LIBRARIES

Learning Apprenticeships in the Media and Information Literacy Classroom

Nate Floyd & Jaclyn Spraetz

Introductions

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Agenda

- Cognitive Apprenticeship Model
- Information Studies & Digital Citizenship
- Implementing the Cognitive Apprenticeship Model
- Resources
- Questions

Link to our slides and resources: https://bit.ly/3JbXh32

Cognitive Apprenticeship Model

Traditional Apprenticeship Model

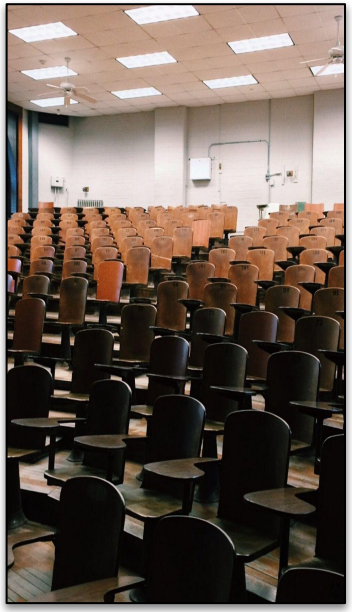
- Traditional Apprenticeships
- Expert shows the apprentice how to do a task
- Expert helps the apprentice to do the task
- Expert turns over more and more responsibility until the apprentice is proficient enough to accomplish the task on their own

Cognitive Apprenticeship Model

- Collins, A., Brown, J. S., & Holum, A. (1991).

  Cognitive apprenticeship: Making thinking visible.

  American Educator, 15 (3), 6-11.
- Critical of standard pedagogical practices:
  - Formulaic
  - Rendered key aspects of expertise invisible to students
  - Too little attention paid to the reasoning and strategies that experts employ
  - Knowledge remained bound to surface features for students.



Cognitive Apprenticeship Model

- Translate the traditional apprenticeship model to a cognitive apprenticeship:
  - Identify the processes of the task and make them visible to students
  - Situate abstract tasks in authentic contexts so that students understand relevance of the work
  - Vary the diversity of situations and articulate the common aspects so that students can transfer what they learn

The Reference Interview

Auckland City Libraries, “The Reference Interview,” https://youtu.be/coLWNp64rZo.

The Reference Interview

- Accompanies the patron in the search (at least in the initial stages of the search process) unless the patron prefers to conduct the search.
- Identifies the goals or objectives of the patron's research, when appropriate.
- Rephrases the question or request and asks for confirmation to ensure accurate understanding.
- Uses open-ended questions to encourage the patron to expand on the request or present additional information.
- Constructs a competent and complete search strategy.

Auckland City Libraries, "The Reference Interview," https://youtu.be/RZJdjuUw4gA

Auckland City Libraries, "The Reference Interview," https://youtu.be/FEI5dYUEJ84

LIBRARIES

Reference and User Services Association, "Guidelines for Behavioral Performance of Reference and Information Service Providers," https://www.ala.org/rusa/resources/guidelines/guidelinesbehavioral

The Reference Interview

- Explains the search strategy to the patron.
- Works with the patron to evaluate results, revise search terms, and identify other sources to try if the search is unsuccessful.
- Explains how to use sources when appropriate.
- Offers pointers, detailed search paths, and names of resources used to find the answer, **so that patron can learn to answer similar questions <u>on their own</u>**, when appropriate.

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Information Studies & Digital Citizenship

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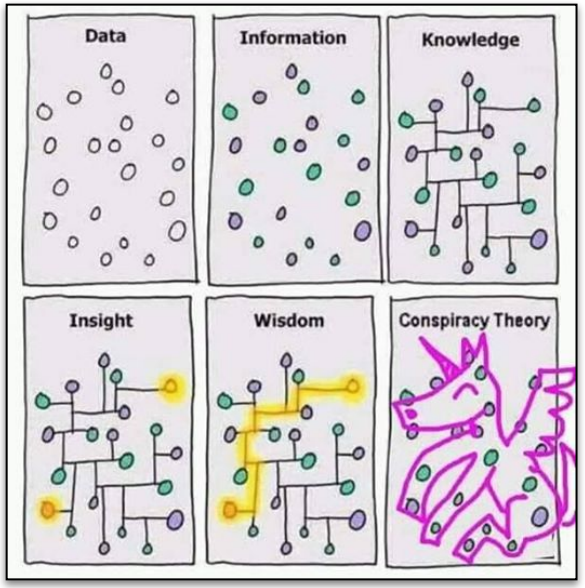
Information Studies & Digital Citizenship

- Credit hours
  - 1
- Meeting schedule
  - 15 weeks
- Delivered
  - In-Person: Spring 2022
  - In-Person: Fall 2022
  - Online: Fall 2023



- Course description
  - Explore what it means to be information literate in the 21st century. Students reflect on ethical and legal issues created by the information age and develop awareness of the power of information and its effect on society. Prepares students to ask critical questions about technologies they encounter everyday, apply those skills to their own disciplines, and reflect on their own role as knowledge creators.

Course Objectives and Students' Goals

1. We will ask questions about the state of information today.
2. We will develop analytical skills to judge reliable and unreliable information.
3. We will look at the roles we play in the current information climate.
4. We will critically analyze current topics and find the most reliable resources about them.

Topics

- Misinformation, Disinformation
- Algorithms, Digital Surveillance, & Privacy
- Blockchain & NFTs
- Beyond Fake News
- Right to Repair
- News Deserts
- Moral Panic and New Media
- Media Effects: Agenda-Setting
- Media Effects: Framing
- Lateral Reading
- Evaluating Data Visualizations
- Evaluating Research Studies in Popular Media
- Information Privilege & Representation

Typical Week

Week 12: News deserts (4/11)	Reading/Watching/Listening	Course Work
WEEK 12: TICKET WEEK 12: SLIDES WEEK 12: EXIT TICKET	-from *PBS Newshour*: Growing local news deserts endanger democracy, study finds WATCH -from *MIT Technology Review*: Guess which states saw the most election disinformation in 2020 READ -from *AP News*: Loss of newspapers contributes to political polarization READ -from *Bloomberg*: The Hidden Costs of Losing Your City's Newspaper READ	WEEK 12: TICKET WEEK 12: EXIT TICKET

Implementing the Cognitive Apprenticeship Model

Cognitive Apprenticeship Model

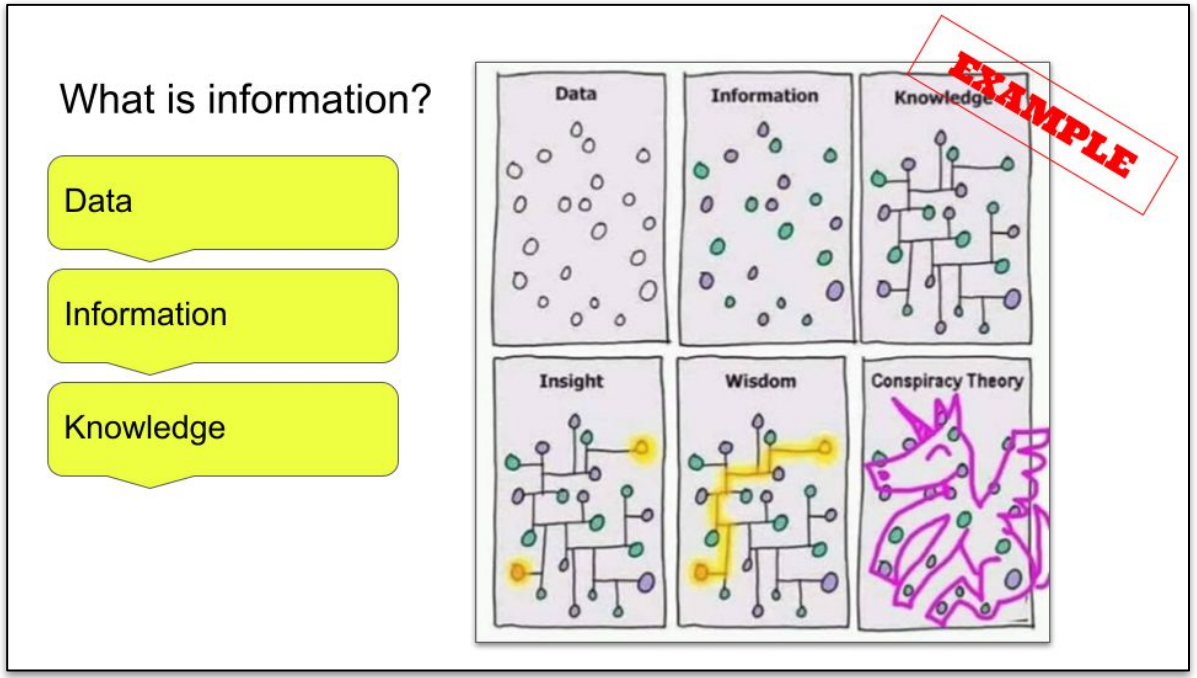
- Content
  - Types of knowledge required for expertise
- Method
  - Ways to promote the development of expertise
- Sequence
  - Keys to ordering learning activities
- Sociology
  - Social characteristics of learning environments

Cognitive Apprenticeship Model: Content

- Domain knowledge
  - Subject matter specific concepts, facts, and procedures
- Heuristic strategies
  - Generally applicable techniques for accomplishing tasks
- Control strategies
  - General approaches for directing one's solution process

Cognitive Apprenticeship Model: Content

- Domain knowledge
  - Subject matter specific concepts, facts, and procedures



Cognitive Apprenticeship Model: Content

- Domain knowledge
  - Subject matter specific concepts, facts, and procedures

Misinformation / Disinformation

False or misleading information that is unwittingly shared

Deliberately created and distributed with an intent to deceive or harm.

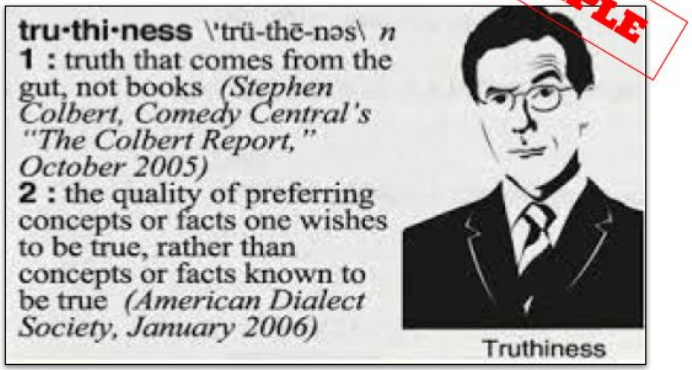
Cognitive Apprenticeship Model: Content

- Domain knowledge
  - Subject matter specific concepts, facts, and procedures

Truthiness

The quality of seeming or being felt to be true, even if not necessarily true

EXAMPLE



Cognitive Apprenticeship Model: Content

- Domain knowledge
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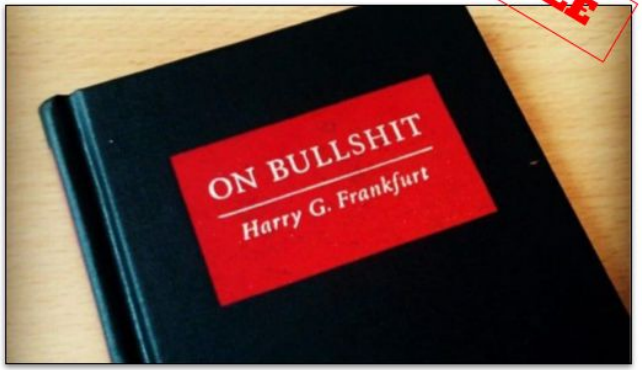
Bullshit

Speech that is intended to persuade without regard for truth

EXAMPLE



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Cognitive Apprenticeship Model: Content

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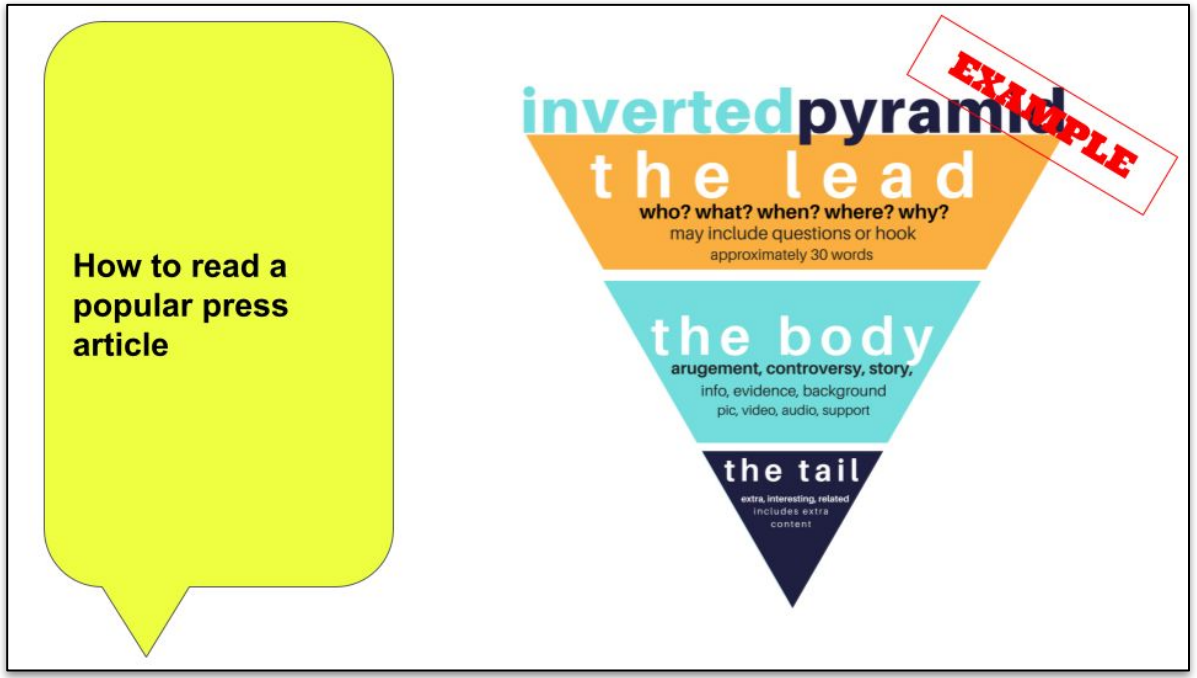

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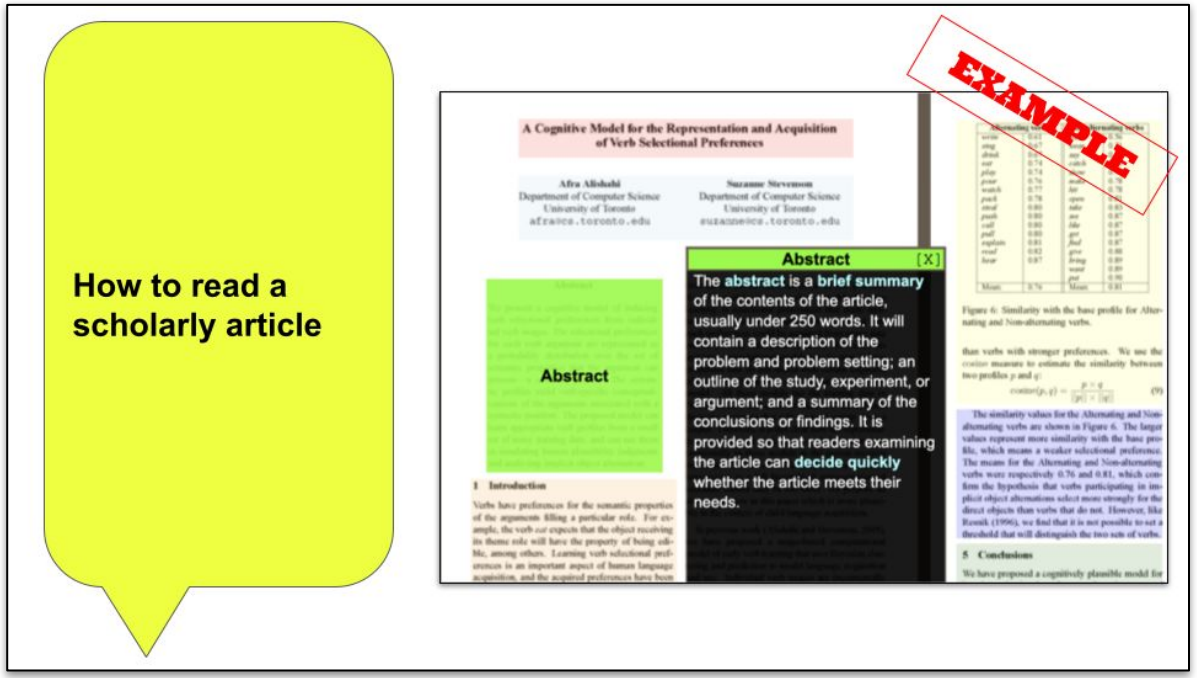

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- Control strategies
  - General approaches for directing one's solution process

Cognitive Apprenticeship Model: Method

- Modeling
  - Teacher performs a task so students can observe
- Coaching
  - Teacher observes and facilitates while students perform task
- Scaffolding
  - Teacher provides supports to help the student perform a task
- Articulation
  - Teacher encourages students to verbalize their knowledge and thinking
- Reflection
  - Teacher enables students to compare their performance with others
- Exploration
  - Teacher invites students to pose and solve their own problems

Cognitive Apprenticeship Model: Method

- Modeling
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www.minimumwage.com

EXAMPLE

1. Is this website credible? Please explain.
2. Who is the organization or author behind this website? Are they credible?

Minimum Wage
FACTS & ANALYSIS

Cognitive Apprenticeship Model: Method

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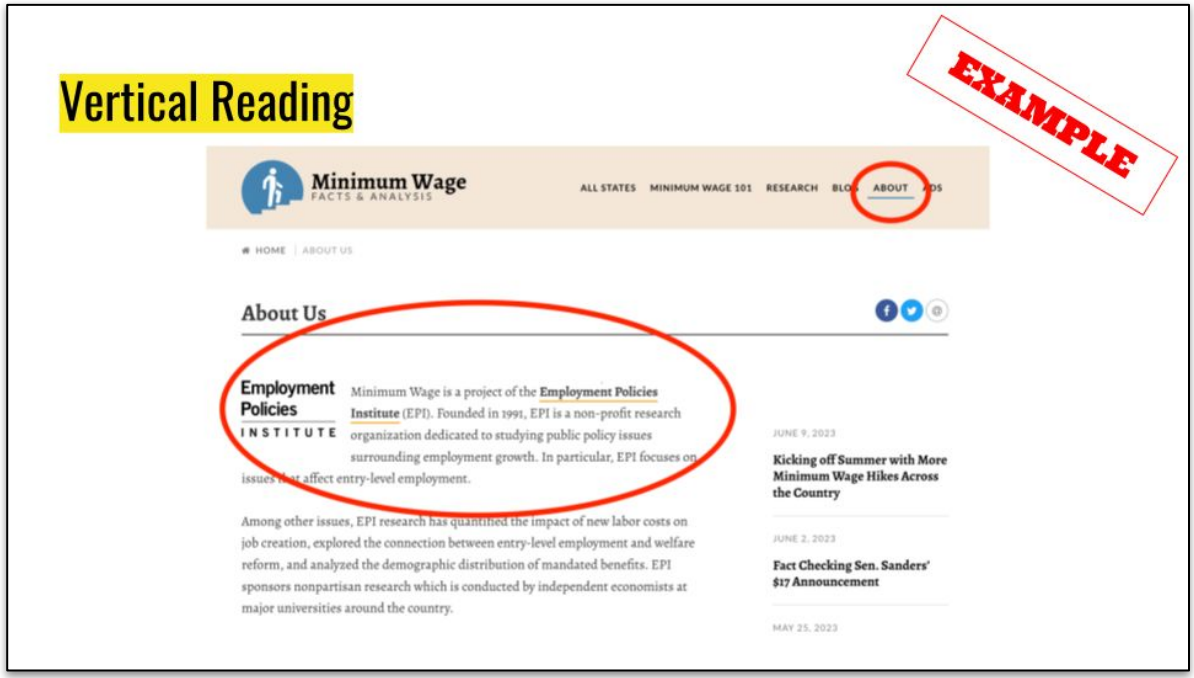

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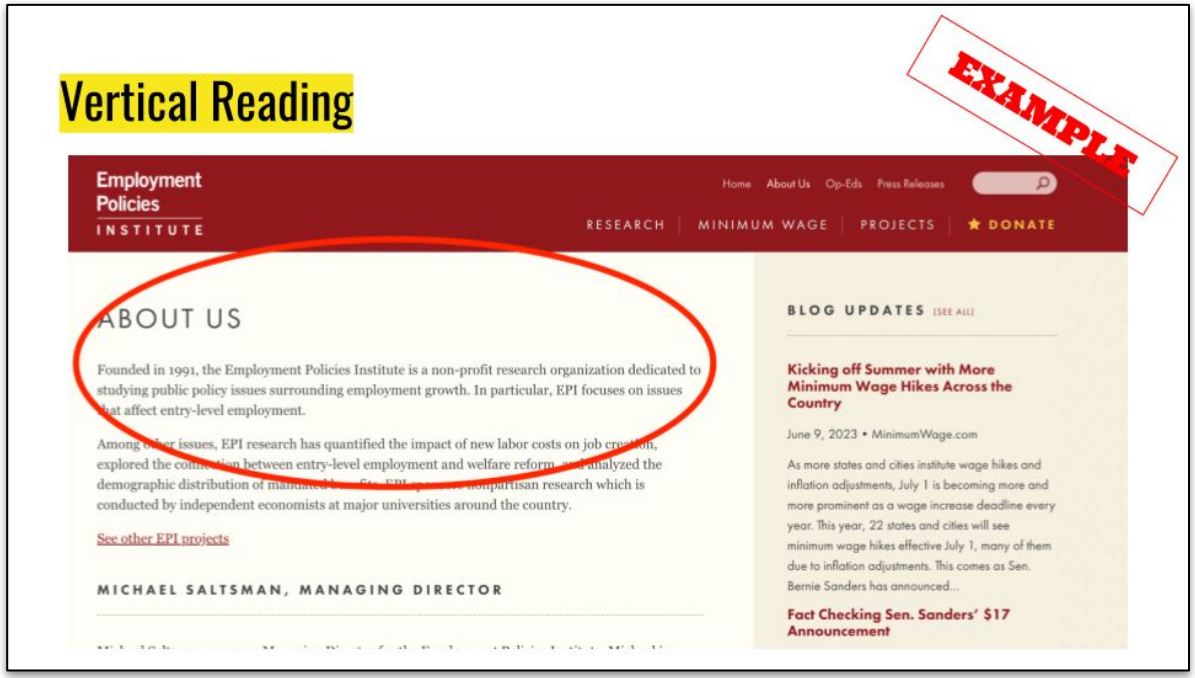

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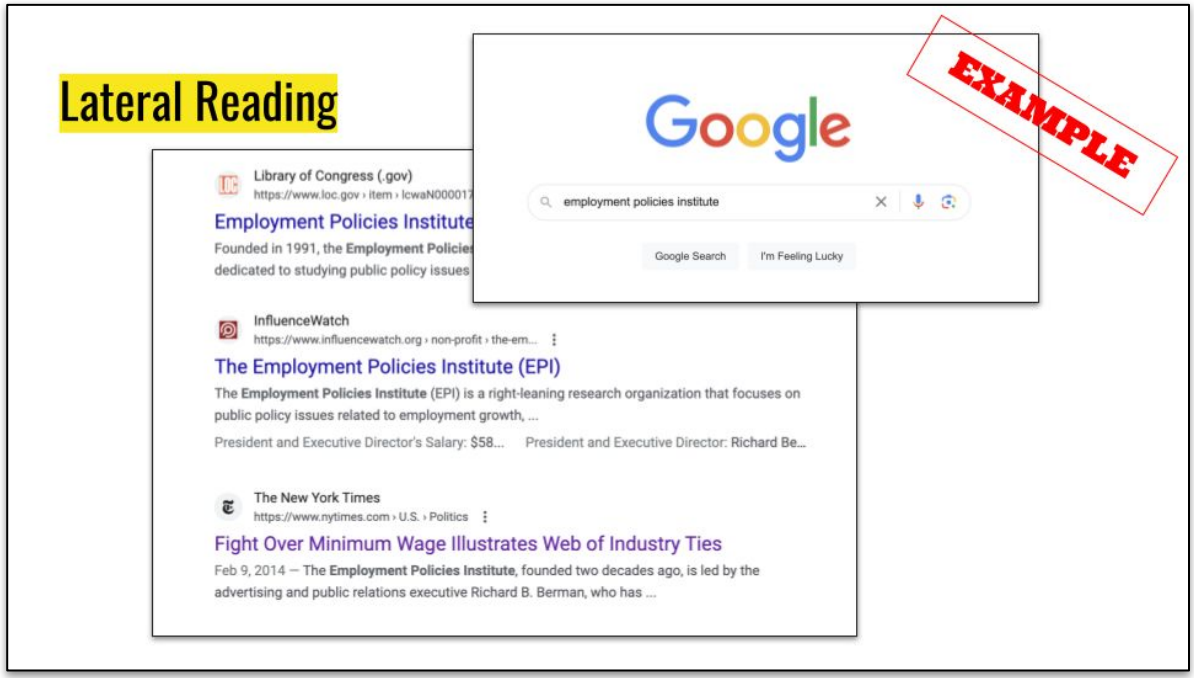

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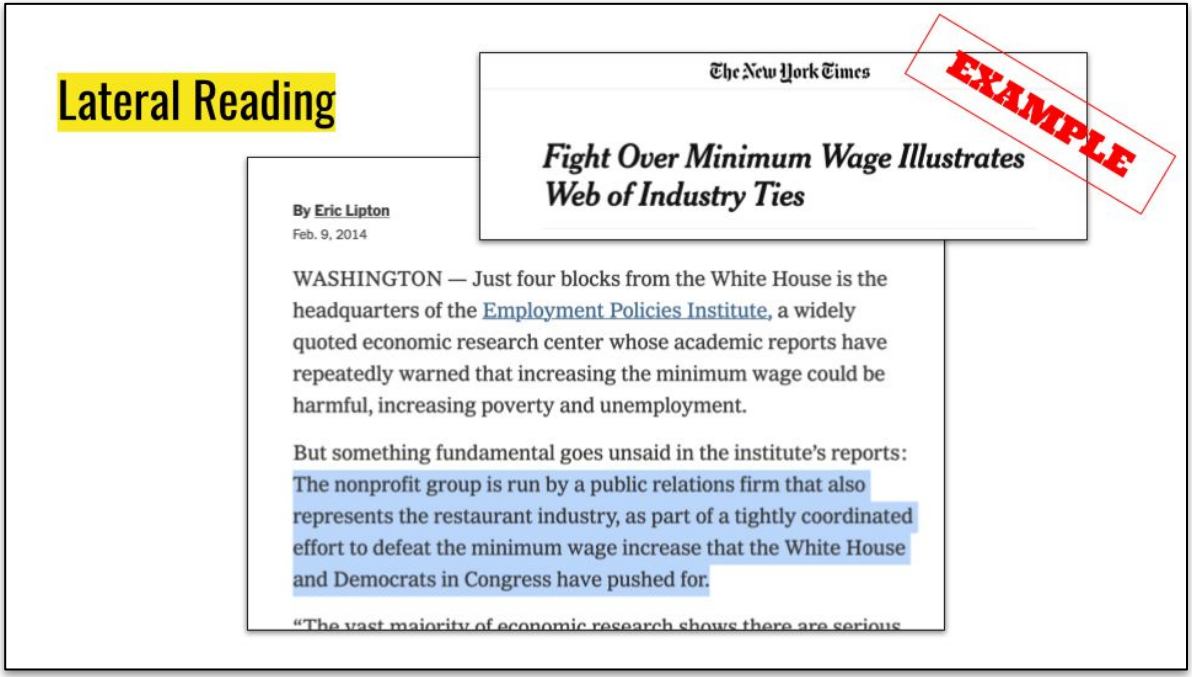
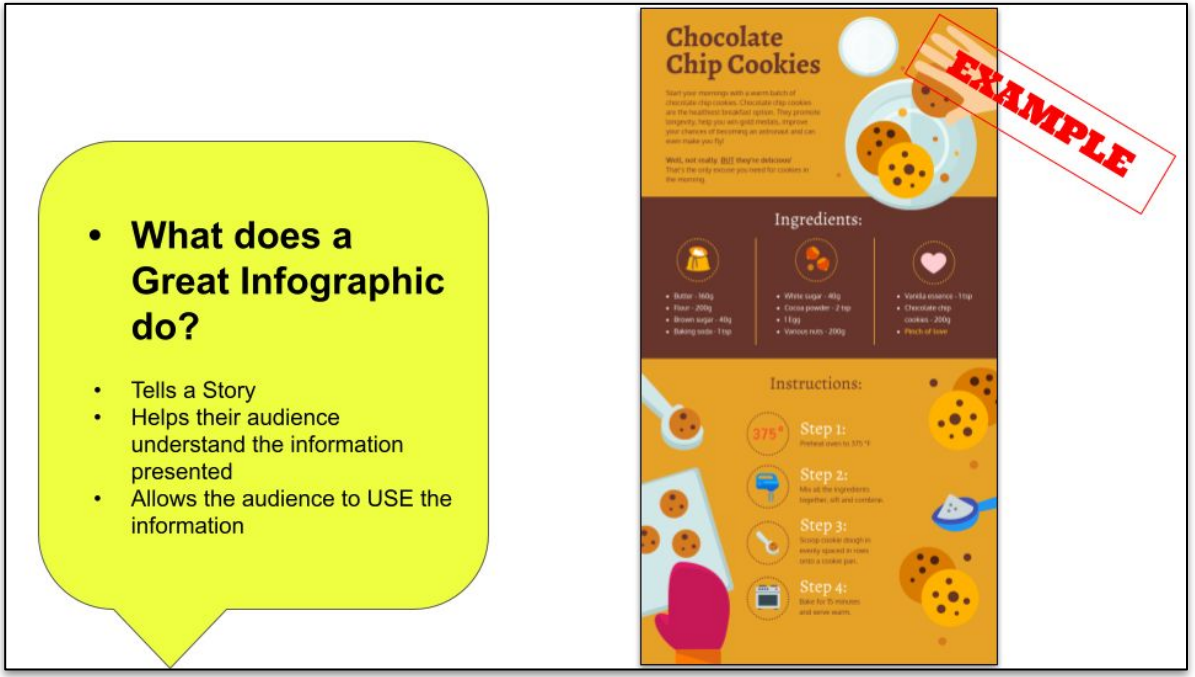


Cognitive Apprenticeship Model: Method

- Scaffolding
  - Teacher provides supports to help the student perform a task



Cognitive Apprenticeship Model: Method

- Scaffolding
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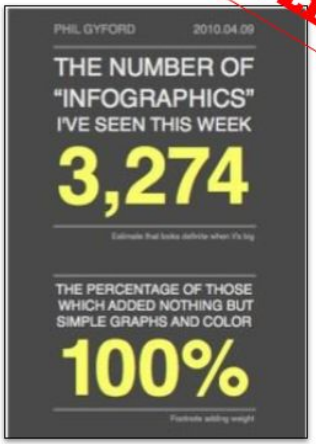
Questions to ask when reading an infographic

EXAMPLE

Access: is it easy to read?
Authorship: What group/author made this? What biases may be there?
Context: Does it specifically address what the theme is? Does the information pass the "smell test"?
Date: Is it current, the right range for the purpose?
Purpose: Why was this infographic created?
Source: Can you find one? Are they credible?



Cognitive Apprenticeship Model: Method

- Articulation
  - Teacher encourages students to verbalize their knowledge and thinking
- Reflection
  - Teacher enables students to compare their performance with others

EXAMPLE

Reading/Viewing/Listening discussion

Week 5: Blockchain, NFTs (2/21)	Reading/Watching/Listening	Course Work
WEEK 5: TICKET WEEK 5: SLIDES WEEK 5: EXIT TICKET	-from Centre for International Governance Innovation: What is Blockchain? WATCH -from the *Wall Street Journal*: NFTs Are Fueling a Boom in Digital Art. Here's How They Work WATCH -from *Motherboard*: Researchers: The NFT Economy Is Just as Unequal as the Real One READ -from *BuzzFeed News:* We Found The Real Names Of Bored Ape Yacht Club's Pseudonymous Founders READ -Dream by WOMBO EXPLORE	WEEK 5: TICKET WEEK 5: EXIT TICKET

Cognitive Apprenticeship Model: Method

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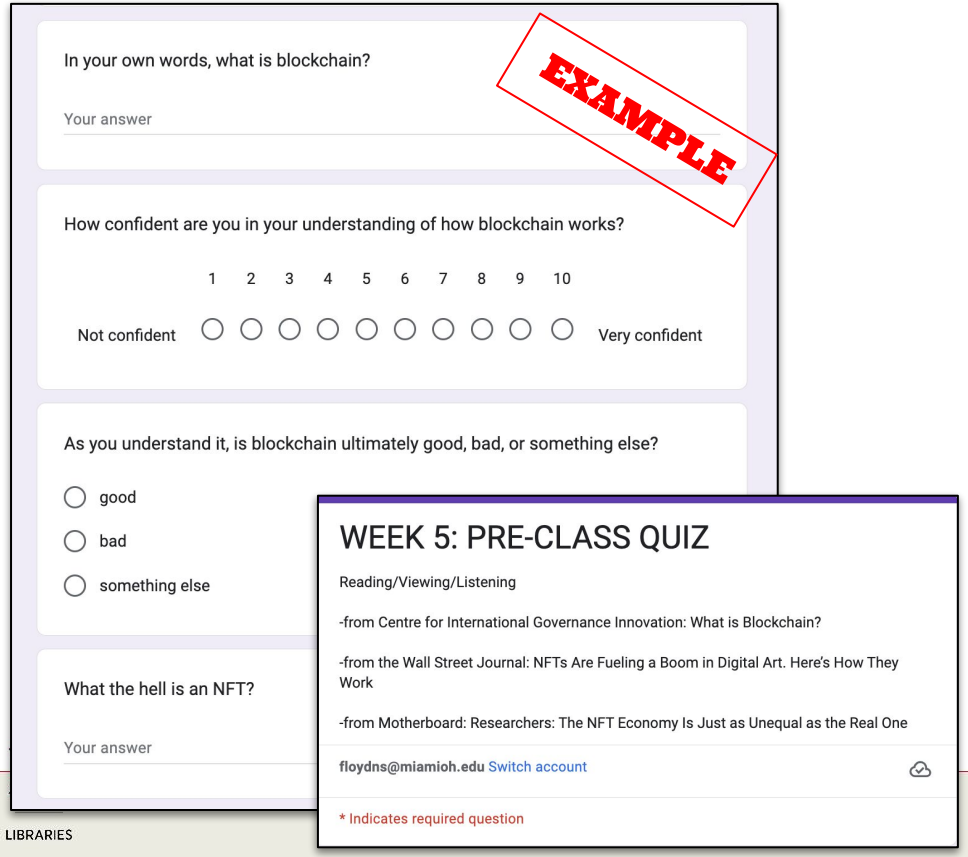

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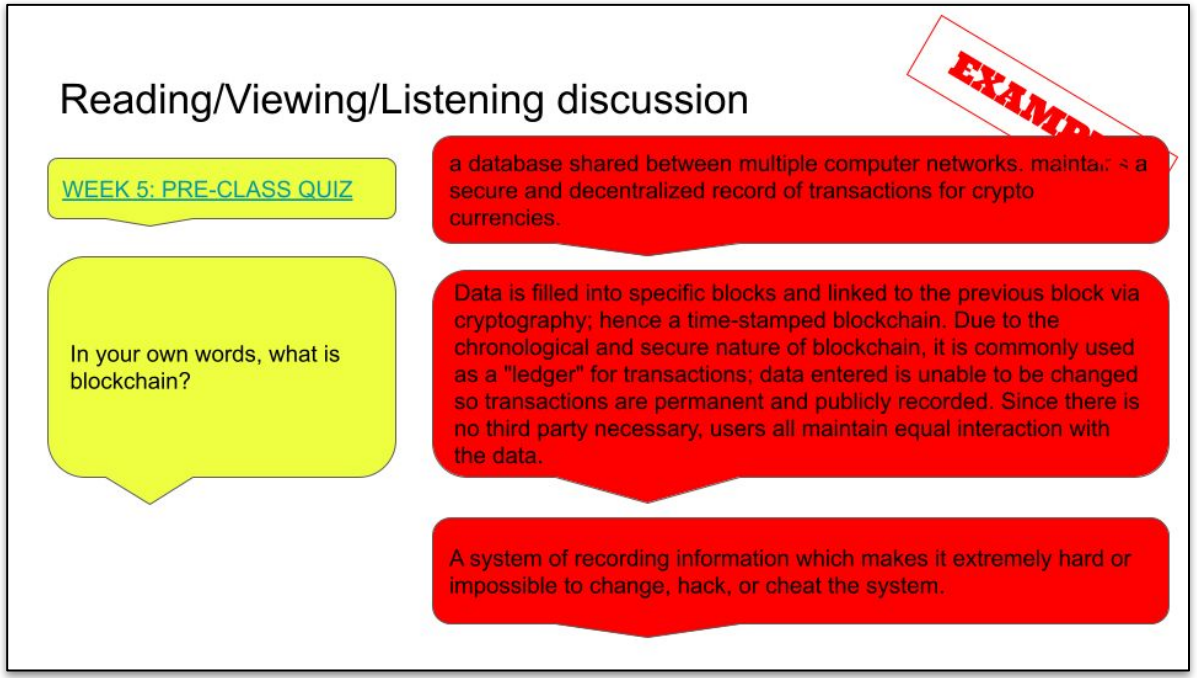

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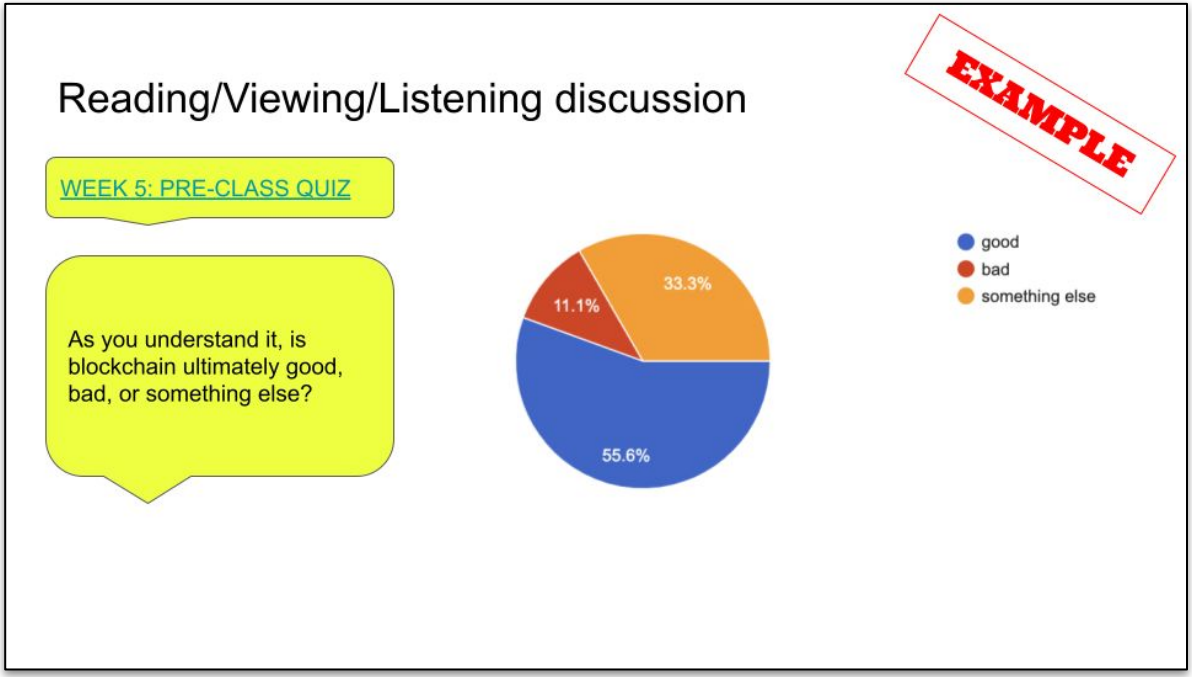


Cognitive Apprenticeship Model: Method

- Exploration
  - Teacher invites students to pose and solve their own problems

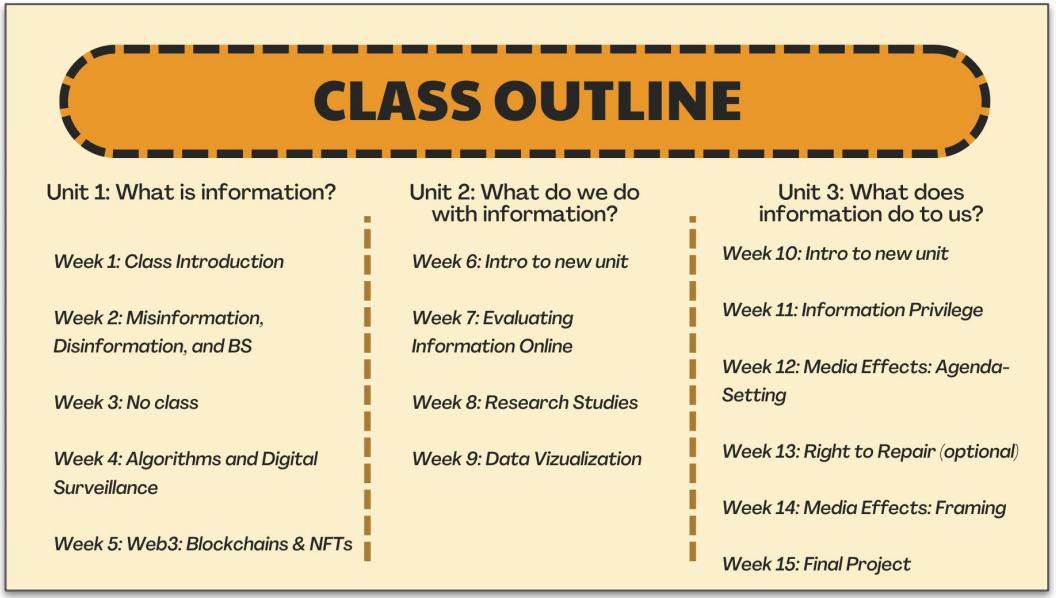
Cognitive Apprenticeship Model: Sequence

- Global before local skills
  - Focus on conceptualizing the whole tasks before executing the parts
- Increasing complexity
  - Meaningful tasks gradually increasing difficulty
- Increasing diversity
  - Practice in a variety of situations to emphasize broad application

Cognitive Apprenticeship Model: Sequence

Global Before Local Skills:
Conceptualizing whole tasks first

- Course looked at the current state of information before focusing on skills-based lessons.
- Individual lessons focused on readings and discussions before practicing specific skills.

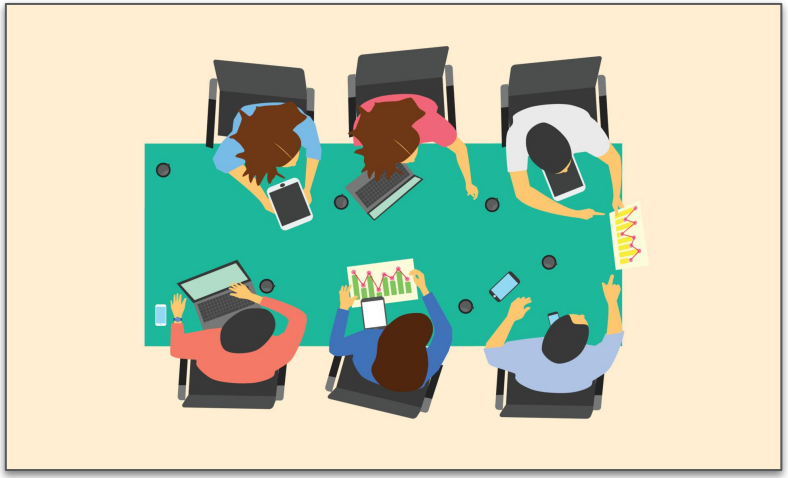


Cognitive Apprenticeship Model: Sequence

- Increasing complexity and diversity of tasks with formative and summative assessments:
  - ***Weekly Activities and Formative Assessments Grew Increasingly Complex:***
    - Discuss and investigate current information technologies and issues.
    - Explore misinformation & disinformation and trace their presence in what we encounter throughout the course, including online information, research studies, and data viz.
    - Examine and discuss how to find "experts," including how to find perspectives of those most impacted by issues and events.
    - Share resources with others and be able to explain their importance to our discussions, including why they are reliable.
  - ***Summative Assessments Required Students to Practice Their Skills*:**
    - **1)** Find one source on a topic of your choice (related to Unit 1) and explain why it is reliable → **2)** Find a reliable source expanding on a topic from Unit 2 specifically written by an expert → **3)** Write an essay or present on a topic discussed in class (use at least three reliable resources and one should be specifically written by an expert).

Cognitive Apprenticeship Model: Sociology

- Situated learning
  - Students learn in the context of working on realistic tasks
- Community of practice
  - Communication about different ways to accomplish meaningful tasks
- Intrinsic motivation
  - Students set personal goals to seek skills and solutions
- Cooperation
  - Students work together to accomplish their goals



Vecteezy.com

Cognitive Apprenticeship Model: Sociology

Situated Learning

- Course focused on **real-world tasks** in the classroom:
  - Analyzing the good and bad of information technologies
  - Practicing news literacy strategies
  - Evaluating websites, data visualizations, and research studies
  - Seeking out marginalized voices and perspectives in information
- Lessons **contextualized finding information in the real world** and led students to have agency in reading and evaluating information.
- Each lesson asked students to **reflect** on how their learning of a new task will **change** how they interact with information outside of class.

Cognitive Apprenticeship Model: Sociology

- Situated Learning
  - Students learn in the context of working on realistic tasks

After learning about agenda-setting, what are ideas you have (or what do you already do) to make sure you are getting as full a picture as you can about current events?

Long answer text

I think the main thing is making sure to read past the front page or home page of sources, to ensure that I am being exposed to information on a variety of topics in current events. Also making sure to keep in mind that less-reported events are not necessarily less important than big-ticket things such as the economy.

I think that the most important thing to do is to no just read one piece of information and take it for what it's worth. I think that if you are truly invested in a topic you will do all the research that is needed.

Cognitive Apprenticeship Model: Sociology

Community of Practice

- **Weekly discussions** based on students' reflections of the readings and proposed questions.
- **Paired activities** to develop information literacy knowledge & skills.
- Students' **poll responses** on weekly topics **shared regularly in class**.
- **Reciprocal teaching** done through roundtable discussions where students shared reliable sources on topics of interest to them with their peers.

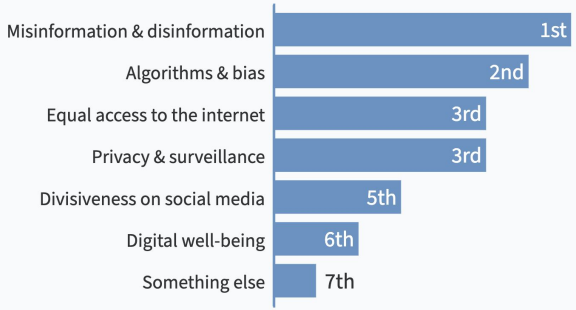
Cognitive Apprenticeship Model: Sociology

- Community of Practice
  - Communication about different ways to accomplish meaningful tasks

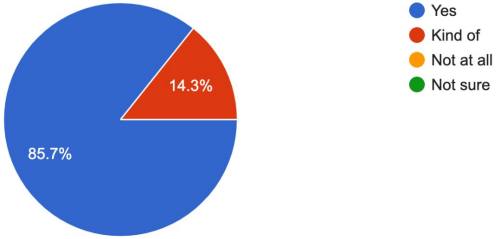
Community of Practice: Poll Responses

EXAMPLE

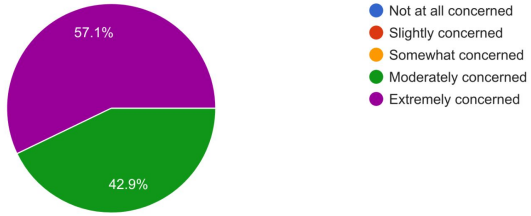
What are the biggest issues in information technology today? (rank)



Do you agree with the author and sources of the article, that misinformation and disinformation are harmful to society?

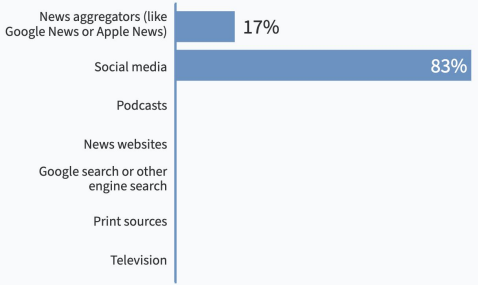


How concerned should we be about the role of algorithms in our digital lives?



What social media apps do you use the most?

How do you stay up to date with current events?



Community of Practice: Roundtable Discussions

EXAMPLE

Roundtable Discussion: Information Trends and Technologies

[Student 1](#)
[Student 2](#)
[Student 3](#)
[Student 4](#)
[Student 5](#)
[Putting it all Together](#)

Student 1

Title & link to resource:
General topic covered:
Talking points:
Discussion Question for the group:

Comments from the group:

Student 2

Title & link to resource:
General topic covered:
Talking points:
Discussion Question for the group:

Comments from the group:

Putting it all Together

What connections do you make among the resources shared today and this unit? Which resources/topics do you want to look into further? What ideas did you hear in the discussion that you were particularly interested in?

Student 1:

Student 2:

Student 3:

Student 4:

Student 5:

Community of Practice: Roundtable Discussions

EXAMPLE

Title & link to resource: "Study: CTE Found in Nearly all Donated NFL Player Brains" Football and CTE
General topic covered: Research Study, Bias, Credibility
Talking points: Findings and design of the research study, credibility of the source and author as well as the researchers. Overall, how can research studies help us in the world of information.
Discussion Question for the group: How do you find research studies on topics of interest, is it easy to determine if they are reliable?

***Comments from the group*:**
LinkedIn is ideal for diving into credibility evaluations - their peers, connect
awards, associated companies, associated universities - all of it.

Title & link to resource: Why you need an AI ethics committee
General topic covered: how to avoid legal and financial problems using AI ethics committees
Talking points:

1. Monetary, legal, regulatory, reputational loss resulting from unethical AI can be avoided
2. An AI ethics committee can avoid [1]
3. How to implement an AI ethics committee if you want to *actually* avoid [1]
    a. Intended audience is for business and legal leaders who haven't looked much into this prior but may already be familiar with concepts such as various fairness frameworks, etc.

Discussion Question for the group: Should the U.S. gov implement digital policy similarly? Not all fairness frameworks are created equally; what types of benefits or problems may occur from the utilization of differently oriented fairness frameworks?
/ not needing actual framework knowledge to answer. Conceptual thinking abt these sorts of issues is good. Also: how do you bring bottom-line-first stakeholders onboard w/ expense?
Article I wanna read next: (16) An overview of some available Fairness Frameworks …

Cognitive Apprenticeship Model: Sociology

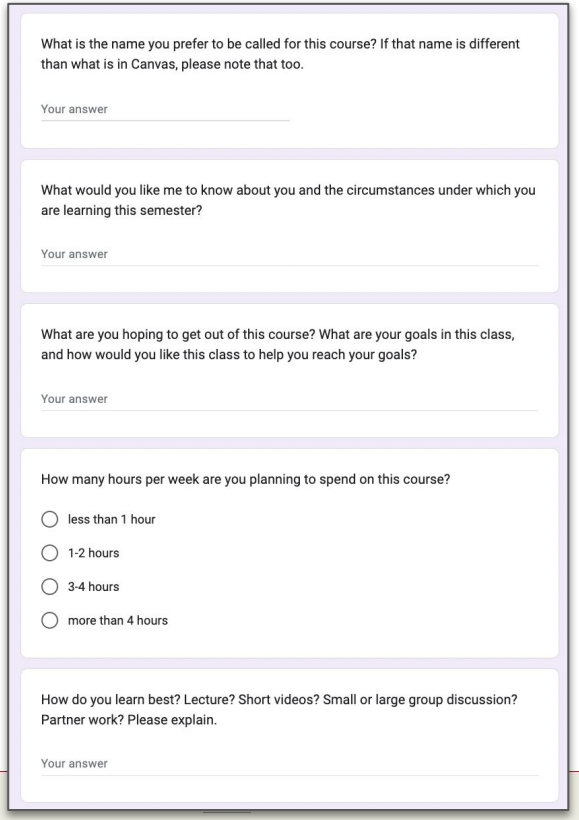
Intrinsic Motivation

- **Course introduction survey** encouraged students to think about their goals for the course.
- **Weekly surveys based on that week's topic:** What did students take away from the readings? How does that week's topic relate to their lives?
- **Weekly reflections** on class discussions and activities: How do they plan to use their new knowledge/skills in future practice?
- **Summative assessments built on students' interests.**

Intrinsic Motivation through Introduction Survey

EXAMPLE

- Intrinsic Motivation
  - Students set personal goals to seek skills and solutions



What is the name you prefer to be called for this course? If that name is different than what is in Canvas, please note that too.

Your answer

What would you like me to know about you and the circumstances under which you are learning this semester?

Your answer

What are you hoping to get out of this course? What are your goals in this class, and how would you like this class to help you reach your goals?

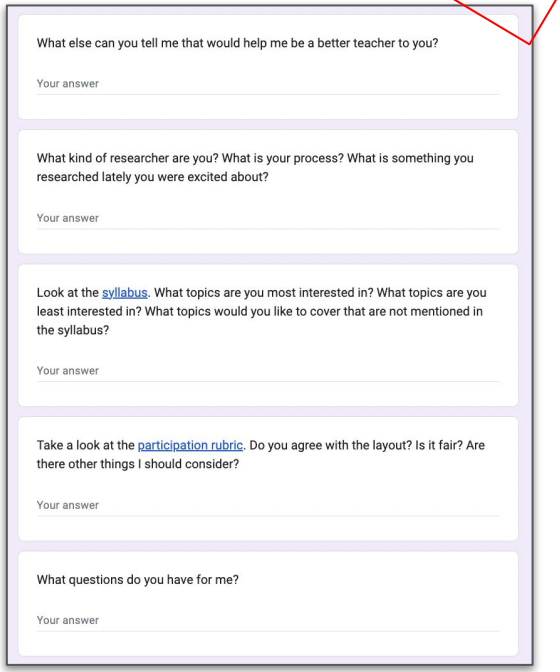
Your answer

How many hours per week are you planning to spend on this course?

- less than 1 hour
- 1-2 hours
- 3-4 hours
- more than 4 hours

How do you learn best? Lecture? Short videos? Small or large group discussion? Partner work? Please explain.

Your answer



What else can you tell me that would help me be a better teacher to you?

Your answer

What kind of researcher are you? What is your process? What is something you researched lately you were excited about?

Your answer

Look at the syllabus. What topics are you most interested in? What topics are you least interested in? What topics would you like to cover that are not mentioned in the syllabus?

Your answer

Take a look at the participation rubric. Do you agree with the layout? Is it fair? Are there other things I should consider?

Your answer

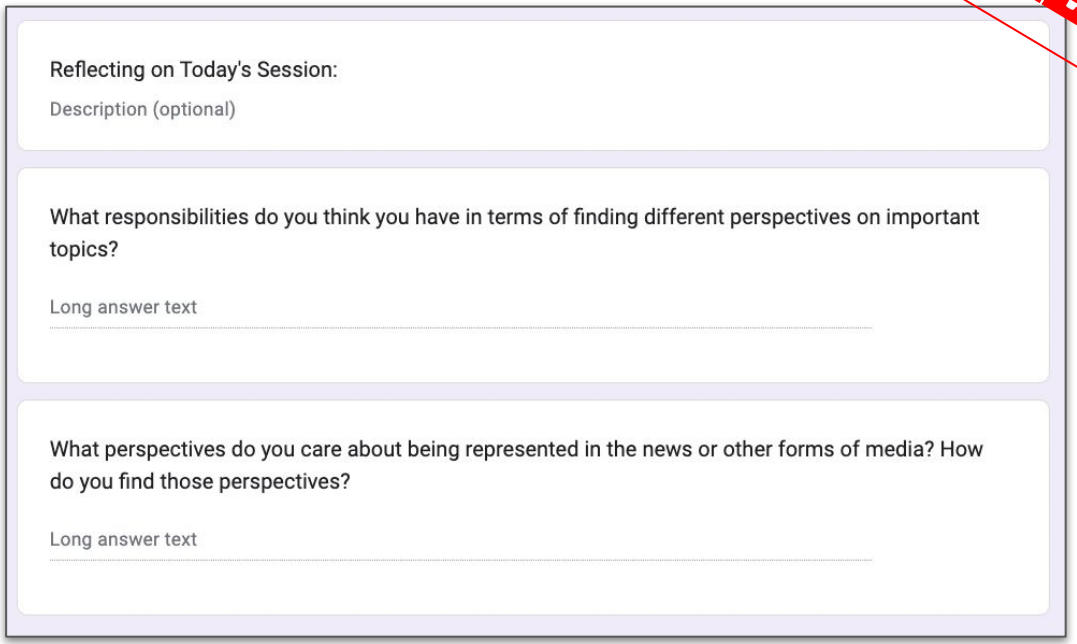
What questions do you have for me?

Your answer

Intrinsic Motivation through Reflection Questions

EXAMPLE

- Intrinsic Motivation
  - Students set personal goals to seek skills and solutions



Intrinsic Motivation through Reflection Questions

EXAMPLE

I think it is important to show perspectives from people who are directly impacted by a lack of representation, and also from experts who have done research in certain areas. These perspectives can be found by taking comprehensive and in-depth time when looking for sources.

A big perspectives I care about is human rights, specifically abortion and minorities. I typically find these perspectives by simply looking it up but I do often just look at similar perspectives to mine.

I care a lot about #ownvoices being represented in the news; in my experience, you have to deliberately seek them out.

Cognitive Apprenticeship Model: Sociology

- Intrinsic Motivation
  - Students set personal goals to seek skills and solutions

IMS 202 Final Project

Present (8 minutes) or write an essay (at least 1,000 words) about one of the topics we covered in class this semester.
misinformation, disinformation, bullshit
algorithms, digital surveillance, privacy
web3, blockchain, NFTs
lateral reading, fact-checking online information
research studies
data visualization
agenda-setting
framing
information representation, information privilege
right to repair

You may also choose a topic we did not cover, but it must be at least tangentially related to information studies and/or digital citizenship.

Use at least three reliable sources. You can use any of the resources we covered in class as one of your resources but try to find at least two other sources outside of what we have read in class.

If you choose to do a presentation (8 minutes) you must present in class on Monday, November 28th, at 11:40am. You must also submit your presentation on Canvas or email it to me.

If you choose to write an essay (1,000 words) you must submit it on Canvas or email it to me no later than Friday, December 2nd, at 5:00pm.

Note: I am leaving the details to you. I want you to present or write about these issues in a way that is interesting and useful to you. But, don't hesitate to contact me and I'll be happy to assist.

Resources

LIBRARIES

https://bit.ly/3JbXh32

Thank you!

Nate Floyd
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floydns@miamioh.edu

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Information Literacy Librarian
spraetj@miamioh.edu