#ForYou: Algorithms & the Attention Economy Workshop Lesson Plan

Learning Outcomes

By the end of this workshop, students will be able to:

1. describe recommender system algorithms in order to examine how they shape individuals' online experiences through personalization
2. analyze their online behaviors and subsequent ad profiles in order to reflect on how they influence how individuals encounter, perceive, & evaluate information, leading to echo chambers & political polarization
3. assess how their data is used to personalize their online experience in order to build algorithmic awareness & make informed, intentional choices about their information consumption

Activities

Algorithms & the News Small Group Discussion (5-10 minutes)

1. In their small groups, have students discuss the following questions:
   a. Where do you usually seek out information / get your news from?
   b. How do you evaluate the information / news you encounter?
   c. Explain like I'm 5: How do algorithms work? What do you already know? Feel free to include what you don't know!
   d. Where do you encounter algorithms in real life? Can you list an example?
2. Facilitate a large group debrief discussion with class to lay the groundwork of what participants already know (or think they know), believe, and their current practices. Allow participant responses and interests to steer the discussion. Make note of any connections to workshop content to contextualize micro-lectures moving forward.
   a. Tip: This debrief can be used as formative assessment to gauge interest and knowledge level of class.

Algorithms & the Information Ecosystem Micro-lecture (10-15 minutes)

1. Brief explanation of how "fake news", misinformation, and information warfare are not new concepts or techniques. This is accomplished through two examples:
   a. Image of "Reporters with various forms of "fake news" from an 1894 illustration by Frederick Burr Opper."
   b. Quote from Jonathan Swift's 1710 essay, "The Art of Political Lying": "Falsehood flies, and truth comes limping after it, so that when men come to be undeceived, it is too late; the jest is over, and the tale hath had its effect."
2. Transition to what is new and novel about our current information ecosystem, which is the volume of information produced and disseminated at an increasingly rapid rate. Use DOMO's

infographic "Data Never Sleeps" (updated annually). Highlight a few pieces of data from the infographic.

    a. Explain that the complexity of our info ecosystem is only possible through the implementation of algorithms.

3. Brief overview of algorithms, the tasks they perform, machine-learning, and recommender systems / personalization.

    a. Useful background reading:

        i. Hello World by Hannah Fry

        ii. How to Teach Yourself About Algorithms by Jennifer Golbeck

        iii. Recommendation Engines by Michael Schrage

Personalization & Recommendation Engines Activity (10-15 minutes)

1. Ask participants to explore a curated set of links to garner a better understanding of how recommendation systems / algorithms can personalize their newsfeeds and create echo chambers. Provide the following links on a guide:

    a. Platform Personalization (review 1-2):

        i. TikTok ForYou Feed

        ii. YouTube Watch History

        iii. News on iPhone

        iv. Google News

        v. Amazon Recommendations

        vi. Netflix Recommendation System

    b. Interactive Sites

        i. SplitScreen

        ii. The Endless Doomscroller

2. After exploring links, ask participants to respond (anonymously in something like a Padlet) to the following prompts:

    a. Share your thoughts and reactions to SplitScreen & The Endless Doomscroller.

    b. How do algorithms impact YOUR online life & information consumption?

    c. What do you like / is convenient about personalization?

    d. What concerns do you have about personalization?

3. Facilitate a large group debrief discussion about participants' thoughts / reactions.

    a. Tip: If no one volunteers ideas, facilitators can review the anonymous feedback provided aloud with the class.

Attention Economy & Persuasive Design Micro-lecture (5-10 minutes)

1. Responses to the personalization activity typically bring up reflections on time, attention, and privacy concerns. Apply these responses to transition to an overview of the attention economy.

    a. Use quote from social scientist Herbert Simon (1971) to explain / highlight the concept of the attention economy: "…[I]n an information-rich world, the wealth of information means a dearth of something else: a scarcity of whatever it is that information consumes. What information consumes is rather obvious: it consumes the attention of its recipients." (Simon, 1971)

        i. Connect this back to the "Data Never Sleeps" infographic and how much more information-rich our world has become in the decades since 1971.

2. Give an overview of persuasive design techniques and how they are used to engineer our attention and keep users engaged with our devices and platforms for longer periods of time. Examples include:
    a. Infinite scroll & autoplay
    b. Choice architecture (push notifications)
    c. Sentiment manipulation
3. Close the micro-lecture with a discussion of filter bubbles / echo chambers and how they cause intellectual isolation.
    a. Tip: Make sure students know that they have *limited control* over algorithms and recommender systems. Explain that just because they adjust their personalization settings to avoid targeted advertising does not change the fact that these platforms still track and record their behavioral data to adjust search results and newsfeeds for attention engineering purposes.

Algorithmic Awareness / Attention Autonomy Discussion (10 minutes)

1. Have students return to their small groups to brainstorm strategies to build algorithmic awareness. Provide a list of curated articles / case studies to help them in their exploration and use the following questions to guide their discussion:
    a. What strategies do you have for finding balanced news coverage / diverse viewpoints?
    b. How can you escape your echo chamber and engage in a more holistic information ecosystem? What is the value of evading your filter bubble?
    c. What steps can you take to consciously acknowledge when you are stuck in a personalization feedback loop?
2. Ask students to be prepared to share ONE TAKEAWAY or STRATEGY to build algorithmic awareness / take back control of their attention.
    a. Facilitate a large group discussion regarding the strategies and takeaways students share.

Attention Autonomy Plan (5 minutes)

1. Introduce participants to the Attention Autonomy Plan as a takeaway activity / resource which includes self-guided reflections and tools to support and implement their personal attention autonomy and algorithmic awareness goals.

Assessment

Reflection Prompts

1. Have students respond to the following reflection questions / prompts in an anonymous feedback form:
    a. What is one change and / or step you plan to take after this workshop?
    b. Top takeaway OR something you want to investigate further
    c. Comments or suggestions