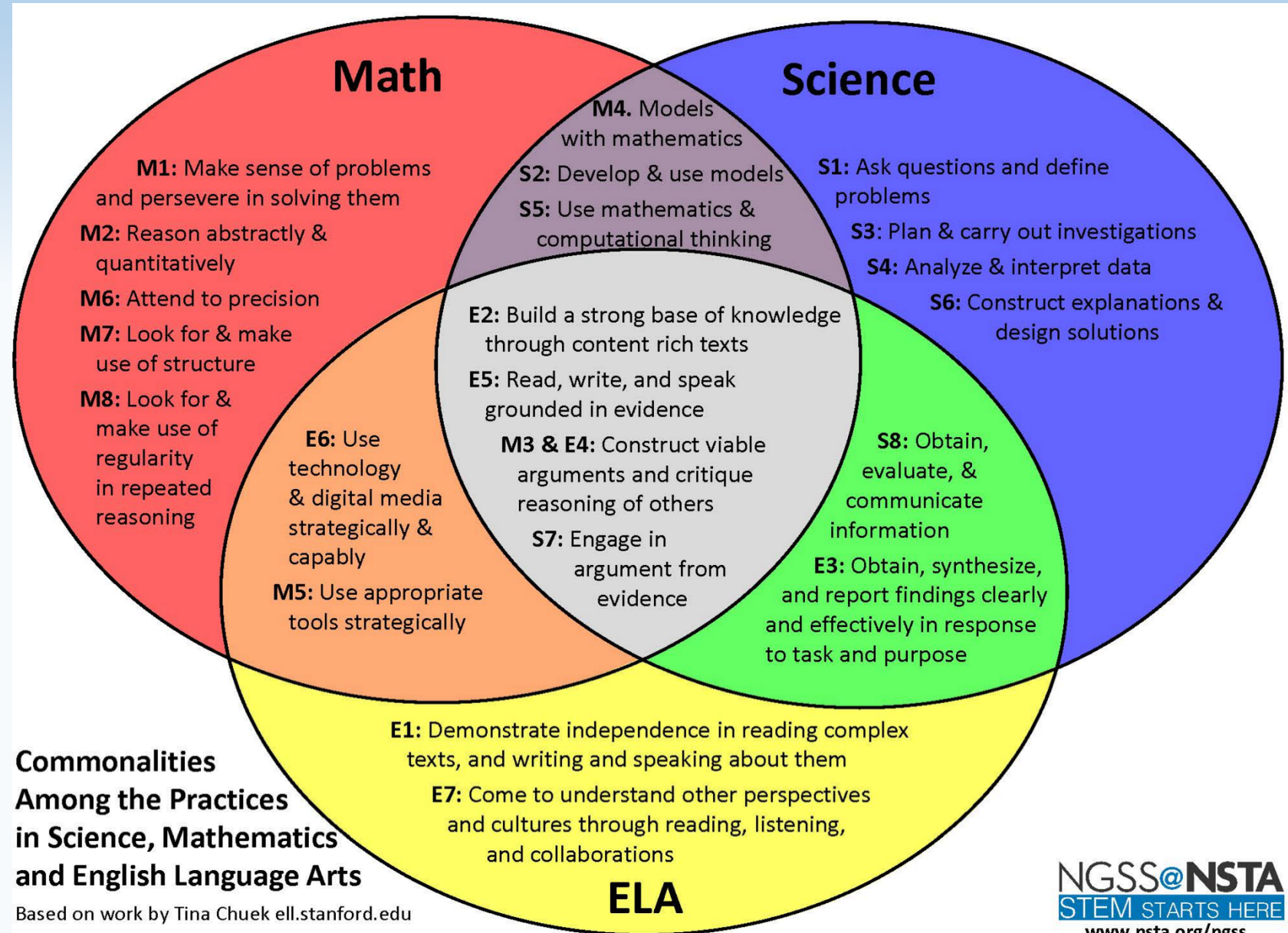
Powerful Learning VI

- Apprentice to the discipline
- Participate in activities that are similar to the kinds of everyday activities of professionals who work in a discipline

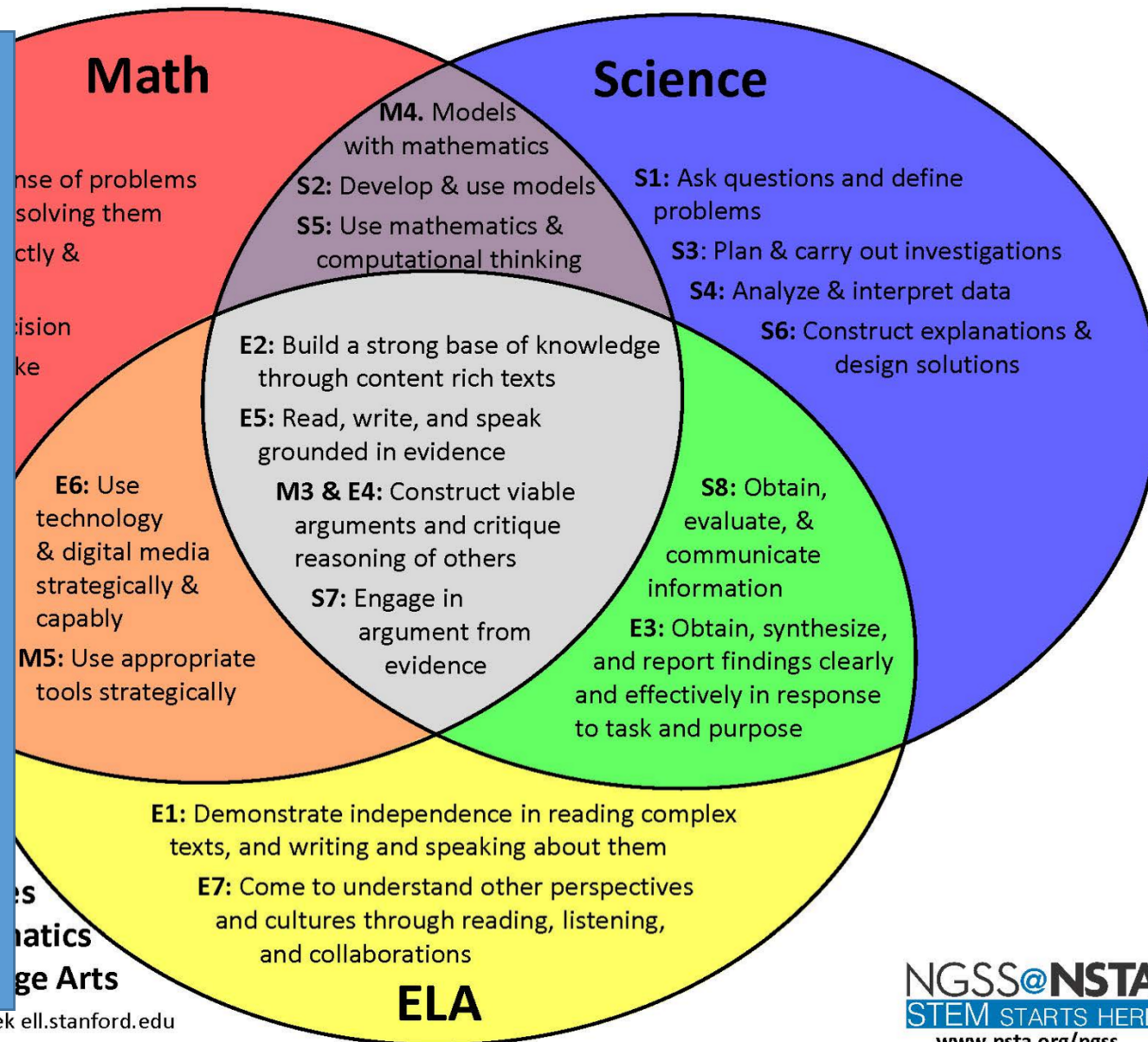


Ambitious Teaching VI

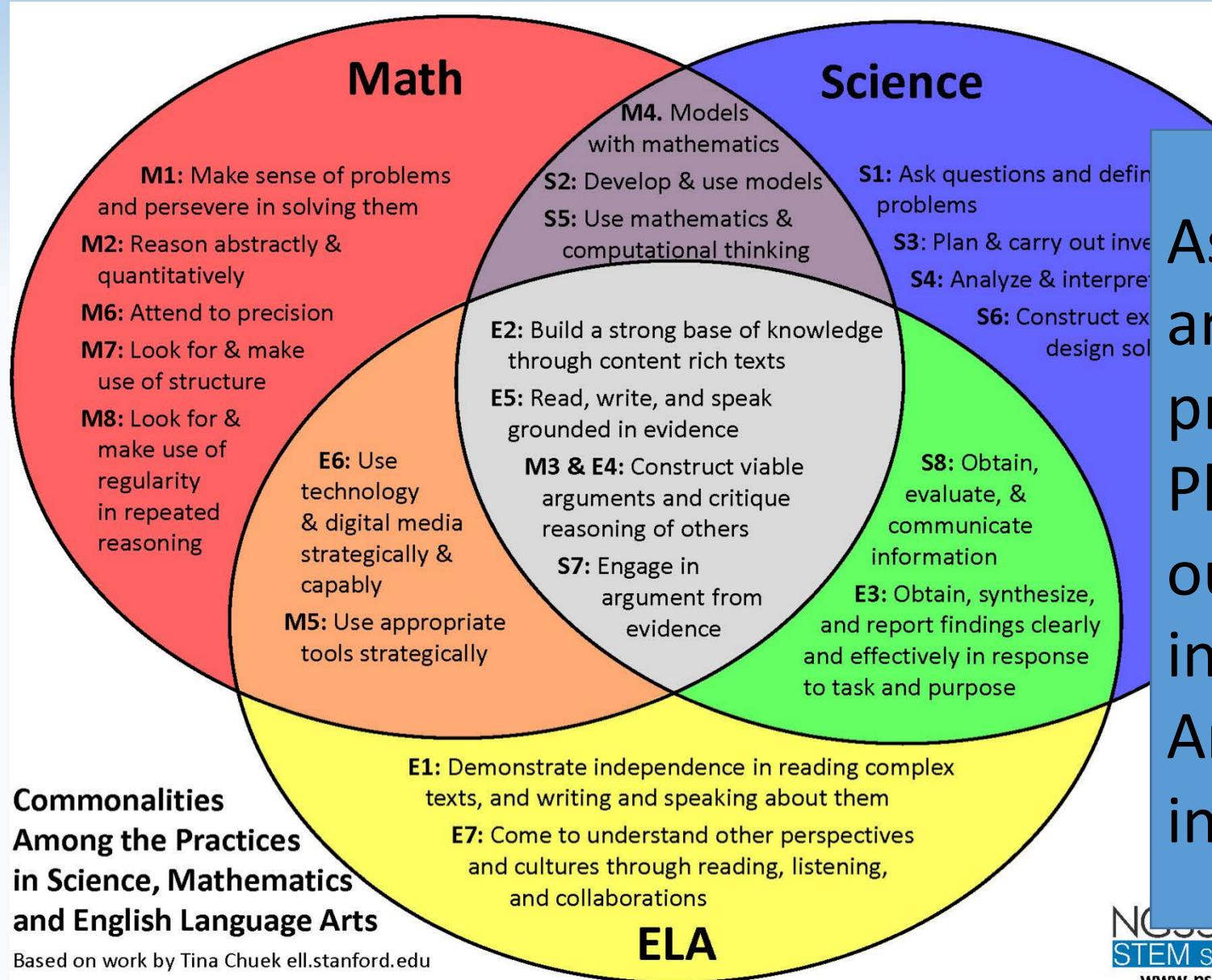
- Engage students in the analytic practices of the discipline
- Integrate content and practices



Read complex text and write and speak about them;
Understand other perspectives and cultures through reading, listening, and collaborations.



Based on work by Tina Chuek ell.stanford.edu

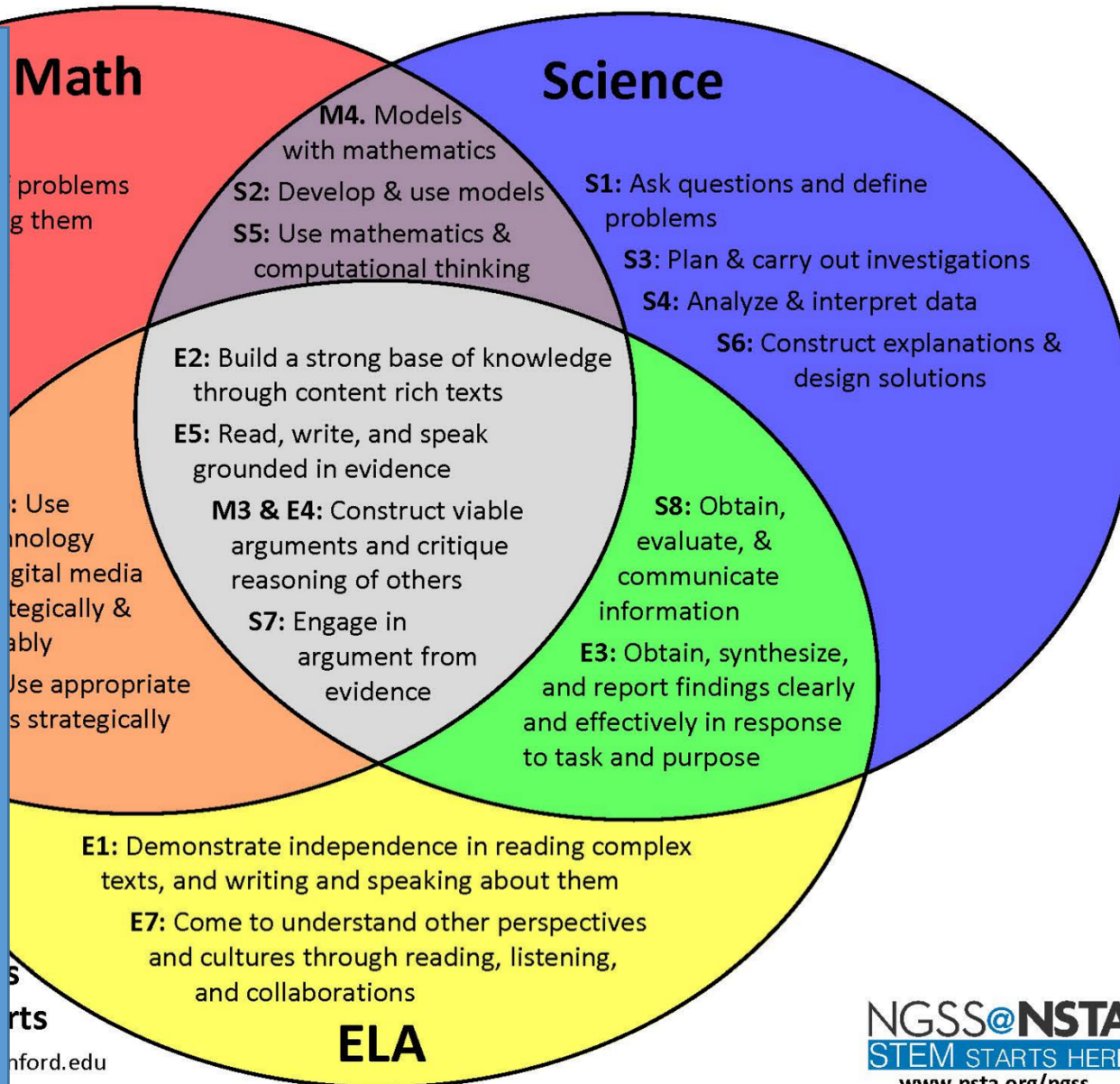


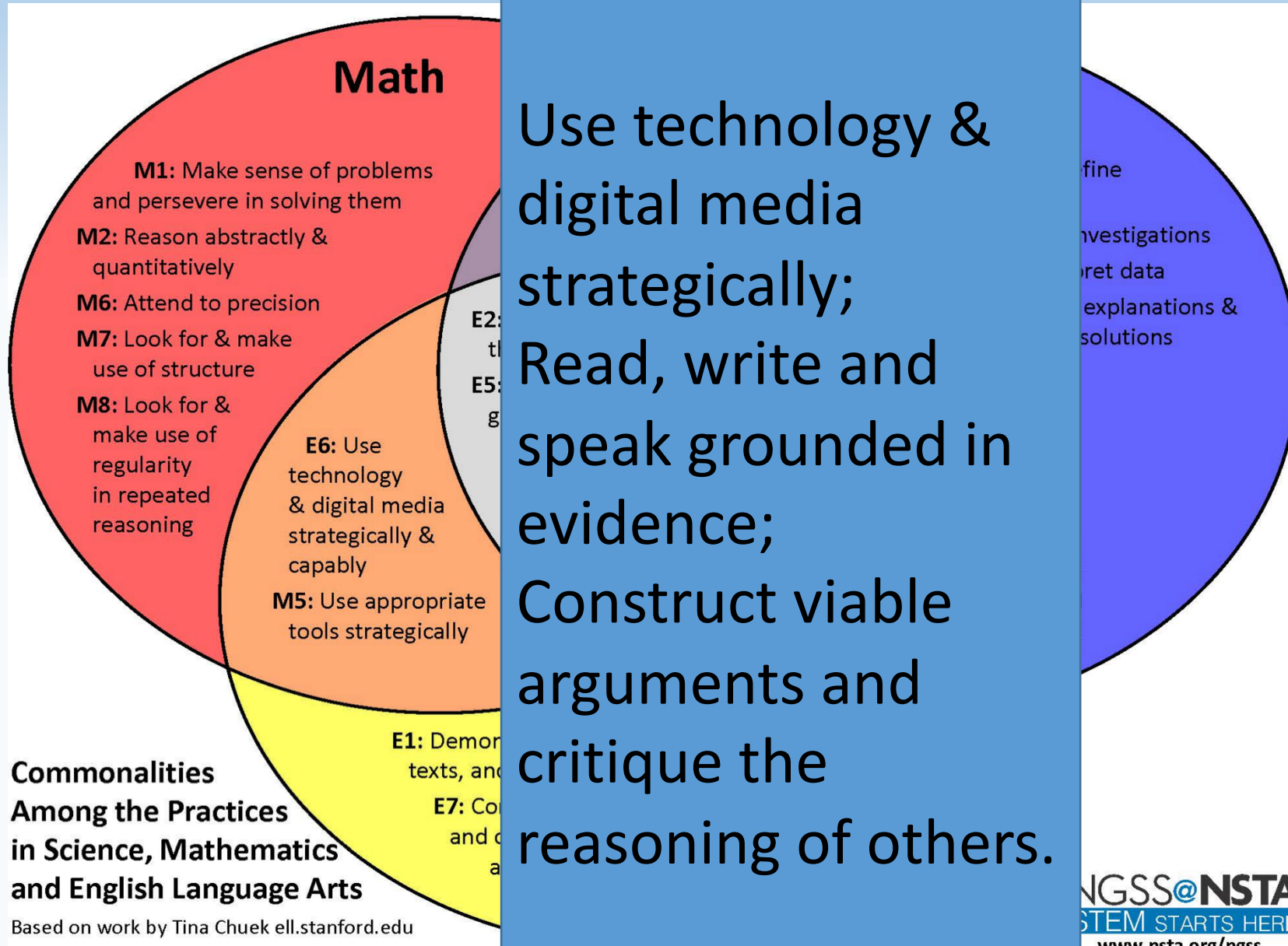
**Commonalities
Among the Practices
in Science, Mathematics
and English Language Arts**

Based on work by Tina Chuek ell.stanford.edu

Ask questions
and define
problems;
Plan and carry
out
investigations:
Analyze and
interpret data.

Make sense of problems and persevere in solving them;
Reason abstractly and quantitatively;
Look for and make use of structure.





Apprenticing to the Discipline of History

- Think like a historian
- Think like a detective, look for clues
- Read closely, use background knowledge, contextualize source information, corroborate, read the silences
- Notice and document the stories the primary sources are telling
- Have a sense of fun and wonder

(Wineburg, 2010).

Ambitious Teaching VI



The corner of Masonic and Haight streets in 1967, San Francisco Chronicle



Idealized portrait of the first Christian baptism in California | Image: "San Juan Capistrano Mission" :Engelhardt, Zephyrin, 1922



Images from Manzanar, Ansel Adams, 1943



Portrait of an unidentified pair of prospectors by an unknown photographer, c.1860



Migrant agricultural worker's family: Seven hungry children, Dorothea Lang, 1936

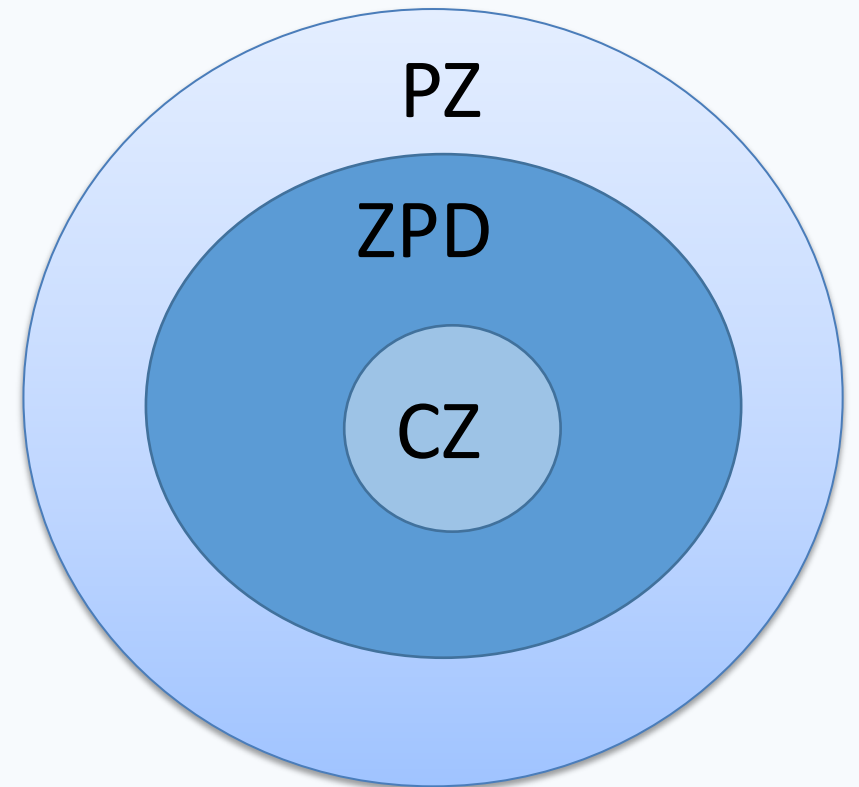
Primary sources representing different people living or moving to California over different periods of California History

- Look at the **primary sources** in your group folder
- Each member take a primary source and **think** about what it might show
- Describe the **perspectives of people** in the primary sources
- **Evaluate** the primary sources and **infer** what they represent or communicate
- **Think** about your own family experiences - similarities/differences?
- Share your **observations, ideas and questions** with your group
- **Discuss how your sources connect?** What story do they tell together?
- **Generate questions** you could ask any of the people in these primary sources

Source : Chris Wilson, UCLA Lab School

Powerful Learning VII

- Consistently learn from the “edge” of their current understanding skills
- Learn within the zone of proximal development (ZPD)



Ambitious Teaching VII

- Guided participation
- Scaffolded assistance



mini-lesson: Developing Counterarguments Reasons/Opinions

Argument

We need to
turn off the
lights and
unplug all
appliances when
we are not
using them.

Counterarguments

- It takes too long
to plug back in!
- It's a habit we have
about us.
- I have plenty of $\$$ so
pay the energy bill.

- Conserve energy.
- Save money.
- You will help
save the earth?
- Reduce CO_2 emissions
into our atmosphere.



T: And do you think that could be another counter argument?
(Joshua nods)

T: They just don't believe that there is anything wrong or that they don't believe that there is anything happening to the earth.

J: Mmm. Or like, they just like, look up in the sky and it seems normal, so they just say the world is normal and they don't care about the global warming.



T: that could be a major point that you might have to contend with later on. That's going to be something that you are really going to have to think about, and about what you would say to them to counteract, to counter argue that point.



I am going to ...	What Partner 1 can say ... 	What Partner 2 can say ... 
 Summarize what I read	I can summarize this part by saying ... <u>OR</u> I think the main idea of this part is ...	I agree with your summary, and I can add ... <u>OR</u> I disagree with your summary because ...
 Ask for clarification	This part confuses me a little, because I don't understand ... <u>OR</u> I'm not sure what this is about, but I think it might mean ...	Yes, I can help. I think this part means ... <u>OR</u> I am confused about this part, too, because ...
 Use prior knowledge to help me understand	I know something about this from ... <u>OR</u> I have read or heard something about this when ...	This also reminds me of ... <u>OR</u> I think the main idea of this part is ...

High School: Clarifying Bookmark

Nirmala: I go to read the last paragraph [She reads]

What I can say is I understand this part, and I can summarize it by saying she feel exciting because she learn a lot, many, many things, and also was very funny. She to know many place that she don't know. And also she loved the Lincoln Memorial and the Washington Monument, and all things that she visit was free.

Cristina: I agree with you, Nirmala, your summarize and I can add in mine during the week in Close Up she learn a lot and she have a lots of fun. She saw important places. Now I am going to read.

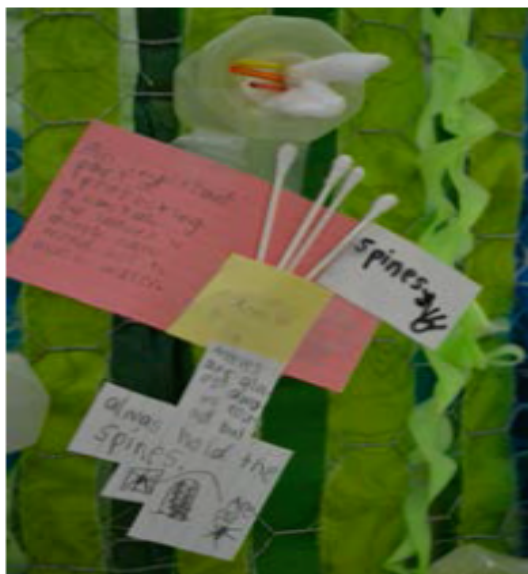
Powerful Learning VIII

- Collaborate with others:
 - Joint problem solving
 - Resources for each other's learning
 - Understanding another's point of view
 - Joint responsibility for learning
 - Interpersonal competencies (NRC,2012)



Ambitious Teaching VIII

- Structuring opportunities for collaborative work
- Opportunities that enhance all students' learning
- Assist students to understand what collaborative skills are
- Help students self-assess collaborative skills



Use Knowledge of Energy and Motion to Construct Roller Coasters



Powerful Learning IX

- Understand the goal and purpose of learning
- Monitor/regulate own learning
- Set goals and achieve them
- Use feedback from others to advance/improve learning

Ambitious Teaching IX

- Shared understanding of goals and criteria
- Eliciting student thinking
- Disciplinary discourse
- Improvement of student learning
- Self-assessment



**Formative
Assessment**

Powerful Learning X



- Developing a learning identity
 - students see themselves as learners
 - believe in their ability to learn
 - growth not fixed mindset (*Dweck, 2008*)

Ambitious Teaching X



Identity-safe environments

- Who the students are is an asset to learning
- Not looking for the right or wrong
- Responding to where they are in learning and where they can go next
- Improvement-oriented feedback
- Value students' participation
- Routines and structures
- Engage students in self-reflection

Ambitious Teachers

- Learn who their students are
- Acquire deep content and pedagogical content knowledge
- Set their own path for professional learning
- Reflect on their own practice
- Collaborate with colleagues



Educating students for
their future, not our
past.

Andreas Schleicher (2018)
Director for Education and Skills at
the OECD



Thank You!

