



Data Literacy: A Roadmap for Teacher Learning

Part I

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Handouts, links, and
other material from
this presentation can
be accessed at
[http://artofeducating.
pbworks.com](http://artofeducating.pbworks.com).



Which was my worst subject in school?



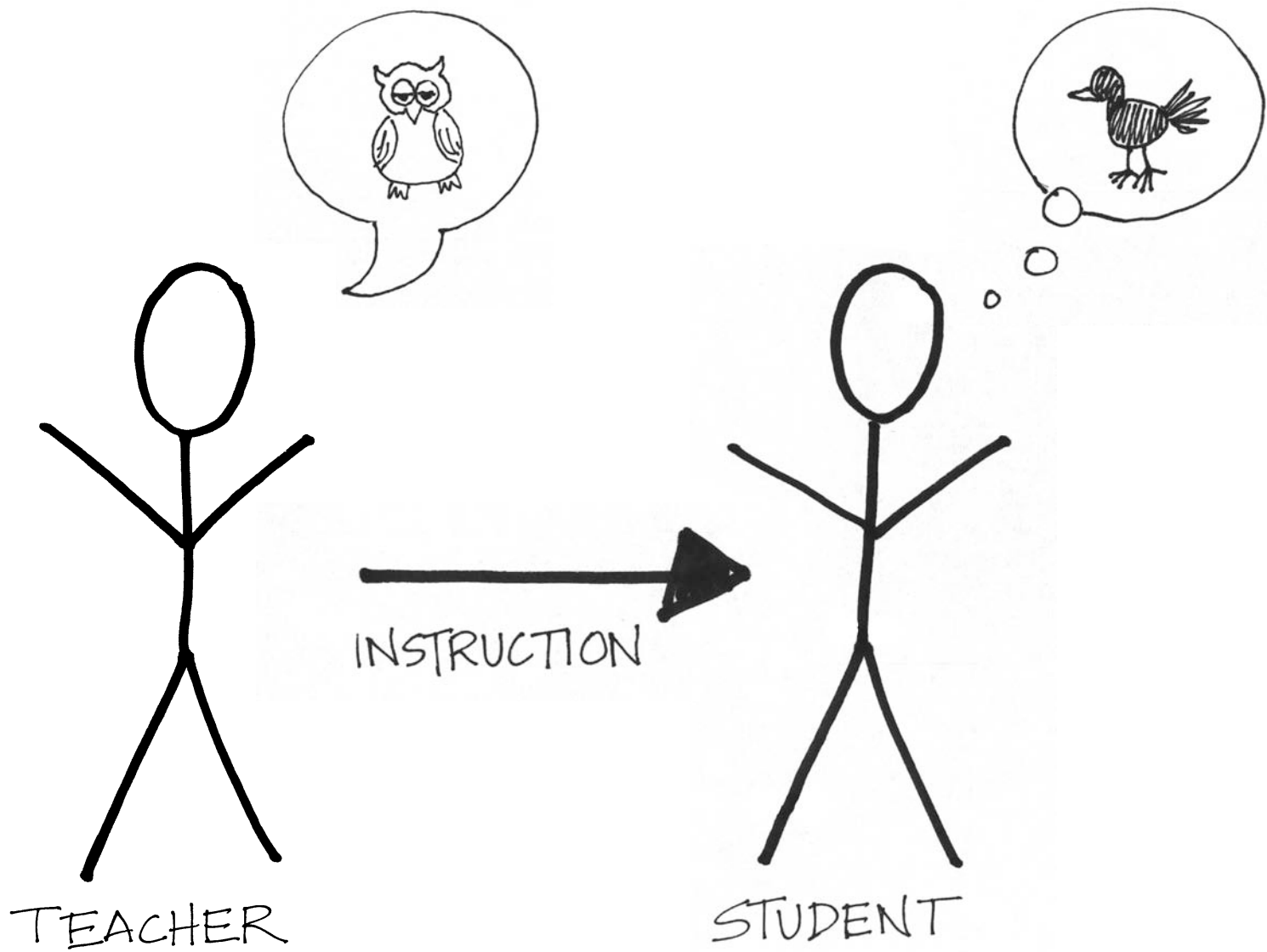
- A. English
- B. Math
- C. Social Studies
- D. Art

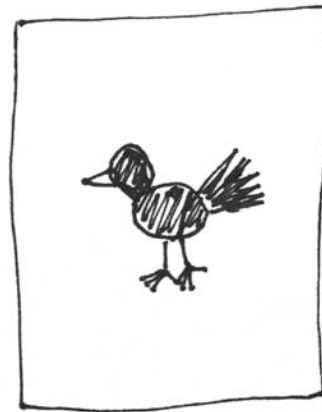
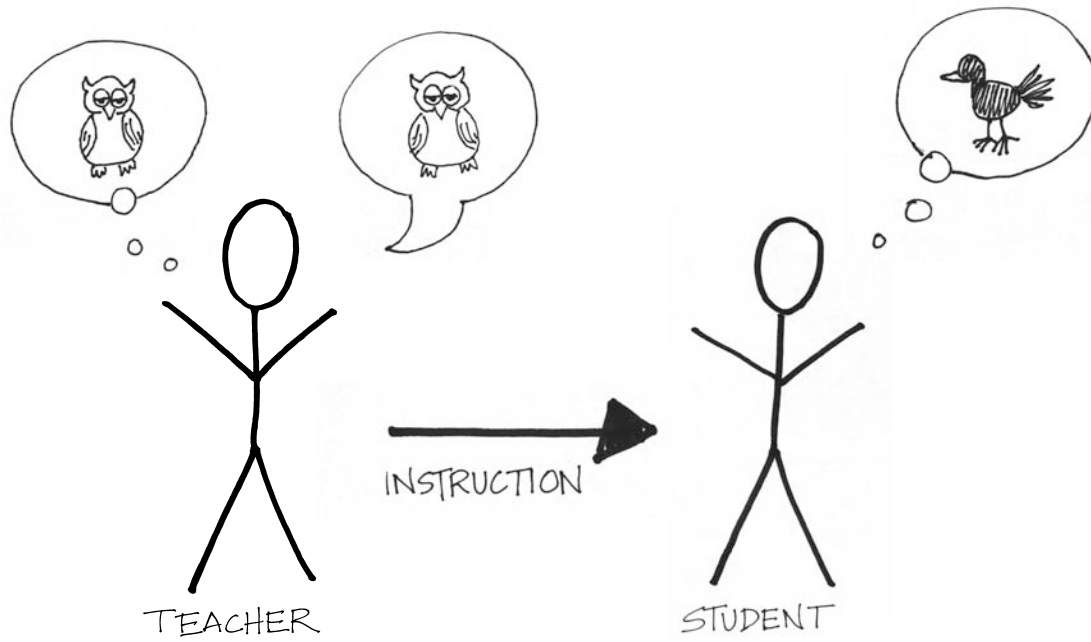
The background of the slide is a dark, textured surface featuring intricate steampunk-style mechanical elements. Several large, glowing golden gears are visible, some with Roman numerals on their faces. A complex arrangement of smaller gears and ornate metalwork is visible in the lower-left quadrant. The overall aesthetic is industrial and vintage.

Today's Agenda



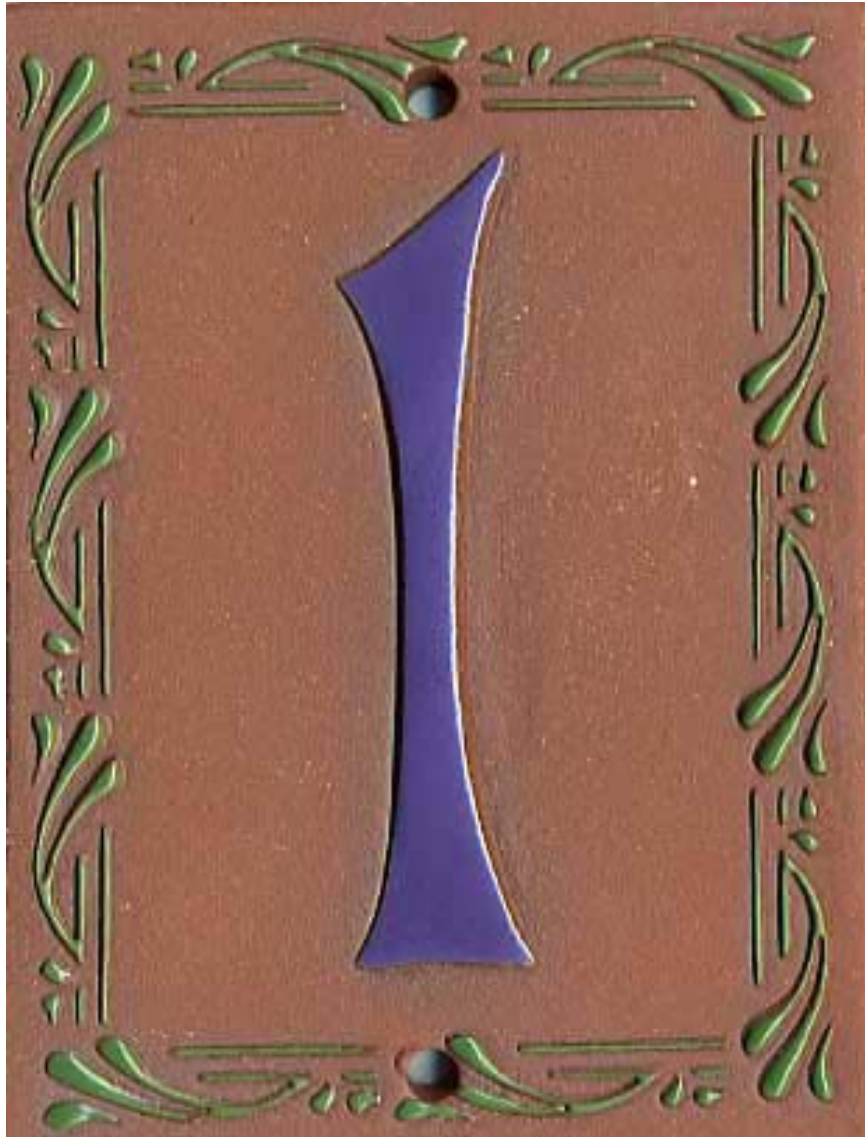
Clock Buddies





Once upon a time,





What is data literacy?

Data

What are they? How are they used?



- Critical Literacy
- Ecological Literacy
- Info Literacy
- Health Literacy
- Media Literacy
- Functional Literacy
- Web Literacy
- Statistical Literacy
- Arts Literacy
- Social Literacy



What does it mean to be literate?

Literacy = Having the knowledge and skills to function effectively within a particular context.



For Paulo Freire, author of *Pedagogy of the Oppressed*, becoming literate was also about power, ownership, and informed action (praxis).

Data Literacy

“Data literacy is the ability to interpret and use multiple data sources effectively to improve teaching and learning.”

- Nancy Love

Using Data to Improve Learning for All: A Collaborative Inquiry Approach

NOT

Principal: I received our state test results earlier this week, and I've got nothing but good news to share. Our average score is in the 88th percentile – that's the highest it's been in the last 10 years. Congratulations to all of you, and keep up the good work.

Principal: Mr. Grant, we need to schedule an appointment to go over your class's test scores from earlier this year and talk about what we need to be doing in the coming months.

Teacher: I agree – but I already know those test scores don't paint an accurate picture of what's going on in my classroom now. Since my kids took their tests, I've seen a radical improvement in both math and reading skills using other assessments.

Principal: That's a valid point. In that case, can we augment our test score analysis with some more recent data? Also, I know you have been working on classroom procedures. When we meet, can we also look at the learning environment surveys you gave and see how things are improving?



Why do teachers need to
be data literate?



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Teaching has changed.

Yesterday and Today: What's the big difference?



Yesterday's teacher



- Was expected to have subject matter knowledge.
- Used a textbook and lectured, then tested.
- Taught to the average student.
- Involved parents when discipline was an issue.
- Was only responsible for her students in her classroom.

Today's teacher



- Is expected to know subject matter, pedagogy, technology, etc.
- Uses multiple strategies and resources.
- Differentiates for every student.
- Educates and involves parents in student learning.
- Is responsible for all students' learning.

The big change...



...has big ramifications.

“...so few educators have received training in educational measurement that many of us continue to perceive assessment as intimidating. Educators unfamiliar with measurement have allowed all sorts of assessment-rooted policies to be imposed on them. This acquiescence, as we have seen, has permitted assessment programs to have a decidedly negative effect on teaching and learning. One of my first pleas to educators is quite straightforward: please become at least reasonably assessment literate.”

-James Popham, *The Truth about Testing*



Why don't
teachers jump
up and down
with
excitement
about data and
assessment?

It means extra work and time.



It seems to require expert knowledge.

- **How many types of data are there? What data are most useful? When?**
- **What is the essential difference between formative and summative assessments?**
- **What makes my assessments reliable? What makes my decisions based on assessments valid?**
- **How should assessments inform instruction? How do I use assessments to differentiate? To intervene? To rethink my teaching? To focus on content standards?**
- **In standardized testing, how is growth defined in value-added measures? What is a standard deviation? What knowledge and skills do students need to be successful on standardized assessments?**
- **What data do my administrators need? My students? Their families? How can I help students and their families?**

It's not expected.

We've created a culture
where teachers tend to be
seen as vessels or
consumers, not
constructors of knowledge.



It's risky.

