Journal of Media Literacy Education, 15(2), 44-57, 2023
https://doi.org/10.23860/JMLE-2023-15-2-4
ISSN: 2167-8715

Social media literacy: Sociocultural instruction and community college students

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OPEN ACCESS

Peer-reviewed article

Citation: Kohnen, A. M., Wusylko, C., & Sommer, M. (2023). Social media literacy: Sociocultural instruction and community college students. *Journal of Media Literacy Education, 15*(2), 44-57. https://doi.org/10.23860/JMLE-2023-15-2-4

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Received: October 21, 2022
Accepted: May 30, 2023
Published: July 28, 2023

Data Availability Statement: All relevant data are within the paper and its Supporting Information files.

Competing Interests: The Author(s) declare(s) no conflict of interest.

Editorial Board

ABSTRACT

During the summer of 2021, we taught a series of lessons on social media literacy during a 6-week summer bridge program designed to prepare students for their first year of community college. Community college students represent nearly 40% of all U.S. undergraduates (AACC, 2022), with nearly 50% of all first-generation college students attending community college (Cataldi et al., 2018). However, community college students are rarely participants in research studies on media or information literacy (Latham et al., 2022), including in this journal. We also specifically focused on social media literacy, a topic not typically addressed in schools (Higdon, 2022), even though young adults are regularly engaging with social media, including as a source for news and information about the world (Anderson & Jiang, 2018; Robb, 2017). This study was designed in part to fill these gaps.

Keywords: *three to five relevant keywords in lowercase, Times New Roman 10pt italics*.

Social media wasn't built to tear down everyone's self-confidence, it was built to have fun.
(Jada, homework response)

BACKGROUND LITERATURE

In a survey conducted by the Pew Research Center in 2021, 84% of adults ages 18-29 say they use social media (Auxier & Anderson, 2021). Further, 39% of adults ages 18-24 say social media is their main source of news (Newman et. al, 2022), and 54% say they first access the news via social media before turning to any other platform (Newman et. al, 2019). Yet, although many people use social media as an information source, most major social media applications (e.g. Facebook, Twitter) were not created for that purpose. From the perspective of the technology developers, social media was designed to maximize engagement and connection (Bergstrom & West, 2020). The business model of most social media platforms relies on selling advertisements (Kangas et al., 2007; Zuboff, 2019), ads that are particularly valuable when the social media company can microtarget individual users based on their personal data (Hobbs, 2020; Zuboff, 2019). Although recent developments such as Apple's "App Tracking Transparency," the European Union's attempts to regulate online advertising (see Satariano, 2022), and the possibility of social media subscription services (such as Twitter Blue; see Allyn, 2022) may eventually change this dominant business model, in their current iteration, the economic value of these platforms depends on user engagement, not factual accuracy.

Unfortunately, what drives user engagement—keeps users inside the social media platform, providing more data in the form of clicks and scrolls, and thus generating more ad revenue—is often not accurate content. After the 2016 election, researchers and journalists found that inaccurate content was more likely to "go viral" than accurate news stories (Allcott & Gentzkow, 2017; Silverman, 2016). Beyond this example, researchers have found that social media is rife with misinformation, or information that is untrue or misleading (Allcott et al., 2019; Lewandowsky et al., 2017). Some scholars suggest that the affordances and constraints of social media itself contribute to the rapid, and widespread distribution of mis- and disinformation (Cao et al., 2020; Lewandowsky et al., 2017). Social media has important differences from other web-based media, which are mostly text based, accessed via a web browser, and used to intentionally search for and access information. First, the social media apps most used by young people are primarily visual or multimodal, rather than text-dominant (e.g., Instagram, TikTok). Visual or multimodal social media are more likely to be viewed than text only content (Cao et al., 2020), and multimodal disinformation is perceived as more credible than text only disinformation (Hameleers et al., 2020). Second, social media is accessed using an app, which is a semi-closed, personalized, environment whereby content is curated for users by algorithms based on their usage history. This can turn a user's feed into an "echo chamber" where only a user's ideological beliefs are represented. If the user is exposed to misinformation, the misinformation could continually be brought up again if congruent with their ideological belief (Lewandowsky et al., 2017). Finally, users often encounter a variety of content incidentally on social media via ads, sponsored content, or similar content to a user's previous history curated by algorithms. Unlike a purposeful web-search, social media users are exposed to a variety of content they didn't actively look for (Kohnen & Saul, 2018).

These affordances and constraints of social media may contribute to the fact that adolescents encounter, evaluate, and engage with social media texts fundamentally differently than other types of texts. Turner et al. (2020) calls social media texts "short form texts," which are often encountered in informal, out of school environments. They argue that adolescents will use short-form reading, skimming or scanning social media posts, to determine if the post is something they want to scroll past or engage with more deeply. Content is usually engaged with if it's able to elicit an emotion, and often the content on social media is skimmed without the opportunity for deep thought or evaluation. This type of literacy is very different than when a user is intentionally seeking content from a primarily text-based web resource, where a user has a purpose for reading and may be more likely to spend more time engaging with the media.

Several digital literacy curricula and interventions have been designed to teach adolescents and young adults to engage mindfully and critically with online content. One example is Civic Online Reasoning developed by the Stanford History Education Group (SHEG) (see McGrew et al., 2017), which takes a current events approach to teaching learners how to critically evaluate online content. Interventions based on this work have been shown to improve students' ability to evaluate online content (e.g., Kohnen et. al, 2020; McGrew, 2020; McGrew & Chinoy, 2022). Another is the SIFT strategy developed by Caufield (2019). SIFT (which stands for Stop, Investigate the source, Find

better coverage, and Trace claims) is designed to give users a quick way to evaluate content online and incorporates aspects of metacognitive thinking, which some scholars think is critical for information literacy curricula (Metzger et al., 2015). Other materials have been created by nonprofit groups, some of which focus on teaching young people the role of journalists and the press. These include the News Literacy Project, which promotes education to help learners "to determine the credibility of news and other information and to recognize the standards of fact-based journalism to know what to trust, share and act on" (News Literacy Project, 2023), and Project Censored, whose mission is to "expose and oppose news censorship" and "promote independent investigative journalism, media literacy, and critical thinking" (Project Censored, n.d.). Beyond these examples, many other nonprofit and professional groups such as Common Sense Media, Media Smarts (Canada), the Critical Media Project and the National Association of Media Literacy Education have created online resources and materials.

However, despite the differences between social media and the internet, many curricula and interventions either focus only on web-based information or treat social media and websites interchangeably (see Higdon, 2022, for an exception). Thus, this work grew out of these premises: 1) social media is an important part of young people's lives, including as a place where they encounter information about current events; 2) because of social media's affordances, information literacy skills that are effective for accessing and evaluating other types of online media are insufficient for navigating social media. Therefore, we set out to create a set of lessons specifically focused on social media literacy and document how students responded to our instruction.

Sociocultural approaches to social media literacy

To do so, we relied on sociocultural theories of literacy (e.g., Gee, 1996; Perry, 2012; Street, 1984): we approach the teaching of social media literacy from the premise that literacy is not only a cognitive set of skills to be acquired but rather a set of practices that grow out of specific social and cultural contexts. Street (1984), one of the earliest sociocultural literacy theorists, famously argued that the "autonomous model" of literacy, a model that framed literacy as technical skills that could be individually acquired and would automatically lead to cognitive and societal benefits, was flawed. Instead, Street (1984) proposed the "ideological model" of literacy, a model that saw literacy as a set of practices that could not be separated from larger societal structures. In 2010, the literacy field took a "digital turn", as literacy scholars began to focus more on literacy practices of digital environments. This "digital turn" included sociocultural scholars using popular approaches to studying literacy and technology such as New Literacy Studies, Situated Cognition Studies, New Literacies Studies, and New Media Literacy Studies, all grounded in sociocultural theory (Gee, 2010; Mills, 2010). More recently, scholars such as Higdon (2022) have brought a sociocultural lens to studying social media literacy.

Applying a sociocultural framework to social media literacy instruction requires that we do more than simply teach information literacy skills and assume that individual and societal benefits will automatically follow. Instead, we must work alongside students to understand their existing social media literacy practices and situate any new content knowledge and skills within the larger sociocultural contexts of students' lived experiences. We believe this is especially important when considering social media literacy. Social media, as its name makes clear, is a tool for *social interaction,* and students' social media literacy practices will undoubtedly be driven by the role social media plays (or does not play) in their lives. Thus, our curricular plan included time for students to talk about their social media practices (and reasons behind those practices), and the work we report here attempts to shed light on how students made sense of our curriculum in light of these practices.

METHOD

To undertake this study, we used a basic qualitative design and methodology (Merriam & Tisdell, 2016). Our interpretive framework was social constructivism: individuals construct meaning as they interact with one another and the world (Merriam & Tisdell, 2016). Because we wanted to understand how participants made sense of their social media experiences before and after instruction, our research questions were:

- How do young adults in a summer bridge program understand the social media environment, before and after participating in a curriculum focused on social media literacy?
- Why do young adults in a summer bridge program claim to share information on social media, before and after engaging in a curriculum focused on social media literacy?

– What factors and strategies do young adults in a summer bridge program use to assess the credibility of unfamiliar online information, before and after engaging in a curriculum focused on social media literacy?

Context

This work took place as part of a Student Support Services (SSS) program at Spring Hill College (all people and place names are pseudonyms). SSS is a competitive TRIO grant program funded by the U.S. Department of Education. TRIO programs are "targeted to serve and assist low-income individuals, first-generation college students, and individuals with disabilities to progress through the academic pipeline from middle school to postbaccalaureate programs" (U.S. Department of Education, 2021). The Spring Hill SSS program began with the summer bridge experience, a six-week set of courses and activities designed to support underrepresented first-generation low-income students' transition to college. Eligible students from two counties served by Spring Hill could apply to the program, which was free for those selected. At the conclusion of the summer program, successful completers had the opportunity to receive a scholarship that covered up to 76 college credits.

The summer program included the following three content strands: math for life, critical reading and writing, and general college success strategies (a credit bearing course). Students also received college and career counseling and were introduced to campus resources, including those offering academic support. Due to Covid-19, the summer 2021 program was held entirely online. A total of 28 students enrolled, 23 of whom identified as female and 5 as male. Sixteen students went to high school in the small urban area near the college and 12 students attended high school in nearby smaller towns or rural areas. The majority of students (17) identified as Black, with the remaining students identifying as non-Hispanic White (4), Hispanic (4), and Asian (3).

Curricular content

Curriculum consisted of six synchronous sessions, spread across weeks 1, 4, and 6 of the program, for a total of 9 hours and 45 minutes of instructional time. In addition to this synchronous work, students completed brief homework assignments after most sessions.

Conscious of Street's (1984) ideological model, our goal was to begin by understanding the students' existing practices and lived experiences with social media so that we could design subsequent curriculum with these practices and experiences at the center. At the end of our first visit, students were given a pre-assessment that included questions about their interests and favorite social media sites. We used their social media preferences in designing the remaining curriculum (e.g., inviting students to analyze posts from influencers they followed, using their hobbies to inform content). In preparation for our next visit during week 4 of the summer session, all students created a single "about me" slide of images and text that we used to create a slideshow. These slides became a jumping off point for conversations about how individuals construct digital identities.

The rest of our curriculum was designed with specific affordances and challenges of social media (reviewed earlier in this article) in mind. Because social media is designed for communication and connection (Bergstrom & West, 2020), our next lesson focused on how social media identities are constructed by the user and understood by others. Drawing on NAMLE's Key Questions (2007), we invited students to consider how they shaped their own social media presence through deliberate production decisions. We followed this with an activity where students used selected NAMLE questions to analyze the social media accounts of some of their favorite influencers and content creators. Our purpose was to highlight the fact that the social media environment is made up of individuals with their own identities, biases, and perspectives, all of whom take part in the information production and sharing process.

In the next session, we moved from thinking about individual users to the social media companies themselves with a discussion of algorithmic personalization and business incentives. Because previous research has found that young people have little knowledge of the role algorithms play in the online environment (Gran et al., 2021; Hobbs, 2020; Ku et al., 2019), we first presented the basics of algorithmic personalization, using Google searches and Netflix and Amazon recommendations as examples. Students then spent time in breakout rooms (with one of us to facilitate) discussing a single social media platform (e.g., Instagram, TikTok, YouTube, Pinterest). In their discussions, they were asked to consider the purpose of the company, the financial incentives of the company, and the benefits and drawbacks of algorithmic personalization for both the company and the user.

Because the students reported using visually dominant sites like TikTok, Instagram, and YouTube most frequently, our third session addressed visual literacy. As noted earlier, research has found that multimodal disinformation is rated more credible than text only disinformation (Hameleers et al., 2020), and we therefore focused on three goals: 1) understanding the mechanics behind manipulating images and videos; 2) recognizing the incentives for sharing manipulated images and videos for users; and 3) using a fact-checking process based on SIFT (Caulfield, 2019) to investigate suspicious images.

In the next session, we drew upon previous learning about digital identity, the financial incentives of companies, and the prominence of visual information to discuss why and how misinformation and disinformation is so easily spread through social networks. Students played the "Bad News Game" from DROG (DROG, n.d.) to experience different ways misinformation gets amplified through social media and then practiced the SIFT strategy (Caulfield, 2019) to investigate additional posts. In keeping with our theoretical perspective, we also invited students to debate when credibility truly matters online and when false content might be acceptable for other social or contextual reasons (e.g., jokes or satire). Finally, students practiced debunking misinformation about serious topics, using strategies from Lewandowsky et. al (2020).

Our final session focused on metacognition. Most of our curriculum centered the sociocultural roles of social media, but we also recognize that making decisions about the credibility of information involves individual cognition (Metzger & Flanagin, 2015). Students were asked to review the SIFT strategy (Caulfield, 2019), with specific attention on the first step, "Stop." We tied this conversation to our previous discussions of identity and online incentives by discussing the social reasons individuals might believe and/or share information without fully investigating it and made additional connections to the economic incentives of the company to immerse users in mindless scrolling rather than deep processing.[1]

Participants and data sources

All students, regardless of whether they agreed to participate in the research, completed curricular activities, homework assignments, and pre/post assessments. Of the 28 students enrolled, 14 consented to participate. This article is based on three types of data collected from these 14 students: surveys and assessments distributed before and after instruction, nightly homework given after four of our instructional visits, and memo logs created after each day's instruction.

The assessments, which were distributed through Qualtrics approximately 6 weeks apart, consisted of 32 (posttest) to 44 (pretest) items. Questions included: would you share a specific social media post with a friend or use a post in a school project; which of these three sources is the most credible; how would you investigate unfamiliar information; is this image manipulated.[2] Nightly homework, collected through Google Forms, asked students to apply learning from the day's session and/or reflect on a question related to the day's content. At the end of each session, instructors also created brief memo logs which included reflections on the students' reactions to the instruction as well as ideas for how instruction might be modified or built upon.

Data analysis

After the program ended, we prepared data for analysis by replacing student names with pseudonyms. Following Merriam and Tisdell's (2016) recommendations for open coding, we individually familiarized ourselves with the corpus, created reflective memos on our initial codes, and met to discuss our thinking. At this point, we began moving from open coding to axial coding, by collaboratively creating axial codes from our open codes (Corbin & Strauss, 2015; Merriam & Tisdell, 2016). We generated codebooks for each research question and independently coded all remaining data, followed by a meeting to resolve discrepancies. Our third phase, selective coding (Corbin & Strauss, 2015; Merriam & Tisdell, 2016), was to create propositions based on our codes, which we describe in the next section.

We took several steps to ensure trustworthiness. We drew upon multiple methods of data collection (e.g., observations, written responses), multiple data sources (e.g., 14 study participants across the weeks of the study), and multiple investigators, all of which increase trustworthiness in qualitative studies (Merriam &

[1] For an overview of each day's objectives, activities, and homework, contact the authors.

[2] For the complete assessment structure, contact the authors.

Tisdell, 2016). We also kept an audit trail in the form of reflective memos written after each teaching session and throughout the data analysis process. Finally, we shared our work with the program coordinator, who attended each session but did not participate in the research, for additional feedback and insights.

INTERPRETATIONS

In the sections that follow, we organize our answers to the above research questions into the following assertions. First, students perceived social media as a fun tool that they used to connect with others and were generally ambivalent about the broader ecosystem. Second, students' decisions to share or not share information via social media, both before and after instruction, were influenced much more by contextual factors than by the credibility of the information. Finally, students were willing to try new strategies to evaluate information after instruction, but these strategies assumed an understanding of credibility and sourcing that the students did not all share.

Social media is for fun and connectivity

Students entered the summer program with mainly positive attitudes toward social media, seeing it as a tool for connectivity and relaxation. Of the 13 participating students who completed the preassessment survey[3], all claimed to use social media. In their open-ended responses explaining why they did so, eight students mentioned keeping in contact or connecting with others (e.g., "keep in contact with my friends," "it's how I connect with my friends and boyfriend"). Seven students described social media as being a place for "fun" or "entertainment" or a way to occupy their time (e.g., "because I'm bored"). A few students also noted that social media was useful in getting information: "to see what is on the internet" and "to see what's new in the World today."

Despite their positive attitudes, students recognized that social media—and the algorithms that social media apps use to personalize content—could have a downside. After a class session that introduced the concepts of digital identities and looking at media through critical lenses, students were asked to reflect on their understandings. A few students were interested in the ideas of control and manipulation. For example, Dejuan suggested that "letting people manipulate you in the media can affect your personality," while Kurtis stated that "we want to control what we show or what we search as our information is sent to buyers for ad revenue." Others noted that online content could have negative offline consequences, causing embarrassment or even job loss. Yet Jada appeared to capture the class's general sentiment that social media was more beneficial than harmful and that users themselves could keep it that way:

> The content we expose ourselves to on the media changes the way we think about ourselves and others. Social media wasn't built to tear down everyone's self-confidence, it was built to have fun. So if we help one another with social media and what [we] post on the platform our self-confidence will go up.

The idea that users reaped benefits from social media remained present in subsequent homework assignments that prompted students to think about the online ecosystem.

For example, after a session in which the class discussed the purposes and financial incentives of various websites and social media apps (such as Google, Tik Tok, and YouTube), students were asked to reflect on whether they might change their behaviors. While some suggested they were interested in doing so (e.g., "Yes. Because everything we talked about yesterday is playing in my mind and I'm curious on how can I keep myself safe."), others were resigned the tradeoffs using free social media required. Kylie argued, "I still need to use them [apps and websites] for basic research, such as school projects and personal things like nearest restaurants or shopping online," therefore she wouldn't change her usage habits. Noelle ascribed positive motives to social media developers—"most online sites truly want their users to use their site in order to provide the users their services like providing information, improving the quality of life, entertainment, and more," and went on to note that whether sites sold her information was beyond her control: "Unfortunately, that online sites already has my personal information and there's virtually nothing I could do about it. The only thing I could do is hope for the best." Still others discussed the benefits of algorithmic personalization. In our session we discussed that personalization had its

[3] Though 14 students consented to participate in the research, not all participating students completed all assignments or surveys.

advantages for users, something Allyssa focused on in her homework reflection:

> In a way, it's helping me find more content that I like and helping me find what I look for faster. I personally spend more time on TikTok than on any other platform and the algorithm for my "for you" page is really funny and they put what I like on there.

The usefulness and appropriateness of personalized content was also mentioned positively by other students during the class session.

Sharing information depends on context

Students' belief that social media is primarily a venue for fun and connectivity also seemed to influence their attitudes toward sharing information. We collected data about information sharing and usage in several different ways (see Table 1), using both accurate and inaccurate content that ranged from the silly (e.g., animal photo, Figure 1) to the serious (e.g., Covid pills).

Table 1. *Data sources: Sharing information*

Item Content	Timing	Question	Question
Instagram post of a snail, frog, and turtle, marked with a fact check warning (inaccurate)	Pretest and post test	Would you share this post with a friend? Why or why not?	Would you use this information for a school project? Why or why not?
Instagram post of a flooded highway with a shark on it (inaccurate)	Pretest and post test	Would you share this post with a friend? Why or why not?	Would you use this information for a school project? Why or why not?
Instagram post of "Covid pills," marked with a fact check warning (inaccurate)	Pretest and post test	Would you share this post with a friend? Why or why not?	Would you use this information for a school project? Why or why not?
Image of a shark seeming to attack a man on a ladder connected to a helicopter (inaccurate)	Pretest and post test	Do you think this image has been digitally manipulated?	Would you share this image with someone? Who? Why?
Image of a scuba diver swimming next to a giant jellyfish (accurate)	Pretest and post test	Do you think this image has been digitally manipulated?	Would you share this image with someone? Who? Why?
Social media post with an image of distorted daisies and the heading "Fukushima Nuclear Flowers" (inaccurate)	Homework	Would you share this post with a friend? Why or why not?	Would you use this information for a school project? Why or why not?
Social media post of a shark with the heading "400-year-old Greenland shark 'longest-living vertebrate" (accurate)	Homework	Would you share this post with a friend? Why or why not?	Would you use this information for a school project? Why or why not?

The two most frequent reasons students gave for sharing or using information were coded as "emotion" or "interest." Across nearly 250 explanations that students gave for why they would share or use information, emotion or interest appeared 90 times. In some cases, emotion or interest appeared to be a more important factor than the credibility of the content, with several students claiming that they would share information even though they thought it was false and several others claiming they would not share information even though they thought it was true. For example, the animal Instagram post (Figure 1) was perceived by many students as "cute." On the pre-assessment, one student explained why she would share the post with a friend by saying, "It just looks like a really cute picture, doesn't matter if its accurate or not." When asked the same question, another student said, "I would share it because I think it's a harmless picture that might make them laugh." Other reasons students gave for sharing information (or not) that we coded as "emotion" included comments such as "shock value" and "it's not funny."

When deciding whether they would share a social media post, students also occasionally considered the level of interest the post might generate more than its credibility, rejecting posts and images that were "boring" while sharing posts that they thought were interesting. Walter was explicit in his reasoning: "I would share it to mess with my friends but it's obvious it was photoshopped." Other students differentiated who they would share posts with based on interests (e.g. "Probably with my grandma because she loves marine

animals."). In addition to finding content emotionally engaging or interesting, some students claimed that they would share posts to inform others, and sometimes to inform others of misinformation. For example, on the pretest Walter said he would share the misinformation post about Covid-19 with a friend "to spread awareness because it is false information." On the post-test, Kalvin said he would share the same post for a class project because "I'd want to explain why its true or wouldn't be true because its important to know exactly what it is and if it will do as it say it will to help people." Other students said they share posts to crowdsource credibility. For the post that included an image of a shark on the highway, Tara explained

> I wouldn't share it because I thought [it] was real, I would share it to see if anyone had any information before looking it up myself. It definitely seems like a deep fake that someone posted to go viral so If I wanted to take the time to figure it out if it's real I would otherwise I would keep scrolling.

Figure 1. *Instagram post of a snail, frog, and turtle, marked with a fact check warning (inaccurate)*

As with their attitudes toward social media in general, students' explanations of when and why they would share posts often prioritized connectivity and fun over other concerns.

Yet students also seemed interested in the credibility of information, mentioning information credibility, believability, or quality 87 times across all questions. The quality or credibility of information appeared to be more important to students when they were asked to consider whether they would use a post for school, with 48 of the explanations we coded as "credibility" in response to the questions about school projects. Although there were several instances where students suggested they would share interesting or emotionally impactful posts *despite* concerns about credibility, we only saw one instance where a student expressed the opposite: "I would not share it with anybody because while it is a cool picture, it is obviously fake." In addition to credibility, students also valued "usefulness" when considering whether they would use information for a school project, with all 34 responses coded as "usefulness" in response to questions about school (e.g., "if we were talking about sharks I may use it"). This is consistent with other research that shows students prioritize sources that are on topic when working on school assignments (Barzilai & Zohar, 2012; Coiro et al., 2015; List et al., 2016).

Strategy instruction assumed shared knowledge and values

Finally, we analyzed students' thinking around credibility assessment using several data sources (see Table 2), along with field notes from class sessions devoted to the SIFT process. We concluded that the factors students used to judge the credibility of information and the process they followed to determine credibility appeared to be influenced somewhat by instruction, but the usefulness of our instruction was limited due to a lack of shared knowledge and values.

When presented with multiple potential sources of information on the same topic, students showed a strong preference for traditional news sources, both before and after instruction. Of the 48 explanations students gave, 27 of them referred explicitly to the "news" as a reason for their preference (this included 15 out of 26 explanations on the pre-test and 11 out of 22 explanations on the post-test). In some of these explanations, students appeared to value the reporting process (e.g., "they do research before hand and its their job"), but other times the student's explanation was

simply that the source was a traditional news outlet (e.g., "because it is a news source"). Other reasons given included whether a social media post had cited sources (e.g., "it's getting info from cdc"), vague references to the source being credible (e.g., "it is less likely to spread false information."), and comments about specific information included in the content of the post, which we coded as "content-specific" (e.g., "The Fight for Five sites will provide reasons why they are striking").

Table 2. *Data Sources: Credibility Assessment*

Item Content	Timing	Question	Question
CDC guidance on masks (3 different social media posts)	Pretest and post test	Which tweet is the best source of information about the new mask rules?	Explain why
Strike by McDonald's workers (3 different social media posts)	Pretest and post test	Which tweet is the best source of information about the strike?	Explain why
Gas shortage after the cyber attack on a pipeline (1 social media post)	Pretest and post test	If you are very interested in understanding the Pipeline Cyber attack, what steps might you take to decide if this is a credible source?	
The health quality of peanut butter cups (link to a webpage)	Post test	Do you think the information provided is credible? You can use any strategies to determine your answer.	Please provide a couple of sentences explaining why you chose "yes" or "no." if you visited any other resources to determine your answer, please include links/URLs to those pages

Though the frequency of these codes did not change much between the pre- and post-test, the changes we saw indicated that students were applying some of the ideas from the workshop. For example, on the pre-test two students referenced the fact that a site was going to livestream an event as a reason for selecting it as the best source of information; no one referred to livestreaming on the post-test, perhaps because of a class session on visual literacy.

On the other hand, four students referenced the blue checkmark indicating the poster was verified by Twitter as a reason for selecting a source in the post-test, whereas no one referenced Twitter verification on the pre-test. The students who noticed the checkmark may have remembered that we talked about it in our sessions, though we specifically cautioned that at that time Twitter verification did not automatically mean a post was credible since verification only indicates the poster is an actual person and not a bot (this study took place before Elon Musk took over Twitter).

In terms of their credibility assessment process, students appeared to acquire the language of the SIFT strategy from the intervention, even as they struggled to apply it. When asked how they might determine if a website was credible, students' pre-test answers were somewhat vague although they already showed an understanding of some aspects of SIFT. Several students mentioned investigating the source itself, or the "I" in the SIFT acronym (e.g., "search up the source to see if they are legitimate or not"; "check the source yourself. Take everything on the internet with a grain of salt."). Others mentioned looking at other, better sources of information, which corresponds to the "F," find better coverage (e.g., "I would use a website with more superior information."). No one mentioned that they would "stop" (S) and only one suggested they would "trace claims" (T) prior to instruction. In contrast, on the post-test 3 students specifically used the word "stop" as part of their process, with one writing out each SIFT step:

> Stop: I would ask myself what do I know about the Pipeline Cyber attack.
> Investigate: I would search up information about endtimeheadline to see if they are a credible source.
> Find better coverage: I would search up other articles and credible sources about the Pipeline Cyber attack.
> Trace claims: I would see where this post originally came from (to see if they are a credible source).

An additional student also said he would trace claims. While the numbers for "find better coverage" and "investigate the source" were similar pre- to post-test, several students were more specific as to *how* they would do so on the post-test. For example, on the pre-test Christina simply stated she would "do more research and find a trustable source of information" while on the post-test she suggested she would "check their profile and look if they are reliable."

Despite the language of the SIFT process being present both before and after instruction, when students were asked to determine credibility of the article "3 REASONS WHY YOU SHOULD STOP EATING PEANUT BUTTER CUPS!", an article from a problematic source that presents misleading evidence, few appeared to use the SIFT strategy. While 9 out of 11 students who completed this question correctly recognized that the article was not credible, most did so based on a vertical reading of the information on the webpage (e.g., "they didn't provide any proof") rather than leaving the site as the SIFT strategy recommends. Of the two students who reported that they left the site, both visited the fact-checking site Snopes.com (which was where we originally encountered the article), but one misread the Snopes article and used it as a reason for finding the site credible.

The SIFT strategy was also difficult to apply for students during the class sessions themselves, even with one of us in the room for support. We noted during these sessions that students often tried to fact check claims individually rather than looking into the source itself, a time-consuming process that SIFT was designed to replace. However, when students were explicitly reminded to investigate sources (rather than individual claims), they sometimes encountered more misinformation in their attempts. As one of us noted in a reflective memo log, "Keywords matter, and if the wrong keyword is used, SIFT could go a whole other direction."

In addition, some students' ideas about what constituted a "good source" were not always aligned with our thinking; other times students did not seem to recognize the names of sources that they may have otherwise deemed credible. For example, when attempting to determine if Texas wind turbines had really melted in a heat wave, one student landed on the National Weather Service website but did not seem familiar with this government organization.

DISCUSSION AND IMPLICATIONS

While students in this study did not reportedly adjust their social media practices after instruction, this work has implications for future social media literacy instruction. As Bergstrom and West (2020) noted, social media is designed to facilitate human interaction and connection, not to spread information, and the students who participated in this research viewed social media through that lens, echoing findings by Hidgon (2022). As with all literacy practices, students' use of social media is culturally situated (Street 1984); for students in this study, social media was a place for entertainment and connectivity where sharing funny pictures, silly memes, and even shocking information that may or may not be true was the norm. Yet these social media literacy practices may be contrary to the information literacy skills taught in most interventions, which often focus on truth and credibility without explicitly grappling with the issue of content. Is it okay to share "fake" or otherwise incorrect information to make someone laugh? Does it matter how "serious" the information is? Or how public the platform? As a sociocultural literacy practice (Street, 1984), sharing incorrect or misleading information via social media to evoke emotion, signify affiliation, or construct an identity makes sense, and scholars have been documenting the connections among identity, emotion, and online literacies nearly since the advent of social media (e.g., Williams, 2011). If instructors wish to disrupt such practices–or, at a minimum, help students to consider them critically–they must include time to engage students in conversations around these issues.

These conversations can support students as they learn to move from *ideal readers* to *critical readers* (Janks, 2018). Janks (2018) described people who take up the positions offered by a text as "ideal readers," while "critical readers" are those who "interrogate these positions to see whose interests they serve and who is disadvantaged" (p. 96). Students who recognize that a text is potentially untrue but think it will make a friend smile and, therefore, share it anyway may be acting as ideal readers, taking up the text's offered position as a bit of innocuous entertainment. Others may view the same text as critical readers, seeing it as harmful because it preys on the uninformed or presents a problematic view of the world and, thus, choose to ignore it.

We saw both the ideal reader (e.g. sharing photoshopped animal pictures because they are cute) and critical reader (e.g. not sharing information about COVID without more research) behaviors throughout

the summer bridge curriculum. However, these behaviors were inconsistent and, in particular, the critical approach came in at unexpected at times. Future instruction could begin by raising students' awareness of when and why they already take a critical approach to information (for most people this occurs when the information challenges their worldview) and when and why they do not. As students gain awareness of their own tendencies, they can learn to more consciously switch between roles. Such instruction should still provide students with the tools to critique and fact-check texts when necessary, with the goal of creating social media users who will apply these skills and tools thoughtfully.

Conversations about sharing information are also conversations about values: when does connectivity or affiliation matter more than truth? How important is humor? Values are also central to discussions of information sources. Many information literacy interventions and curricula assume broad agreement as to what constitutes a "good" source of information, but students involved in this study did not all share this understanding. In some cases, this was due to a lack of shared knowledge: students simply were unfamiliar with sources they may have otherwise considered credible (e.g., the National Weather Service). Other times, though, students had strong biases against certain sources that we were unable to fully explore (e.g., biases against using Wikipedia). SIFT and other media literacy resources we drew from carry assumptions of what is considered a better or biased source, assumptions we were somewhat blind to because they aligned with our own perspectives. As we reimagine social media literacy curricula, we believe it must include time for instructors to learn what sources students know and deem credible—and why.

We suspect this will require class discussion, not just surveys or assessments. On our pre- and post-assessments, participants in this study showed a strong preference for "news" sources, especially when given multiple sources on a single topic and asked to rate which one had the best information. Yet data suggests that this group is unlikely to watch local news or read local newspapers (Robb, 2017), and students did not seem to look for news sources when using the SIFT strategy. Was their reported preference for news sources on our assessment simply a use of the "authority heuristic" (Sundar, 2008), in which individuals display a preference for recognizable news branding? Communications scholars have found that heuristics are activated when individuals are unmotivated to investigate credibility more deeply (Metzger, 2007), and perhaps when students were completing our assessments, they looked for quick ways to distinguish among sources rather than offering more thorough explanations. A class discussion might unearth more nuanced attitudes about credibility and could allow for opportunities to explore what it means for something to be a "news" source.

We recognize that conversations about high-quality sources can be difficult in our current polarized environment. Students may have strong opinions about sources like *The New York Times* or government agencies (opinions that may change depending on who occupies the White House), or about issues such as peer review or scientific credentials. As pressure mounts for teachers to avoid "controversial" topics, conversations about credibility itself may be difficult. Furthermore, any instruction that feels like a challenge to one's worldview can run the risk of inducing the backfire effect, when someone maintains or strengthens their current believe in the face of contradictory information (Lewandowsky et al., 2012).

The challenges of social media are unlikely to go away, one reason we believe social media literacy instruction should become a part of literacy curriculum starting in middle school. Our instruction was embedded in a short summer course designed to prepare students for college, but we believe the implications raised in this section could inform English or composition courses, digital literacy courses, or library instruction at the secondary or post-secondary level. Although entire courses focused on social media literacy as described in Higdon (2022) may be ideal for engendering critical awareness of social media's negative aspects, we argue that embedding social media literacy into required courses has the potential to reach more students. Furthermore, repeated exposure to such content across grade levels could provide the opportunity to deepen conversations. We see this as an important area for further research. Additional research into the impact of social media literacy instruction on young people is also necessary given the limitations of the present study, including the short duration of instruction, the limited number of participants, and the nature of the instruction (e.g., a selective program entirely online).

Clearly, the challenges of social media literacy education are complex, but the young people involved in this study saw social media (and the internet more generally) as inextricable: they used it for school projects, work, and gathering basic information about the world necessary to navigate daily life. Most of them

also felt that social media was a valuable part of their lives—a place where they could experiment with identity, find affinity groups, connect with friends and loved ones, follow celebrities and influencers. While they were all aware that misinformation and disinformation existed on social media, similar to the students in Higdon's study (2022), most did not seem overly worried about it. Yet previous research has found that exposure to misinformation can have long-term consequences (e.g., Greenspan & Loftus, 2020; Zhu et al., 2012). Finding ways to support young people's critical engagement with social media while also validating their larger social ecosystem is a vital topic for researchers and practitioners to continue to explore.

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