



The Net Is Not Neutral

Teaching Hidden Bias in Everyday Internet Use

Alyssa Archer, Liz Bellamy, and Lisa Dinkle
In alphabetical order



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What we'll talk about today:

- Critical information & digital literacies
- Critical digital literacy activities in the library classroom
- Break!
- Activity brainstorming
- Reflection

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This workshop is going to center around two workshops we've held several times at our institution, with various types of learners, one developed and facilitated by Lisa and Alyssa, and one by Alyssa and myself. Both both deal in some way with having participants critically examine their usage of everyday information tools like Google and Facebook.

Though the workshops weren't *originally* designed to work together, we realized how well they complemented each other because of how strongly they both aligned with principles of critical information literacy and critical digital literacy. So we're going to spend a bit of time defining those as frameworks for our workshops, then we'll spend a good deal of time discussing and having you participate in elements from the workshops. After a break, we're going to turn it over to you--and have you try to brainstorm an activity related to critical info and digital lit. And finally, we'll end with an opportunity for reflection and time for questions.

Radford University



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RadfordU is a comprehensive, 4-year public university in Southwest VA in the United States. About 8500 undergrad students. We're changing - our number of students who are first gen and from traditionally marginalized racial backgrounds are both increasing - this year, 41% of first year students were first gen, and 35% were ethnically diverse. Our information literacy program is well respected and scaffolded through the curriculum, from the univ orientation class through the second year of Core.

So we're well-established—but in our one-shot sessions focused on helping students accomplish a research project for a given source, there isn't always room for discussing in depth ideas related to critical literacies like critical information literacy or digital literacy. We're going to talk today about what we've done to expand our teaching repertoire to encompass critical info lit and digital lit.

In Your Groups

What does critical information literacy mean to you?

Jot down your definition on a big sticky note.

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Large post it notes on tables & a few groups share out

First off, we want to know what crit info lit means to you. So you're all in groups at your tables, so how about you introduce yourselves briefly, and then together come up with a definition for crit info lit, and jot it down on a big sticky note for us all to see.

Would anyone care to share their group's definition?

Critical Information Literacy

“...asks librarians to work with their patrons and communities to co-investigate the political, social, and economic dimensions of information, including its creation, access, and use. This approach to information literacy seeks to involve learners in better understanding systems of oppression while also identifying opportunities to take action upon them.”

Eamon Tewell, 2016, “**Putting Critical Information Literacy Into Context: How and why librarians adopt critical practices in their teaching.**”

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Here’s one that we pulled from Eamon Tewell, in a Library with the Lead Pipe article from 2016.

So we’ve developed these workshops in order to expose students to these political, social, and economic dimensions of info use and access that we don’t necessarily get to touch on in depth in our course-integrated one-shots. We see these workshops as some opportunities to get students aware of these elements and help them develop tools and strategies to act on them.

Critical Digital Literacy

Digital literacy & information literacy

Thomas P. Mackey and Trudi E. Jacobson, 2011, "[Reframing information literacy as a metaliteracy.](#)"

"Skills and practices that lead to the creation of digital texts that interrogate the world; they also allow and foster the interrogation of digital, multimedia texts"

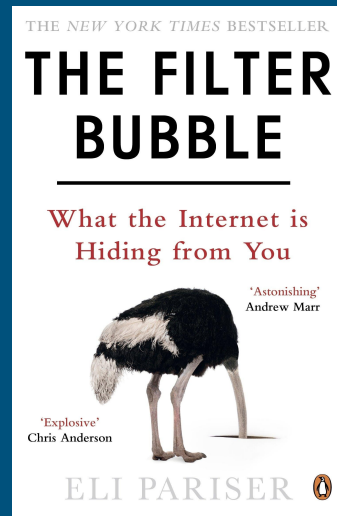
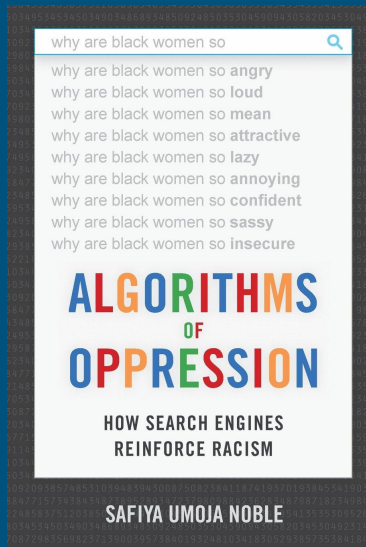
JuliAnna Avila and Jessica Zacher Pandya, 2013, [Critical Digital Literacies as Social Praxis](#)

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We also drew on the seminal article by Mackey and Jacobsen about information literacy as a metaliteracy, in that critically evaluating dynamic online content is a skill overlapped by the frameworks of information literacy and digital literacy.

We also brought the perspective of critical digital literacy into these workshops. This definition from Avila and Zacher Pandya resounded with us, reiterating the need to get students think actively about the online tools they're using.



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The two workshops we're discussing today focus on sharing work on critical digital literacy from Dr. Safiya Noble and Eli Pariser, from the *Algorithms of Oppression* and the *Filter Bubble*, respectively. We're fortunate to be able to occasionally facilitate workshops on these concepts, to really dive deep into critical information and digital literacy in ways that aren't really possible in our course-integrated one-shots.

While both of these workshops were about 50 minutes, which means we don't have time to explore them all, we're going to ask you to put on your student hats. Lisa and Liz will facilitate two active learning exercises with you all, that we've used successfully as icebreakers to get our participants thinking about these issues. One of the strengths to workshops critiquing the web is the familiarity all participants have with these resources, and their ability to dive right in through these exercises to get a deeper understanding of the air we breathe, the water we swim in.

Workshops

- “Dark Side of Information Literacy” Library Workshop Series
- Faculty Development Series
- Accelerated High School Summer Program
- Women’s History Month

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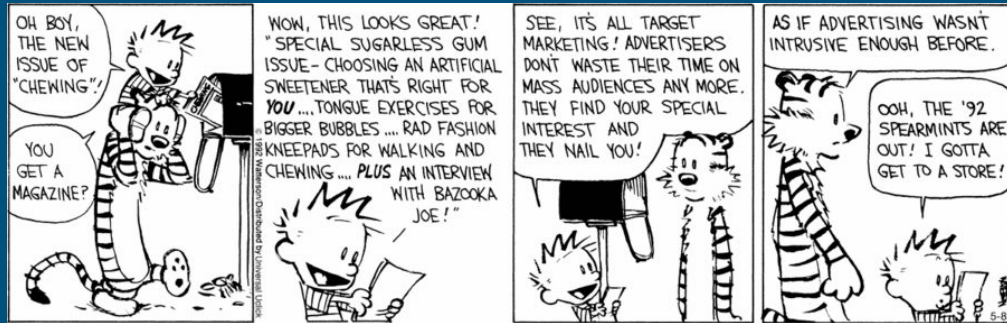
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Since many of our one-shot information literacy workshops are closely mapped to the curriculum and have learning outcomes tied to specific research projects, we had to find other ways to share information with our campus partners, visitors, and community members.

Listed on this slide are several of the opportunities we explored to be able to focus on concepts related to critical information literacy and digital literacy. One workshop not listed is when Lisa took just a snippet of the presentation to a local Toastmaster’s chapter, since she was talking to members of the community, not necessarily academics or students learning how to evaluate information, the response was very encouraging and different from the usual audience.

ACRL Framework for Information Literacy for Higher Education

Information Has Value

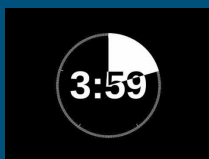


Lastly, we'd be remiss without giving a nod to the Framework for Information Literacy for Higher Education.

The reason that we thought that these two workshops aligned into a single presentation, was because they shared so many of the same theoretical principles - first, both are very strongly tied to the Information Has Value frame of the ACRL Framework for Information Literacy, with a focus on knowledge practices how the online tools we use perpetuate the marginalization and misrepresentation of certain populations, and how algorithms commodifying our information use are designed to streamline this through delivering personalized content.

In Your Groups: Filter Bubble Exercise

1. Each person takes 3 Post It Notes.
2. Think about what TV shows or movies Netflix/ a streaming service might recommend to you.
3. Write 1 title on each of your 3 Post It Notes.
4. When you're done, share with your group.
5. Place notes on the wall nearest you, posting similar genres together.



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As we go through the activities we're going to ask they you all put on your student hats. The Filter Bubble Exercise is the icebreaker we use to begin the Filter Bubble workshop. To give you the same experience as the students I'm not going to give any context behind the activity until after the activity is completed. Give instructions to group.

Questions to Consider

- Did you notice any patterns within your group, as to shows or genres?
- What were the similarities? Differences?
- Are you happy with the recommendations you receive from Netflix? Why or why not?
- How does Netflix decide what to recommend for you?

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These are a list of some questions you could consider asking your audience after performing the Netflix exercise.

Context: This exercise should start students to begin thinking about how services and algorithms influence aspects of their lives. The exercise can also help students identify patterns, which could be beneficial, but also may be keeping them from exploring new ideas or in this case tv shows and movies.

As we move on to the second icebreaker of the Filter Bubble Workshop, I'll ask you to keep in the back of your mind as you watch the video the first question on this list: Did you notice any patterns within your group?

Filter Bubble: Eli Pariser



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With the pattern question in mind, let's take a look at this video from Eli Pariser as he introduces us to the Filter Bubble.

Questions to Consider

Filter bubble:

- Are filter bubbles good or bad?
- Are filter bubbles a form of censorship?
- Do businesses have a responsibility to show different things, or to match their users preferences?
- Are we personally responsible for bursting our own filter bubbles?

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Now that you've watched the video for the Filter Bubble and learned more about how Netflix found issues with its own algorithm. What do you all think about the patterns created for us by the algorithms that we use not only for our entertainment purposes, but for our information seeking purposes as well? These are a few other questions you can use with your audience to start discussions or Think-Pair-Shares. Ask group 1 question to respond:

Taking off your student hats, because clearly you were librarians about this, some anecdotal observations about how our participants have responded to these concepts.

Filter Bubble workshop, continued...

- Google searching filters
- Social media feeds
- Brainstorming discussion
- Practical tools

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In the later parts of this workshop, we explore Google searching filters just like Eli Pariser had his friends search for Egypt, compared social media feeds from two very political perspectives, and discussed practices we can incorporate into daily life to break out of the bubbles we create for ourselves... such as using keywords you might not normally use, going Incognito on your browser, liking posts you would not usually like on Facebook, and how to seek out different perspectives, using apps and services such as Read Across the Aisle and MediaBiasFactcheck. To find more information about this workshop and it's lesson plan check out the tinyurl.com/NotNeutral Then turn over to Liz, Now, Liz is going to walk us through the next exercise.

On Your Own: Algorithms of Oppression Exercise

What does a teacher look like? Take a moment to visualize.

Draw a picture of the image you've conjured up.

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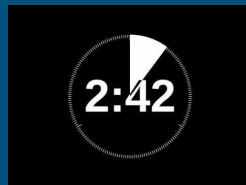
Ok! Our next exercise is based on the work of Dr. Safiya Noble. So we start this one off giving no context—but you should all have some paper and coloring utensils in front of you. What we'd like you to do is take a moment to picture a teacher--your platonic ideal of a teacher. Got it?

Now draw a picture—it'll make sense in a few minutes, promise.

On Your Own: Algorithms of Oppression Exercise

What does a teacher look like? Take a moment to visualize.

Draw a picture of the image you've conjured up.



Use tape to attach your drawing to the wall.

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Three minutes, starting now.

Use a magnet to attach your picture to the whiteboard—there's no judgment, it's not about how great an artist you are--we just want to get some sort of general idea of what you envision.

Once you're done, go ahead and tape your drawing to the board...take a peek at the drawings created by your fellow participants, too.

What do we notice about these images? Any similarities? Anything stand out as different?

We do this at the very beginning of this workshop before they've been influenced by anything we have to say, to get a clear, unadulterated picture of the conglomeration of images we as a sample of our society see when we imagine any sort of identity, be it a scientist, businessperson, teacher, nurse, etc.

Algorithmic Bias: Dr. Safiya Noble



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Then we get into the heart of what we're talking about, and introduce participants to Dr. Safiya Noble. Dr. Noble is a professor at USC's Annenberg School of Comm & Journalism, very recently published a book titled Algorithms of Oppression, which I feel like I can't go a day on Twitter without seeing reference to.

We're going to play a brief clip--should mention that if references to pornography, or some pornographic language bother you, now's a good time to step out for the next ~3 minutes.

After the video, we take a look at our images again from this new perspective.

How does our collective image compare to Google's?

Google Images: teacher

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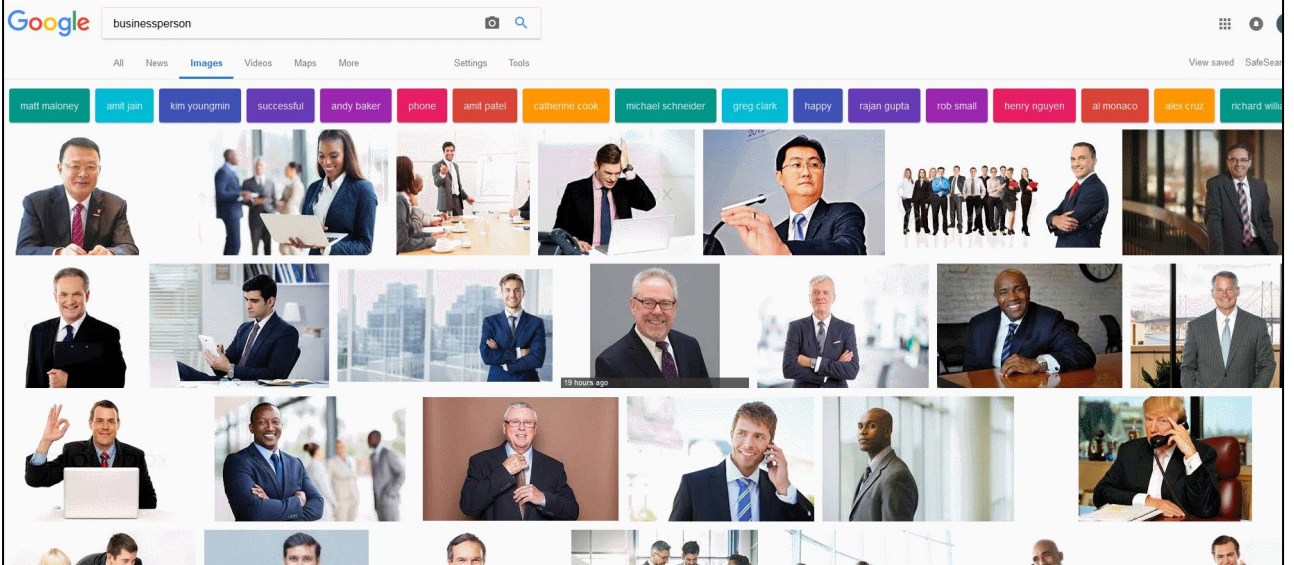
What does Google say a teacher looks like? If you brought a mobile device, head over to images.google.com and search for teacher—otherwise you can follow along up here.

What do we notice? [Discuss]. Is it very similar to the collective image we created ourselves? Different?

This is a really good opportunity to open up conversation and discuss how Google and other algorithmic search engines can mirror the biases we already have, and further serve to solidify and magnify the stereotyped mental pictures we might already have. Putting the images up on the board, as a collective, gives us two really concrete things to compare--Google Images and the ones we've drawn.

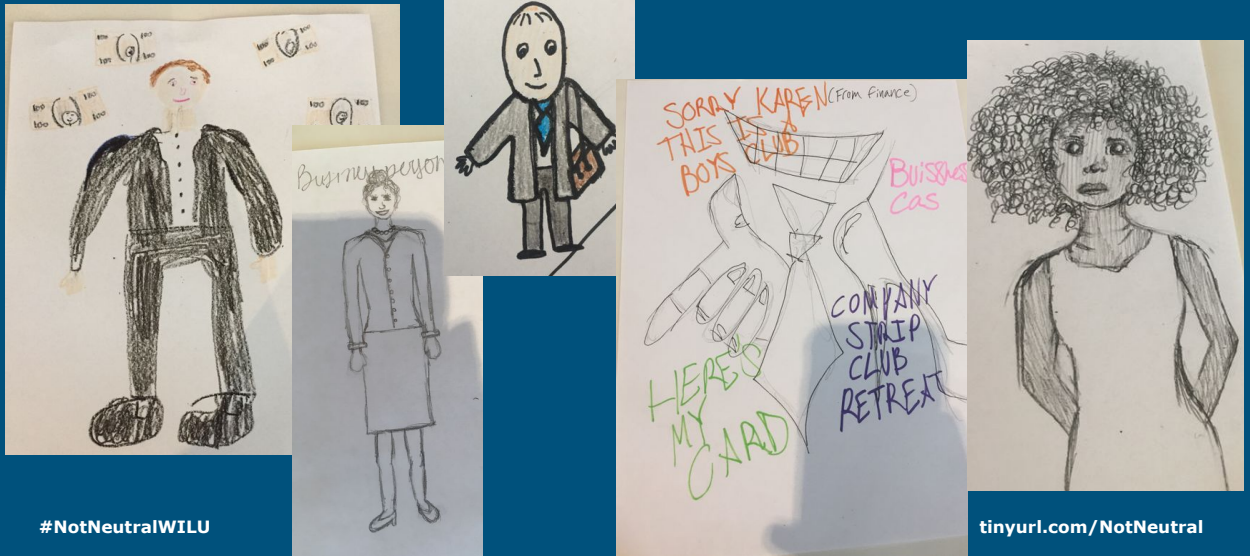
And sometimes it goes the completely opposite way, too. Last summer, accelerated HS student program, had a group of over 100 students draw a picture of a businessperson.

What does a businessperson look like to Google?



Google Image results were pretty predictable--old white guys in suits, very few women, very few people of color, pictures represented the identity fairly positively.

...What does a businessperson look like to you?



But the drawings the students came up with did not, collectively, really reflect the collective image presented by Google. Yes, some happy, strong, white guys in suits. But there were definitely more women, more people of color, more...disdainful representations, like the guy taking business class to the company strip club retreat.

And this is awesome, too, as a conversation starter! We ended up having a great discussion about what message is sent when the most influential search engine in the world doesn't represent info in a diverse way, the way we'd like it to.

Questions to Consider

- Is it a problem that these are the results we get, as opposed to something else?
- What do we know about how Google decides what results show up on page one? Is this different from how library databases search?
- Whose responsibility is it to mitigate biased search results? The searchers? Google?

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And to echo what Safiya Noble says in the video, we could definitely say “sure, we already know that if you search for a teacher you’re going to get a white lady with an apple in front of a chalkboard” and leave it at that. But of course we want to go deeper, to have participants be aware of the water they’re in, as Alyssa alluded to earlier. So a question we ask our students, and that we’re going to ask you, is--is this a problem that these are the kinds of results we get? Why or why not?

Some others we might ask relate to what we know about how Google searches (very little, proprietary, uncontrollable) vs how, say, library databases search (still complex for them, not something they need to know, but useful to reiterate that as librarians we have (at least still SOME) control over our database searching, it’s a lot more straightforward, not influenced by \$\$.) As well as talking about responsibility.

Algorithmic Bias workshop, continued...

- Autocomplete in Google
- Google search results
- Dr. Noble's example of radicalization of Dylann Roof
- Brainstorming how to combat algorithmic bias

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So that was a teaser from the larger workshop--we can all go back into teacher mode now. Some other things we discuss are the kinds of things that come up in Google's autocomplete—which is pretty illuminating, if you search for something like “why are women so...” or “republicans/democrats are...”. We discuss some other broken Google features to hit on the point that these algorithms aren't objective and aren't objectively true. Alyssa does a great job of unpacking a story Dr Noble tells in her work about Dylann Roof, the mass shooter of the historically black Mother Emanuel church in Charleston, SC, who wrote in his manifesto about wanting to start a race war after Googling “black on white crime” and getting propaganda sites that he accepted as truth, which led to his radicalization. So we try to talk about some of the very worst case scenarios that can come out of this algorithmic bias. And then we end by brainstorming ways to combat it.

Adapting to One-Shots



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However, these can be hard concepts to translate to a one-shot tied to a for-credit class, especially when the faculty of record expects tightly focused lesson to meet the information needs of their students related to a specific assignment at hand.

HOWEVER, our students often come into one of these classes thinking that a library session is outdated, when everything can be found on Google. So we often begin a class with a discussion with our students, asking them where they go when need to find information, and what their process looks like. Or we ask them, how to you choose what information to retweet or reshare on social media? Building off of their preexisting knowledge, we can then add a discrete exercise from one of these workshops -- or even simply share Dr. Noble's video if we are really short on time - to push back against the overreliance students may have on Google or their social media, to recommend using a wide range of searching platforms, including our library databases, to help burst their filter bubbles.

Adapting to One-Shots



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Especially in classes with themes of social justice, we've found it helpful to play Dr. Noble's video, to place doubt in our students' minds about Google's motivations to stay neutral and objective - and these students are already primed to understand the problematic aspects of search tools and social media.

We should add a disclaimer here that of course, we don't want to give students the impression that everything they find in a library database is inherently credible, or that database systems themselves are infallible. But by discussing the limitations of Google for finding certain kinds of information, our hope is that our students will begin to grasp that library resources are much more likely to present opposing viewpoints in a way that allows the researcher to decide for themselves what to believe.

<https://matthew.reidsrow.com/articles/173>

Learning Outcomes

Filter Bubble

1. Explain how your preferences and biases may be perpetuated through your search results and social media feeds
2. Identify tools that can help to break free of algorithms that are aimed at providing you the information you prefer, ie your bubble.

Algorithmic Bias

1. Explain how societal stereotypes and biases may be perpetuated through search results and social media feeds
2. Reflectively assess how your search results may affect how you think about a topic
3. Explore ways to combat algorithmic oppression, as discussed by Dr. Noble.

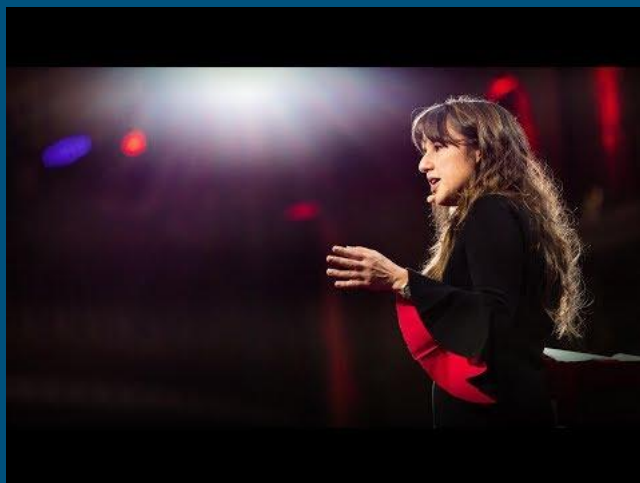
Break time!



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Activity Brainstorming



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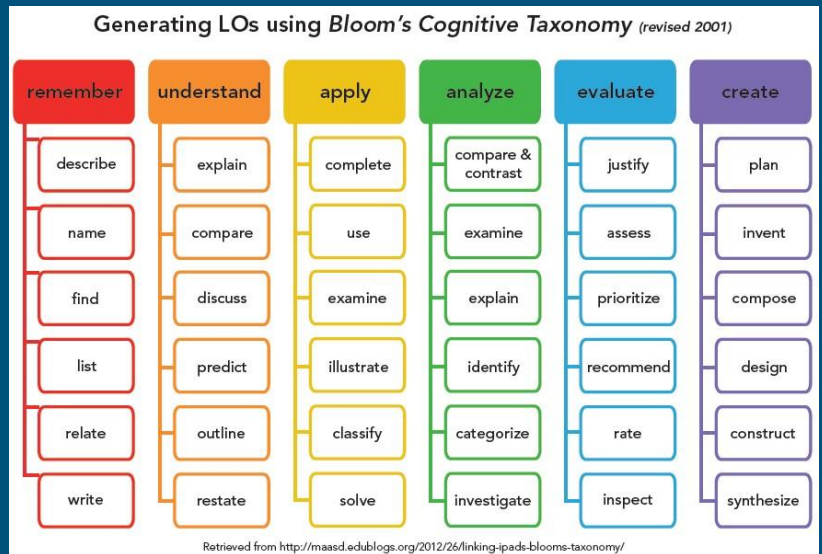
LIZ - Alyssa and Lisa will pass out worksheets during the video

Welcome back! For the second half of this workshop, it's going to be your turn to think about how we can take some of these critical digital literacy, and info literacy, concepts, and create an activity around them. A & L will be passing out some worksheets that will guide the rest of this session, which we'll take a look at after I play this video clip, a talk from Zynep Tufeci, researcher and prof at UNC Chapel Hill. Adds a new element to the concepts related to filter bubbles, algorithmic bias that we've talked about so far.

While video plays, think about some learning outcomes that might relate to the concepts brought up in this clip.

Think-Pair-Share: Learning Outcomes

What are some possible learning outcomes that could be tied to this video?



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Open discussion

Hopefully that sparked some ideas. Everyone should have a worksheet, right? We're going to backwards design this, beginning with our learning outcomes. So take two or three minutes to brainstorm some possible learning outcomes that you could see being tied to this video, that may be related to critical info lit, critical digital lit, the info has value frame, and jot them down on your handout. We've put up here a list of action verbs, generated from Bloom's Taxonomy, that might be helpful if you're like me and you can tend to spin your wheels a little when generating LOs.

Ok, now talk with the people in your group, and as a group choose your favorite 1 or 2 to write really large on another sticky note. When you're done, stick them to this wall.

Ok, I see a lot of really interesting, creative LOs up here. So take a look at what we have written up here--which LOs could you see being helpful in framing the issue presented by the clip from Dr. Tufekci's talk?

Great. So now we have a sense of some of the LOs we could use when thinking about an activity tied to the concepts Dr. Tufekci brings up, so now here's the fun part...

Alyssa note - We put in some of Bloom's taxonomy, because getting started with a verb can often be the hardest part of creating a learning outcome.

Disclaimer: we are not supporting Bloom's Taxonomy - some critiques of interest can

be found

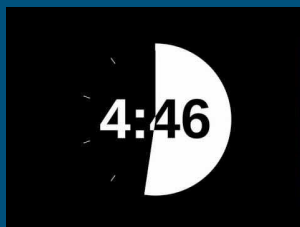
http://blogs.edweek.org/edweek/learning_deeply/2018/03/heres_whats_wrong_with_blooms_taxonomy_a_deeper_learning_perspective.html

https://tc2.ca/uploads/PDFs/Critical%20Discussions/unfortunate_consequences_blooms_taxonomy.pdf

<https://tophat.com/blog/blooms-taxonomy-reshape-3-ways/>

In Your Groups: Activity Brainstorming

Come up with a 5- to 10-minute activity tied to one of the learning outcomes that you would facilitate with your students.



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In your Groups, Using any of the learning outcomes we've discussed or that are on the Post It Notes up front. Instructions: You have 10 minutes to discuss. Would anyone like to share out their group's activity? Thank audience and sharers.

Critical Digital Literacy

“Skills and practices that lead to the creation of digital texts that interrogate the world; they also allow and foster the interrogation of digital, multimedia texts”

(Avila & Zacher Pandya, 2013)

Group reflection: How can critical digital literacy fit into your instruction program?

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Critical digital literacy is about making students think actively about the digital tools they're using.

So, let's come around full circle to our definition of Critical Digital Literacy.

Are you already intentionally addressing these issues in your classes? Why or why not? Are you going to try to incorporate these ideas into your classes? If so, how?

Thank you! Questions?

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More Resources:

tinyurl.com/NotNeutral