Exploring Social Justice through Metaliteracy and Algorithms

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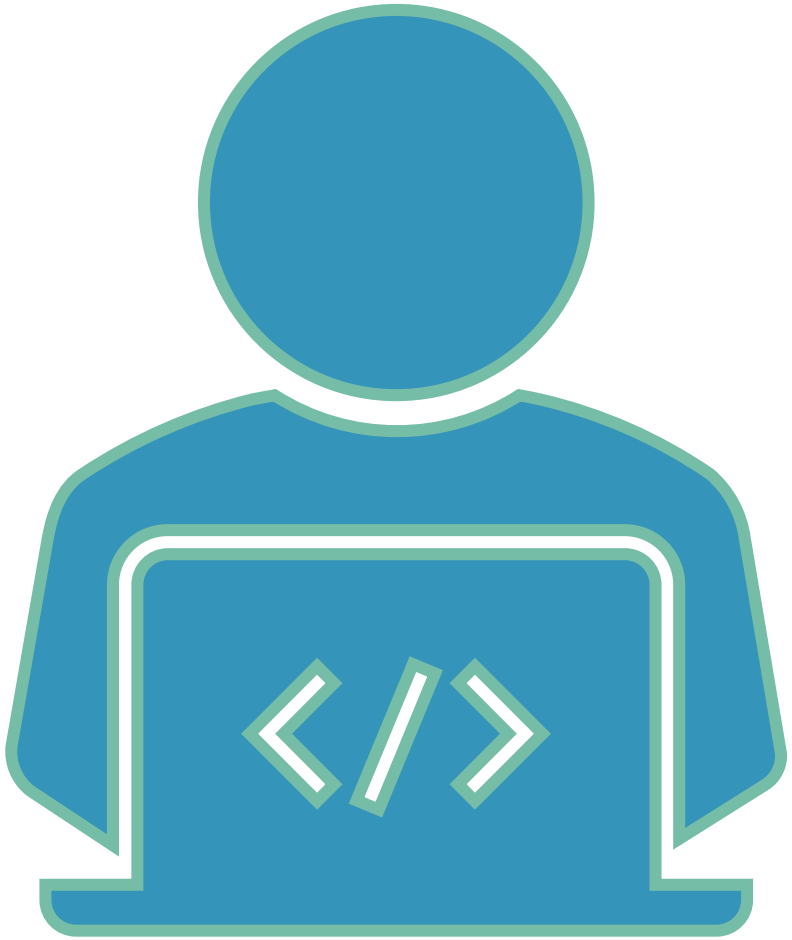
Algorithms



What is an algorithm?

"An algorithm is a set of instructions or rules used by a computer to perform a specific task such as organizing search results by relevance"

(Gardner, 2019)

Injustice in Algorithms

- Google search autosuggestions on January 25, 2013
  - Typed: Why are Black women so
    - Autocomplete suggestions: Angry, loud, mean, attractive, lazy, annoying, confident, sassy, insecure, bitter
  - Typed: Why are white women so
    - Autocomplete suggestions: pretty, beautiful, mean, easy, insecure, skinny, annoying, perfect, fake, rude

(Noble, 2018, p.21)

Within the Library, Too

- Summon 2.0
  - Topic Explorer
    - Eurocentric skew
    - Wikipedia snapshot [outdated information]
  - Autosuggest
    - "While Ex Libris has blocked the Topic Explorer results for 'Muslim terrorist in the united states,' a search for 'Muslims are' in Summon will activate the autosuggest algorithm as seen in Figure 5.8, which offers only one suggestion: 'Muslims are terrorists.'"

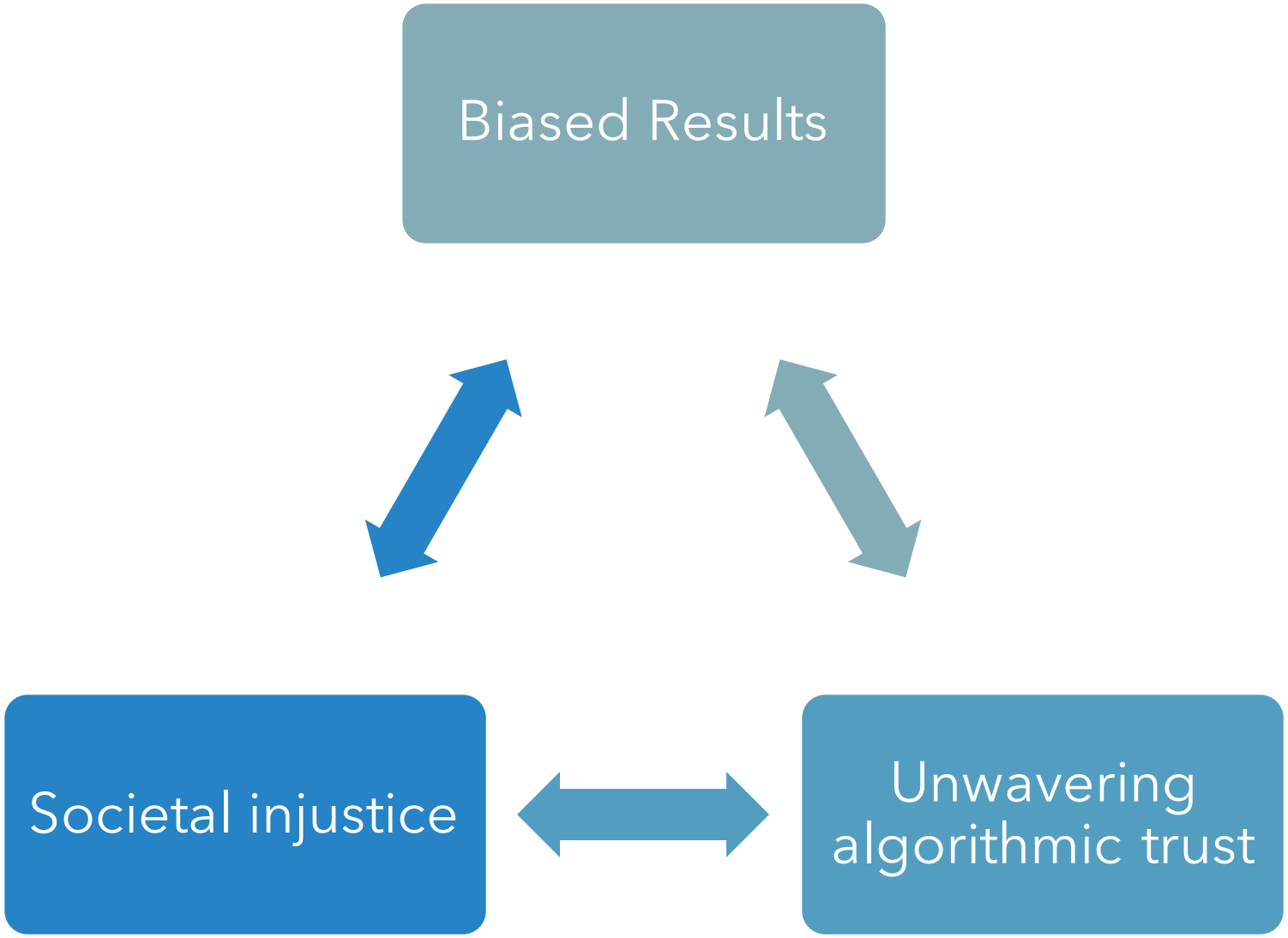
(Redisma, 2019; Redisma, 2019, p. 127)

Prevalence

40% people believe "it is possible for computer programs to make decisions that are free from human bias. Notably, younger Americans are more supportive of the notion that computer programs can be developed that are free from bias."

(Smith, 2018)

Impact


Biased Results
Societal injustice
Unwavering algorithmic trust

Questioning the Algorithm

"When you believe that a decision generated by a computer is better or fairer than a decision by a human, you stop questioning the validity of the inputs to the system. It's easy to forget the principle of garbage in, garbage out- especially if you really *want* the computer to be correct. It's important to question whether these algorithms, and the people who make them, are making the world better or worse."

(Broussard, 2018, p. 44)

"In addition, this *Framework* draws significantly upon the concept of metaliteracy, which offers a renewed vision of information literacy as an overarching set of abilities in which students are consumers and creators of information who can participate successfully in collaborative spaces."

(ACRL, 2016)

Within the Framework

Metaliteracy Goals

1

Evaluate content critically, including dynamic, online content that changes and evolves, such as article preprints, blogs, and wikis.

2

Understand personal privacy, information ethics, and intellectual property issues in changing technology environments.

3

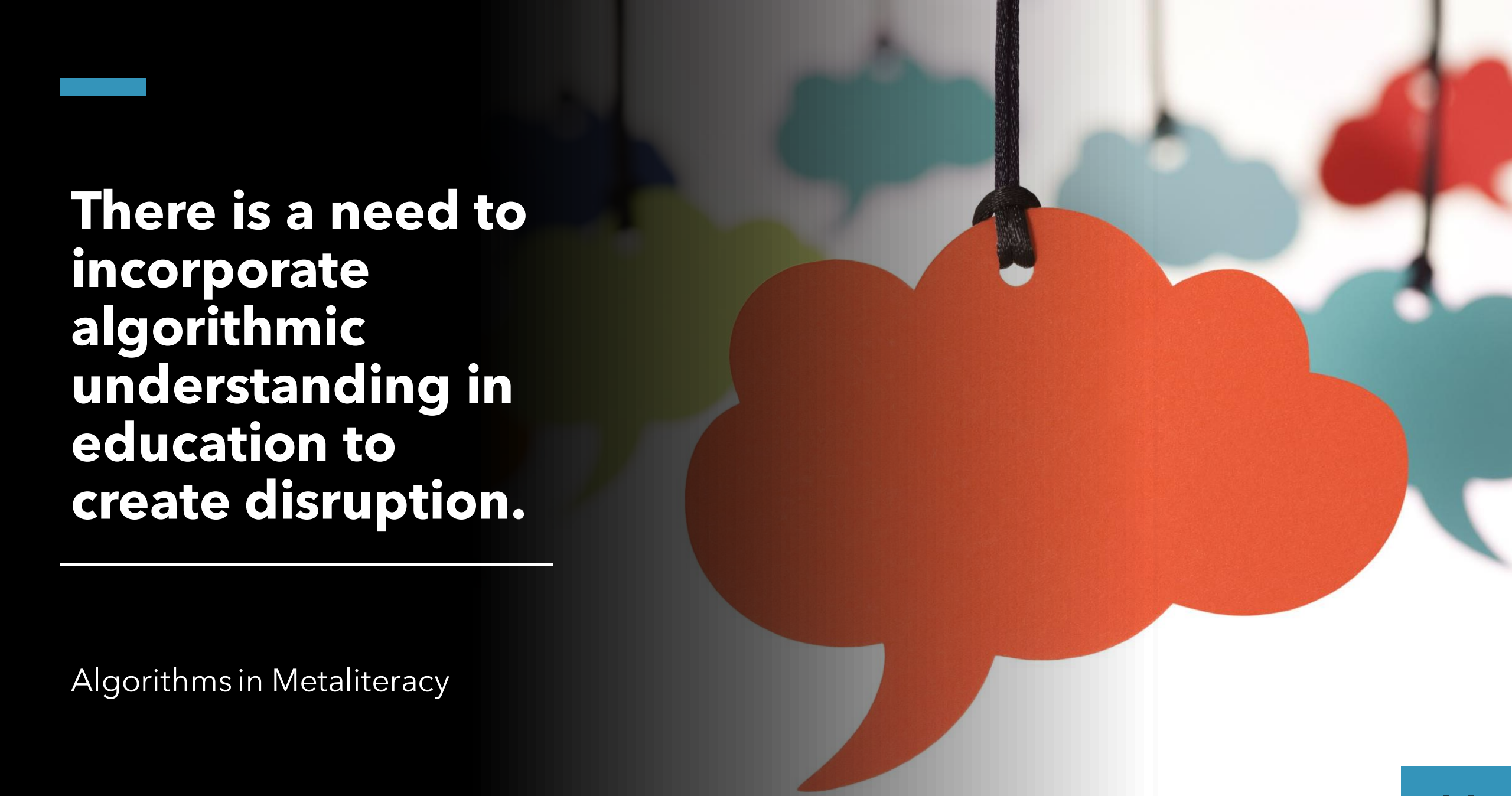
Share information and collaborate in a variety of a participatory environments.

4

Demonstrate ability to **connect** learning and research strategies with lifelong learning processes and personal, academic, and professional goals.

(Mackey & Jacobson, 2014, p. 86).

There is a need to incorporate algorithmic understanding in education to create disruption.



Algorithms in Metaliteracy

Evaluate content critically, including dynamic, online content that changes and evolves.

- Personalization
- Rankings
- Capitalism

Evaluate: Personalization

Factors

- Location
- Online History
- Voice Queues

c

Influences

- Advertising
- Search Results

(Feldman, 2015; Gardner, 2019; Head et al., 2020; Miller, 2016; Noble, 2013)

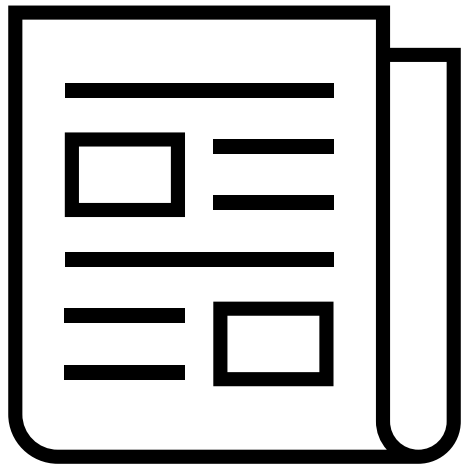
Evaluate: Rankings

- What happens when a search for "Black girls" = Porn?
- What are the implications when your interests (i.e. search history) are not stereotypical?
- Popularity = Good/Authoritative Assumption
- Bot Manipulation

(Broussard, 2018; Cleverley, 2017; Koenig, 2020; Noble, 2018; Orabi et al., 2020)

Evaluate: Capitalism

- Advertising Revenue
- Clickbait
- Erosion of journalism & editors



(Faix, 2018)

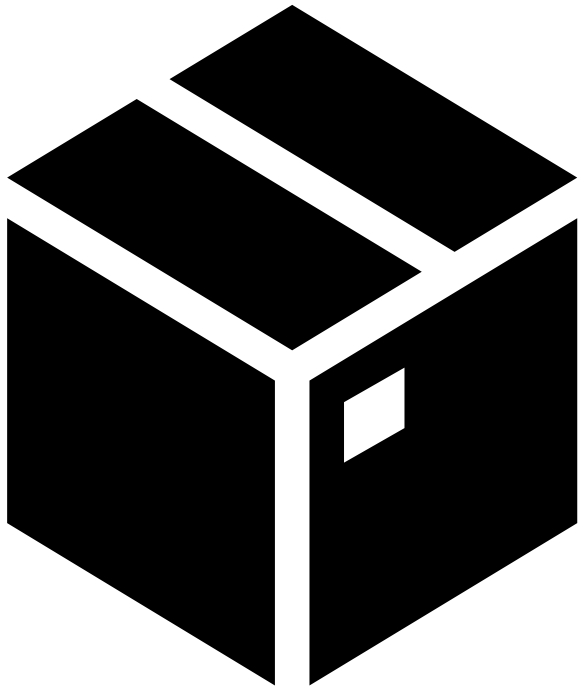
Understand personal privacy, information ethics, and intellectual property issues in changing tech environments.

Black Box

Privacy

Classification

Understand: Black Box

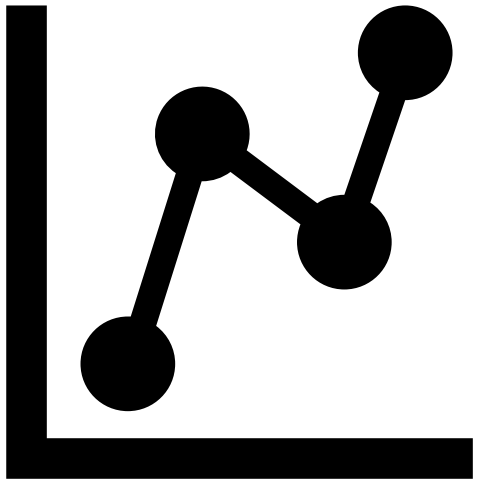


- Proprietary knowledge
- Technically complex
- Calls for transparency

(Kulshrestha et al., 2019; Shin & Park, 2019)

Understand: Privacy

- Big data
- Poor people = free data
- Marginalized further marginalized



(Broussard, 2018; Miller, 2016; Pena & Nicklas, 2019)

Understand: Classification

- Sociocultural context of classification systems
- Abolished or controversial LCSH
- Neutrality not possible

(Bains, 2020; Noble, 2018)

Share information and collaborate in a variety of a participatory environments.

User Behavior

Editorialization

Social Media

Share: User Behavior

- Likes, Shares, & Engagements for future content
- Information dissemination
- Care in academic research vs personal research

(Alsasd et al., 2018; Head et al, 2020; Vraga, 2019)

Share: Editorialization

- Influence on story tips, curation, and content
- "Social media sites functioned like a news editor" (p. 19) for the consumer and the journalist

(Head et al, 2020)

Share: Social Media

- Sharing and finding of mis- and dis-information

(Faix, 2018)

Demonstrate ability to **connect** learning and research strategies with lifelong learning process es and goals.

Education & Curriculum

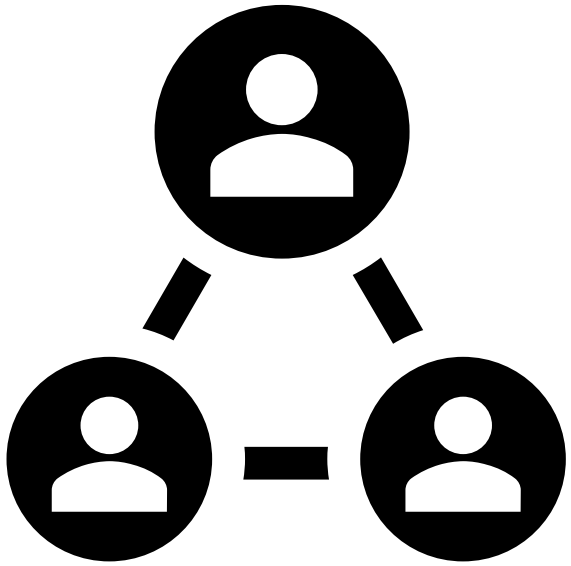
Peer to Peer Learning

Connect: Education & Curriculum

- Conversations and curriculum centered in power and social justice
- Reflection on the flow of information
- Intentional incorporation of digital and information literacy

(Cook et al, 2016; Fister, 2021; Head et al., 2020; Jacobson et al., 2019)

Connect: P2P Learning

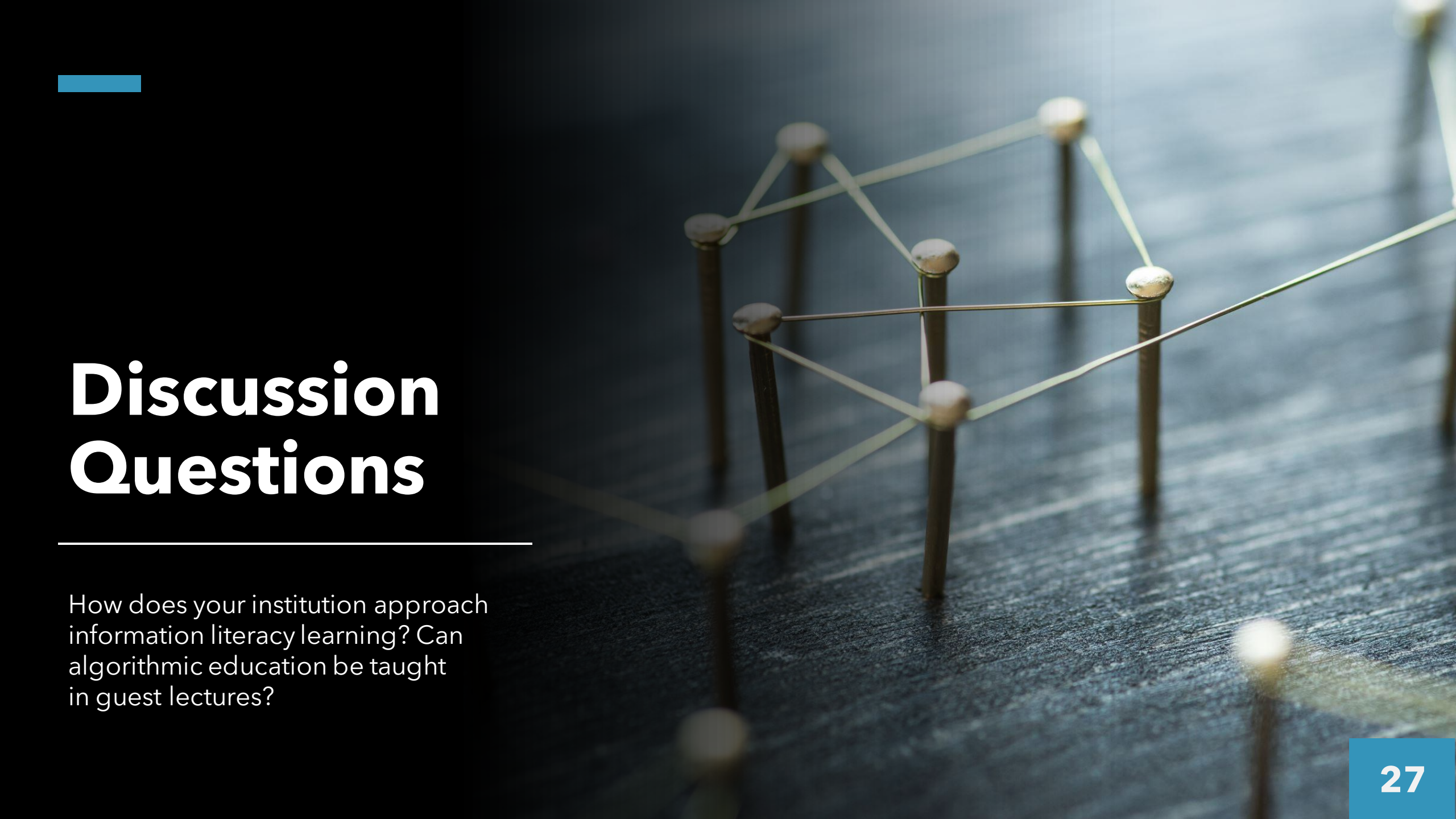


- Swapping notes on how to by-pass algorithmic assumptions
- Students feel more knowledgeable than instructors

(Head et al., 2020)

Discussion Questions

How does your institution approach information literacy learning? Can algorithmic education be taught in guest lectures?



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THANK YOU!