


Framing Academic and Disciplinary Language Practices for Pre-Service Teachers

Developing Language Practices that Support Disciplinary Learning

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Peculiar Way of Doing Things

They've got a right peculiar way of doing things and I know I got to figure out what that is if I want to get anything done. They got a history with their process or whatever they call it and I don't know it. They got rules that don't make sense yet. I can follow them but I don't know why I should yet. I can almost see it. I can almost understand why things are the way they are. Til I get that, I ain't gone be able to really get work done for the people of Kite. I got to figure out the pieces so's I can put them together to get stuff done. (Don, 2013)

I'm learning the job and each thing I learn makes the next thing easier to get. It comes a little faster and I can make sense of a lot of what I found confusing back when I started. Don, 2014

Knowledge begets comprehension begets knowledge. Pearson, 2011, p. 245

There's a bear in a plain brown wrapper doing flip-flops on 78, taking pictures, and passing out green stamps.

There's a law enforcement officer in an unmarked patrol car going back and forth across the median on highway 78, using radar, and issuing speeding tickets.

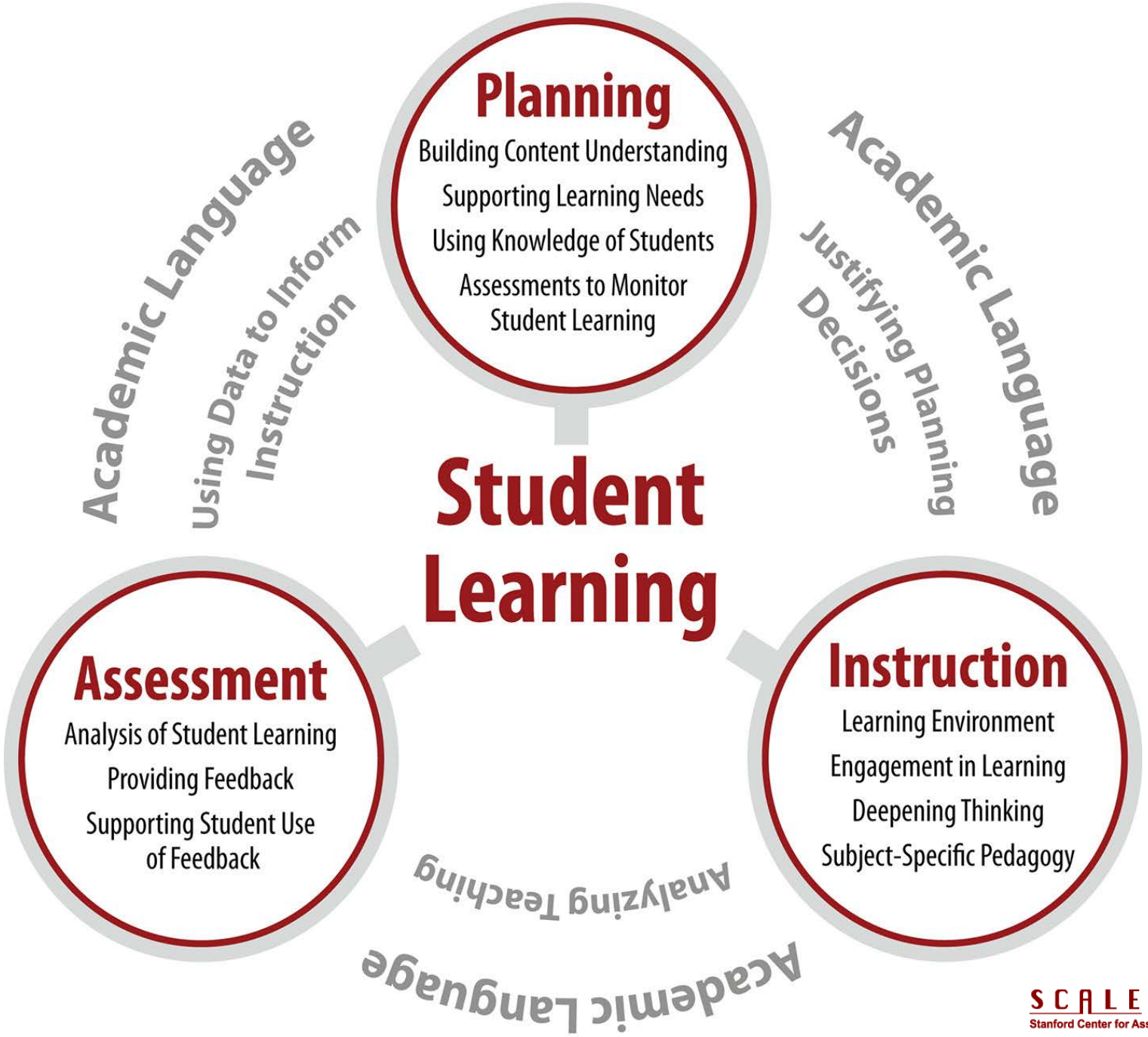
Buehl, D. (2014). Classroom strategies for interactive learning. (4th ed). Newark, DE: International Reading Association.

School is where you go to learn a secret language but they don't tell you that it's there. You have to figure it out on your own. It's like an initiation to a secret club. Maya, 8th grade.

School's a puzzle where you are missing a piece. It ain't never gonna be right unless you get that piece. Terrell, 7th grade.

Just Good Teaching

- There was a point in my planning that I realized that attending to academic language was really just good teaching. It took me a while to get [there] though and [I] don't know that I would [have] noticed the need for it without all the work we did in class and then what I had to do for the edTPA. I'd like to think I would but I can't say for sure. (Ellie, 2011)



SCALE
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Defining Academic Language in edTPA

Oral and written language used for academic purposes. Academic language is the means by which students develop and express content understandings. Academic language represents the language of the discipline that students need to learn and use to participate and engage in meaningful ways in the content area. There are the language demands that teachers need to consider as they support student learning.
(Sec. ELA, edTPA Glossary, p. 39)

Academic language is the **oral**, **visual**, and **written** language that students need in order to

- understand (read, listen, think)
- communicate (listen, speak, write, connect)
- perform (think, read, write, listen, speak, create)

Academic Language is necessary to **participate** in the content

- think
- reason
- question
- represent
- talk
- learn

I didn't buy into this whole academic language thing and attending to their thinking because I thought it was putting all the work on the teacher. Then I tried it out after a lesson failed. What I learned was that paying attention to student thinking and what language they needed to use actually made it where they could learn.

(Sam, 2010, professional year)

access

Language is the primary vehicle for learning, instruction, and overall intellectual development. It is not only a means for communicating information, it is also a vehicle for deepening their understanding of important ideas. (Kersaint, Thomspon, & Petkova, 2009, p. 46.)

Disciplinary literacy is based on the premise that students can develop deep conceptual knowledge in a discipline only by using the habits of reading, writing, talking, and thinking which that discipline values and uses.

(McCanachie, Hall, Resnick, Raci, Bill, Bintz, Taylor, 2006)

Disciplinary literacy is undertaken to facilitate acquiring disciplinary knowledge, and disciplinary literacy instruction must be embedded into disciplinary practices if students are to grow their capacities to successfully read disciplinary texts and communicate their understandings through speaking, writing, and creating in ways that conform to disciplinary expectations.

(Buehl, D., 2014, p.29)

What does writing look like in your discipline? What are the writing skills students need to be successful?

What does reading look like in your discipline? What are the reading skills students need to be successful?

What does speaking/listening look like in your discipline? What are the speaking/listening skills students need to be successful?

Disciplines have different ways of writing and speaking about the world. And because of this, discipline experts approach text with sets of expectations, reading strategies, and understandings that are firmly grounded in disciplinary knowledge.
(C. Shanahan, 2012, p. 71)

Context

When we first started focusing on the language we used in the classroom, I couldn't figure out the key pieces or the places where the students might struggle. Everything was so clear to me. I couldn't figure out where they might not know something. I knew it so I thought they should too. (Saralynn, 2013, professional year)

Awareness

student's understanding of content area

make visible disciplinary literacy practices

Initial Tool Use

vocabulary

generic literacy tools

sentence frames

sentence stems

graphic organizers

Disciplinary Lens

generic tools adapted & tied to learning of content

tools & strategies connected to help students build knowledge & understanding

To put it in an odd way, too many teachers focus on the teaching and not the learning. They spend most of their time thinking, first, about what they will do, what materials they will use, and what they will ask the students to do rather than first considering what the learner will need in order to accomplish the learning goals. (Wiggins & McTighe, 2005, p. 15)

Question

How can we develop students as disciplinary thinkers, writers, readers, and explorers?

How can generic literacy practices be identified and adapted to meet the needs of disciplinary learners?

Disciplinary Practice

- What is a practice specific to your discipline?
- What is a reasoning strategy specific to your discipline?
- What are tools that are specific to your discipline?

Which building was built at a different time from the others?

Which building was built at a different time from the others?

Leaning Tower of Pisa

Stirling Castle

Chartes Cathedral

Anasazi Cliff Dwellings

Taj Mahal

Which World Leader ruled during a different time period?

Which World Leader ruled during a different time period?

Emperor Qianlong
China

Pres. George Washington
United States

Frederick the Great II
King of Prussia

Shah Jahan
Mogul Empire

King George III
England

1972 Teams

1. Atlanta Flames
2. Boston Bruins
3. Buffalo Sabres
4. California Golden Seals
5. Chicago Blackhawks
6. Detroit Red Wings
7. LA Kings
8. Minnesota North Stars
9. Montreal Canadians
10. NY Islanders
11. NY Rangers
12. Philadelphia Flyers
13. Pittsburg Penguins
14. St. Louis Blues
15. Toronto Maple Leafs
16. Vancouver Canucks

Activating Prior Knowledge

I knew from class that I was supposed to activate prior knowledge and I thought I knew what that was until I was facing 35 8th graders and we were going to start The Absolutely True Diary of a Part-Time Indian. What prior knowledge was important for me to build on? How do I know what they already know? Where do I start? Where should my focus be? (Annika, 2013, professional year)

Activating Prior Knowledge

Having knowledge is one thing; using it is another. That readers often do not relate what they are reading to what they already know has prompted research about how to encourage more extensive use of prior knowledge (Pressley, 2002, p.271).

Activating Prior Knowledge

When students do not have the knowledge necessary to comprehend a particular text, such knowledge needs to be built; one cannot activate what is not there, and one cannot strategize about things one does not know (Learned, Stockdill, & Moje, 2011, p. 181).

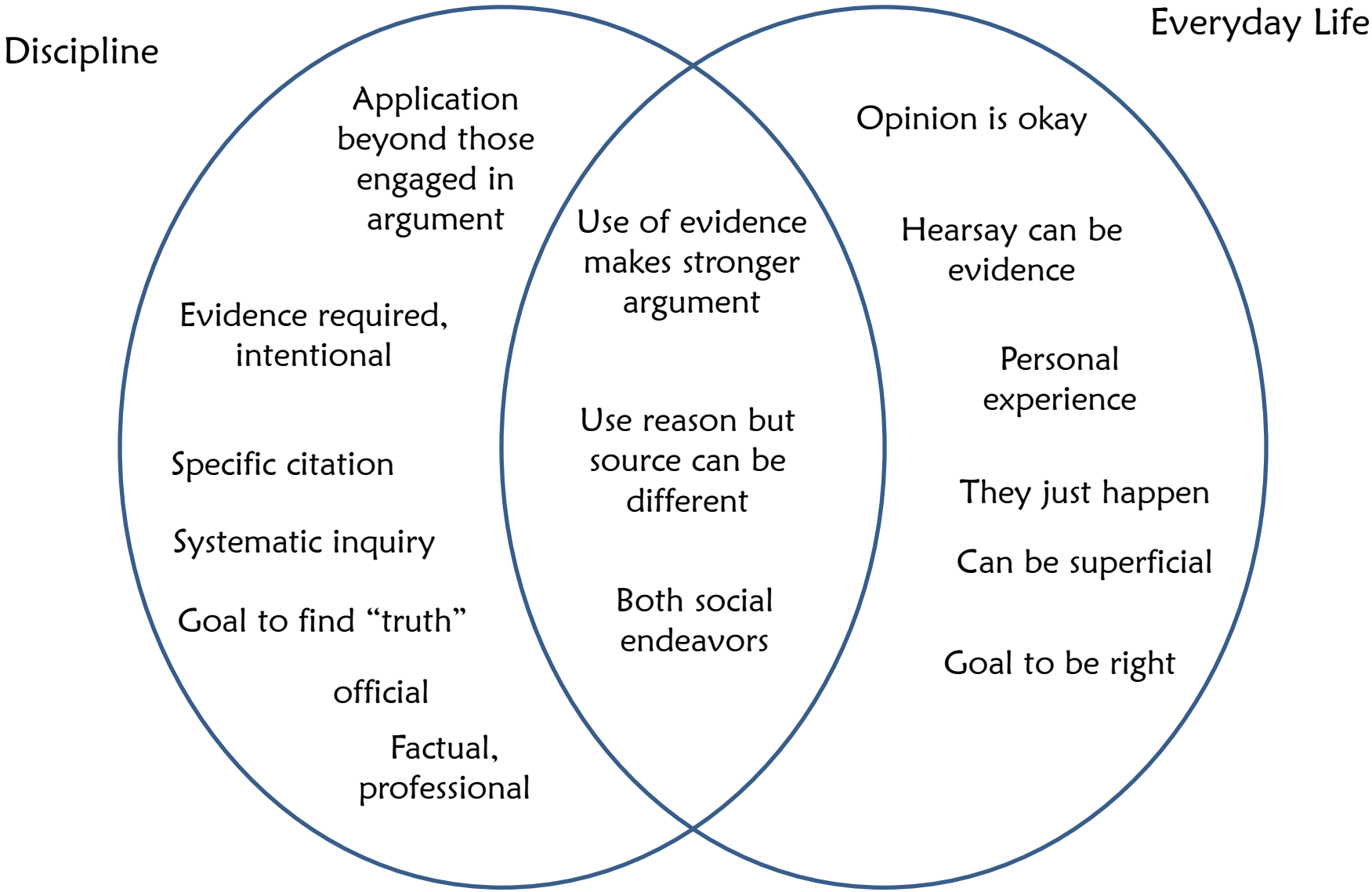
Activating Prior Knowledge

The problem with activating prior knowledge without building knowledge is that it privileges the students who have knowledge already and it depends on knowledge that students bring to school (Cervetti, Jaynes, & Hiebert, 2009, p. 83).

Argument

My teacher and I have been working all week on building an argument with out students. The students were really distracted by the idea of argument; they knew arguments as bad things; they didn't know they were a part of school. We had to teach them the differences in arguments before we could help them write one. We created a Venn Diagram like the one we did in class. (Saralynn, 2013, professional year).

Argument


Discipline
Everyday Life
Application beyond those engaged in argument
Evidence required, intentional
Specific citation
Systematic inquiry
Goal to find "truth"
official
Factual, professional
Use of evidence makes stronger argument
Use reason but source can be different
Both social endeavors
Opinion is okay
Hearsay can be evidence
Personal experience
They just happen
Can be superficial
Goal to be right

What is academic language?

- Oral and written language used for **academic purposes**. Academic language is the means by which students **develop and express content understandings**. Academic language **represents the language of the discipline** that **students need to learn and use to participate and engage in meaningful ways in the content area**. These are the **language demands** that teachers need to consider as they **support student learning**. (Sec. ELA, edTPA Glossary, p. 39)

I think this means the way we use language in school.

PURPOSE—feels important.

What about representations or visuals?

Develop content understandings? I think this means the ways in which students use language to make sense of the stuff we do in class.

- Oral and written language used for academic purposes. Academic language is the means by which students develop and express content understandings. Academic language represents the language of the discipline that students need to learn and use to participate and engage in meaningful ways in the content area. These are the **language demands** that teachers need to consider as they support student learning. (Sec. ELA, edTPA Glossary, p. 39)

How is discipline different than content?

How do we express content understandings? Is this the product we produce? Or, the ideas? Or , both?

Participation—they have to do something?

I don't know what a language Demand is.

Candidate Rephrase

- Academic language is the language of the content area and the discipline. It is the language students will use as they talk and write; they will use this language to show what they know and what they are learning about the content. It is necessary for me to attend to the language that students will need because they need to know it in order to learn the content, think about the content, and participate in class.

What does this mean for me?

I think this means that I have to think about more than vocabulary when I plan my lessons. I have to think about the discipline stuff that I am really familiar with and think about how my students might not know it. I need to think about what tools they will need to do the classwork and homework I want them to do. (Mikel, 2013)

When we teach a subject, or any topic or text within that subject, we must teach the academic vocabulary for dealing with it—not just the words, but also the linguistic processes and patterns for delving deeply into and operating upon that content (Wilhelm, p. 44).

Almost everyone in my focus class is like me. English is not their first language so Julius Caesar is really hard for them. They were very scared to be writing about play. So, I created two tools to support them. It worked, I think. There was a lot of step-by-step support. (Wanqing, 2013)

Leadership

Supports

Writing in Science

What scared me most about academic language was the expectation that students are supposed to write in science. I didn't think I could teach writing at all…Then you asked what is the writing that will help them know science. That helped. I tried the 3 sentence pattern and my students got better at talking about the science they knew. Abbott, 2013

Ideas & Structures in Science

- Although hydrogen is explosive and oxygen supports combustion, a compound of them puts out fires.

- Unless hydrogen and oxygen form a compound, they are explosive.

- If hydrogen and oxygen form a compound, they lose their original properties of being explosive and supporting combustion.

Tyre, P. (2012). The writing revolution. The Atlantic.


Melly's World
My job is to teach science not writing. I can't be expected to do my job and yours too...
MKH 1998

The idea is not that content-area teachers should become reading and writing teachers, but rather that they should emphasize the reading and writing practices that are specific to their subjects, so students are encouraged to read and write like historians, scientists, mathematicians, and other subject-matter experts (Biancarosa & Snow, 2004, p. 15).

Science Explanations

I didn't realize how much science language I looked for in their explanations. I looked for it but I didn't make it clear to the students that I was looking for that and didn't give them the tools for developing it.

Elinor, 2013

Science Explanations

- Claim
- Evidence (What happened)
  - Observational
  - Data from experiment
- Reasoning (shows conceptual understanding)
  - How are you making sense of data? What are patterns in data showing?
  - This is consistent with…
  - Connecting it back to science concept/idea/law

Activity

Index Card

List a common task that you or your students assign.

What are the embedded disciplinary literacy practices?

The outcomes of science inquiry rely on sophisticated literacy skills—the ability to make sense of scientific terminology, to interpret arrays of data, to comprehend scientific texts, to use and interpret models ad illustrations, and to read and write scientific explanations. Schoenback & Greenleaf, 2009, p. 104

When we first started this process, I thought it was just another thing added on to the huge amount of work I already do. Now, though, I am amazed by how much my students know about science because I changed 3 things about the writing they were doing. First, I chose to do specific kinds of writing that made sense for science. Second, I modeled the writing and showed the students what I expected. Third, I used the same trait language that the other teachers did. They seem to understand the science better.

Amy, 8th grade science

Melly's World

I just can't get on this whole writing bandwagon thing. I teach math not English. I deal with numbers not words.

MKH 1998

Example

- A group of students measured the circumference of an exercise ball. Here are their measurements in inches:
- 42, 46, 45, 47, 43, 46, 46

- Find the median, mode, and mean and enter your answers below. Show your work:

42
46
45
47
43
46
46
315

The median is 46. The mode is 46. The mean is 45.

42, 43, 45, 46, 46, 46, 47

45
7 | 315

Example

Tom forgot to put his measurement on the list. When the students added Tom's measurement to the list the mean and median decreased, but the mode stayed the same. Which value is most likely to be Tom's measurement? Circle your choice:

a. 43
b. 45
c. 46
d. 47

Academic Language Functions

Explain why you chose this measurement.

The answer can't be 47 or 46 because the mean and the median decreased, so Tom's measurement had to be less than those. Also, it can't be 45, because the mean would have stayed the same. It had to be 43.

Mathematics is not primarily a matter of plugging numbers into formulas and performing rote computations. It is a way of thinking that may be unfamiliar to us, but is available to almost all of us. (Paulus, 1995, p. 3.)

Mathematics is first and foremost a form of reasoning. In the context of reasoning analytically about particular types of quantitative and spatial phenomena, mathematics consists of thinking in a logical manner, formulating and testing conjectures, making sense of things, and forming and justifying judgments, inferences, and conclusions. Battista, 1999, p. 428.

We didn't really write in math until this year so I am not used to thinking in terms of words and stuff. My students kept math journals that I checked every couple of weeks. I learned a lot about how they thought about math and the kinds of mistakes they made consistently. In the journal, they had to explain the steps they used to solve a problem & why they did that. Or, if they couldn't solve a problem, they had to explain where they got to and what was confusing. I used sentence starters with them to help them figure out how to get started.

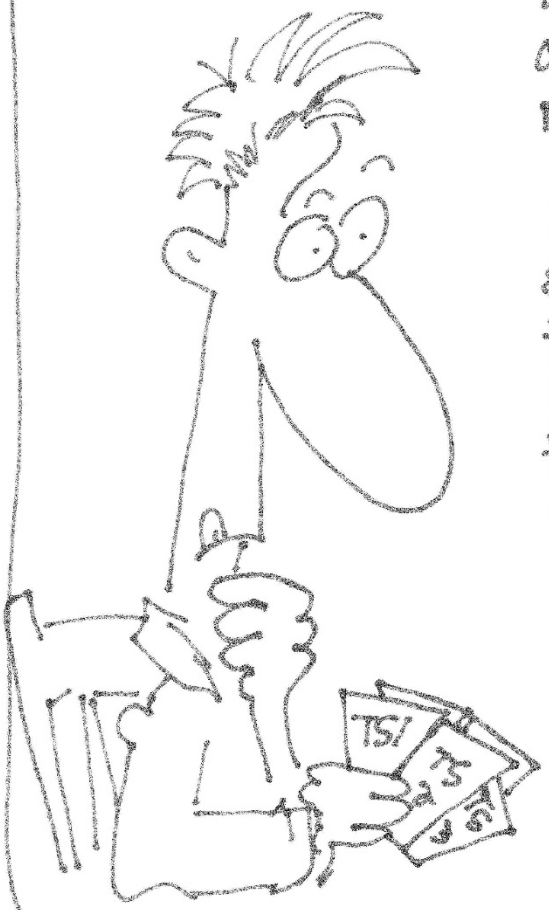
Eric, 6th grade math

Mathematic texts are particularly sophisticated because readers must negotiate three methods of communicating mathematics knowledge: symbolic notation, graphic representations, and prose explanations. Within a specific text, readers must shift their questioning focus from reading to develop conceptual knowledge (the logic of mathematics principles) to reading to develop procedural knowledge (the problem-solving processes of how to act on these understandings) (Buehl, 2014, p. 35).

I had to get to the point where I wasn't thinking about academic language as something that came AFTER the planning; it had to be integrated into everything because it isn't really a separate thing. The focus has to be on their learning so I have to think about everything that is necessary for that. It's my third year of teaching and I feel as though I am very far beyond what I learned to do in class and for the edTPA.
(Ellie, 2014)

- Make academic language visible
- Move from talking just about academic language to talking about disciplinary literacy practices
  - **Student**
  - **Teacher**
- Identify key practices
- Identify key supports, tools for novice teachers to use
- Connect tools with student learning outcomes—planning, instruction, assessment (linked)

Melly's World



So I am looking back over all these strategies that I learned about and, I, uhm, need more.

I know the strategies and the theory but I don't know how to put the strategies to work with kids.

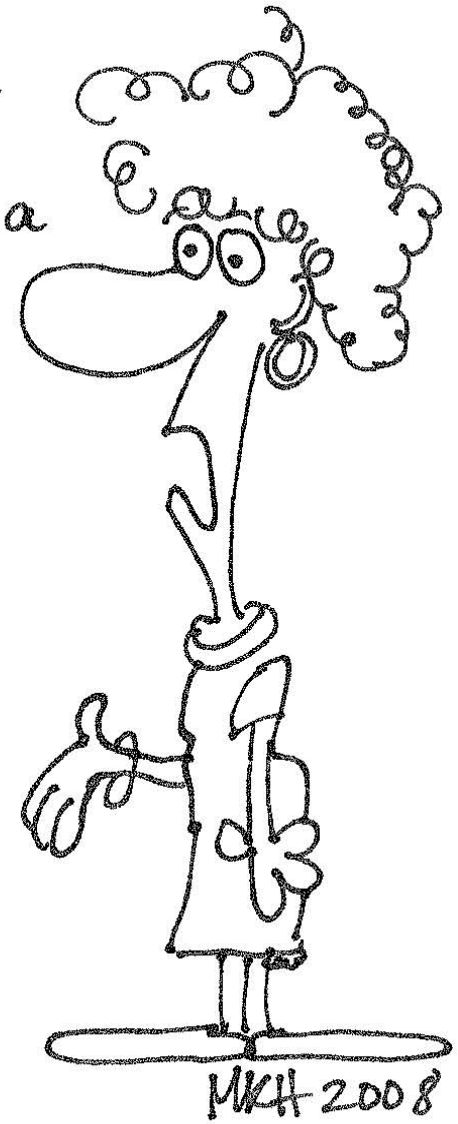
When do you tell me that?

MKH 2001

Melly's World

So, when do I get the package? I just want the basic "How to be a Teacher" package. You Know A+B+C then BOOM, I'm a teacher.

When do I get that?



edTPA

I thought the edTPA book was really hard. I knew the words. Well, I almost knew them which is I think what you were trying to get us understand for our students. The language is familiar but how it is being used isn't. (Kaley, 2013)

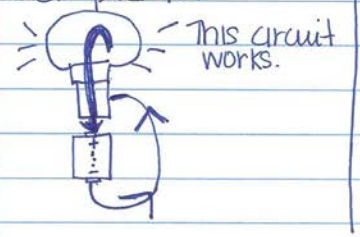
Claims and Evidence

We can make a light with a wire, a battery, and a lightbulb.

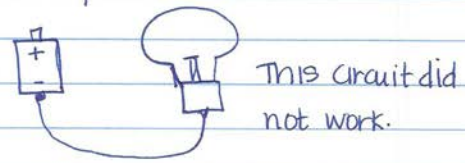
The critical contact points are the ~~bulb~~ base and side terminals on the lightbulb and the negative and positive ends of the battery. The light bulb did not light if any of these points were not touched.

Evidence

Example #1



Example #2



A bulb lights if have a complete loop, an energy receiver, an energy source and wires to make connections

My prediction shows an in complete circuit. It would not light the light bulb.