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Rethinking the Future of News Literacy Education: Results from a Mixed Methods Study

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Abstract

In an era where most people rely on social media for their news and claims of fake news are rampant, news literacy is seen as increasingly important. In recent years, there has been a surge in initiatives to enhance news literacy among news consumers. However, our understanding of the effectiveness of these initiatives is limited. This study presents the findings from a mixed methods examination of the effectiveness of an online, asynchronous news literacy program offered to adults across the United States. While quantitative findings show that the program made little difference in participants' already high levels of news literacy, the qualitative findings reveal that participating in the program provided people with a more nuanced, reflective, and less normative understanding of the news. Findings also point to the affective nature of news consumers' interaction with news content, and a need to rethink news literacy education and assessment from a more learner-centered perspective.

Keywords: news literacy, assessment, online learning, mixed methods
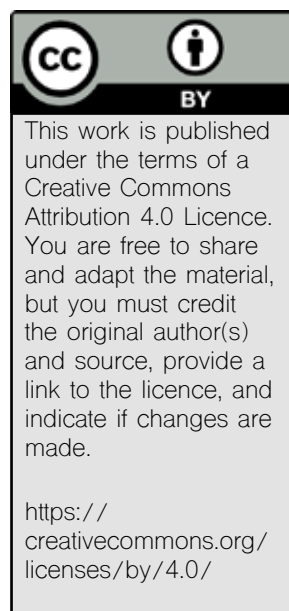
Introduction

In the fall of 2020, mere weeks before a fraught U.S. Presidential election and at the height of the COVID-19 pandemic — with the majority of classes at our university moved to a virtual environment — an asynchronous, online program titled, "Friend, Enemy, or Frenemy? A News Literacy Challenge" (Rosenbaum et al., 2021), was offered to on- and off-campus populations in an effort to enhance news literacy. Timed to coincide with U.S.'s Media Literacy Week (2020), the goal of this experience was to provide students, community members, and other interested participants with news media and information

literacy skills that might aid them in making sense of the news and their relationship with the news in a media-saturated environment.

Five modules spread out over five days introduced participants to: 1) the purpose of the news and the role it plays in people's lives; 2) strategies for evaluating information presented in the news; 3) factors that influence how the news is constructed; 4) how different forms of bias play a role in how the news is made and understood; and 5) the act of creating a headline and selecting an image to accompany that headline, based on the agenda and audience of certain news media outlets. The program proved to be highly popular — over 700 people from across the United States registered.

Numerous in-person workshops have, over the years, attempted to increase people's news literacy (e.g., Bonnet & Rosenbaum, 2019; Klurfield & Schneider, 2014; Literat et al., 2020). However, little work to date has examined the effectiveness of online workshops. Similarly, while previous face-to-face iterations of this workshop had also proven popular, we never formally assessed their effectiveness in increasing participants' news literacy. In the newly designed online version of the program, we used a pretest/posttest mixed methods design to evaluate its potential impact. We relied on scales developed and tested in educational settings that have become standard measures in the field of news literacy (Ashley et al., 2013; Maksl et al., 2015) and asked participants to complete three open-ended questions to indicate what they had learned from the program. In the remainder of this paper, we will discuss approaches to teaching news literacy, as well as common assessment techniques, and provide more detail about the News Literacy Challenge. We will then discuss our methodology, elaborate on findings from this analysis, and provide suggestions for moving the field forward.

Democracy, News Literacy, and Instructional Effectiveness

News literacy, or people's ability to critically appraise the news, has historically been deemed essential for the functioning of democracy (Buschman, 2019; Mihailidis & Viotty, 2017; Vraga et al., 2015). If citizens are to know who to vote for, what positions to support (or not), and how their communities are functioning, it is important that they are able to critically analyze the information they encounter in the news and understand how that information is constructed and disseminated (e.g., Craft et al., 2016; Tully & Vraga, 2018). In recent years, how people engage with and think about the news has changed. On the one hand, claims of "fake news" have eroded people's trust in traditional news media, leaving them to wonder what sources they can rely on, if any (e.g., Ingram, 2018; Ireland, 2018). On the other hand, people have grown increasingly reliant on the internet, and in particular social media, for their news (e.g., Mitchell, 2018). Although these sites are effective in terms of quickly disseminating breaking news, they have

also facilitated the spread of misinformation (e.g., Jang & Kim, 2018; see also Bonnet & Rosenbaum, 2019). As a result, as Mihailidis et al. (2021) point out, traditional notions of what constitutes media literacy are insufficient for achieving equity and justice, both essential elements of civic education and ethical community participation. In short, better understanding the effectiveness, and potential, for news literacy education and its community commitments, is more important than ever.

While in recent years, competency-based news literacy education has often been seen as the way to protect citizens from the dangers of misinformation and fake news (e.g., Melton, 2018; Osborne, 2018; Tugend, 2020), evidence about its effectiveness is mixed (e.g., Jones-Jang, Mortensen, & Liu, 2019; Scheibenzuber, Hofer, & Nistor, 2021), raising the question as to whether this kind of approach is successful at "achiev(ing) empowered citizens," a central tenet of news literacy (Malik et al., 2013, p. 8). In addition, competency-based approaches reduce news literacy to a set of skills that can be achieved through traditional knowledge transmission and rational analysis, undervaluing both the news and literacy as phenomena realized through social, cultural, and political practices (Buckingham, 2007) and the complex, affective relationships audiences develop with news media (Steenson et al., 2020). In response to this so-called inoculation approach (e.g., Roozenbeek & Van der Linden, 2019), scholars have increasingly argued for a critical approach to media literacy pedagogy, embodied by Critical Media and Information Literacy (CMIL; Brayton & Casey, 2019) and social justice orientations to media literacy practice and scholarship (Funk et al., 2016). CMIL examines the power dynamics that underpin messages disseminated by mainstream media and highlights the importance of being an active participant rather than a passive consumer of media content (cf. Rosenbaum et al., 2021). The News Literacy Challenge was informed by CMIL, adopting a critical framework through which it addressed news content as constructed narratives, the power relationships between news media and audiences, audience agency, and issues of race and representation in the news, while also maintaining the essential link between media and information literacy (Rosenbaum et al., 2021; Brayton & Casey, 2019).

Measuring the efficacy of media literacy instruction and learning has been an ongoing concern for the field (Buckingham & Domaille, 2009; Bulger, 2012; Hobbs & Frost, 2003; Ptaszek, 2019). The last decade has seen a particular focus on the effectiveness of news media literacy education in response to the perceived threat of fake news and the perceived decline in civic participation (Ashley et al., 2017; Johnson et al., 2021; Jones-Jang et al., 2019; Kleemans & Eggink, 2016). Numerous studies have attempted to measure news media literacy education in face-to-face contexts (e.g., Fleming, 2014; Maksl et al., 2017), finding that students in these programs are not only more news literate, but also more aware of the news generally and of current events specifically.

Studies examining the effectiveness of online or asynchronous news media literacy education are rare and generally adopt the inoculation approach to fake news. Several projects have examined the use of a media literacy education framework in self-directed online programs. Either they did not find any impact on media literacy-specific skills (Scull et al., 2017; 2018), or they focused on the effectiveness of the online modality in improving media literacy pedagogy rather than the online course's effectiveness in enhancing media literacy (Kajimoto, 2016). More recently, Scheibenzuber et al. (2021) designed a semester-long, mostly asynchronous course aimed at increasing the ability of college students to detect fake news. While the authors found that students responded positively to self-directed online learning, and showed some improvement in their fake news literacy, their results were hampered by the fact that less than half of the participants completed both fake news credibility pre- and post-tests. Most studies that examine the efficacy of media literacy education do so quantitatively (Jeong et al., 2012). Although useful, measuring the impact of an intervention solely quantitatively is limiting since such measures are generally incapable of capturing the higher order skills and ongoing critical inquiry that are essential to media literacy education, particularly within a critical media literacy framework (Schilder, 2016). News media literacy, especially, may be over-reliant on quantitative measures that do not adequately or reliably capture difficult-to-define critical thinking skills within a media environment that is always changing (Beyerstein, 2014). Qualitative and mixed methods approaches to media literacy assessment are most often found in teacher development studies, where the experiences and perspectives of teachers in training are perceived as valuable to understanding the particular challenges and nuances of media literacy education (McClune & Jarman, 2011; Erdem & Eristi, 2018; Nettlefold & Williams, 2021). This study aimed to incorporate both qualitative and quantitative methodologies by utilizing a mixed methods approach to assess the efficacy of an online, asynchronous news literacy workshop.

Case Study: "Friend Enemy or Frenemy? A News Literacy Challenge"

Intentions

Throughout the coronavirus pandemic, educators sought innovative ways to connect with and engage students in virtual settings (e.g., Anderson et al., 2021; O'Flynn-Magee et al., 2021). It is in this vein that we designed a five-day online, asynchronous program, titled, "Friend, Enemy, or Frenemy? A News Literacy Challenge". Each day, for five days, participants received background information on a news literacy topic (e.g., what purpose the news serves, how news is constructed, what biases shape the news we consume and how we consume them), and brief tasks designed to apply their learning and enhance their news literacy. The overall objective of the Challenge was to build

participants' awareness of the social, cultural, and political forces that shape the news and the relationship between news media and audiences, and, as a result, facilitate critical engagement with the news media that participants consume and share (Rosenbaum et al., 2021).

Study design
This study used a pretest/posttest experimental/control group design to assess the effectiveness of the Challenge using a combination of media literacy scales and open-ended questions. The study initially started as an illustrative case study aimed to describe what kind of learning takes place during an online news literacy intervention (Pecker et al., 1994-2022), with a specific focus on the participants' learning as the unit of analysis.

Procedure
After indicating interest in the Challenge, respondents were emailed a link to the pretest. Respondents provided consent and completed demographic measures, scales assessing their level of news literacy and media locus of control, and questions regarding their personality traits. Respondents also answered several open-ended questions assessing their understanding of the news. After the five days of the Challenge, respondents received an email with the posttest link. In the posttest, respondents were asked the same questions as in the pretest but were also asked whether they had completed each day's tasks, and how much they felt they had learned from their participation in the program. Participants in the control group received a link to the pretest prior to the start of the Challenge and were asked to complete the posttest after the Challenge had ended.

Participants
Participants in the experimental group were recruited through a range of internal email lists at the authors' institution, as well as external email lists associated with relevant professional networks. Participants in the control group were recruited from undergraduate courses at the authors' university. Participation in the study decreased after the Challenge ended. Fewer respondents completed the posttest (N=167; 132 completed the Challenge) than the pretest (N=203).

Pretest: M_{age} = 40.9, SD_{age} = 17.5; Education = 46.4% Master's degree, 19.8% some college courses, 12.6% Bachelor's degree, 9.2% high school diploma, 6.8% Doctorate, and, 2.9% Associate's; Ethnicity = 86.3% identified as White, 3.9% Latinx/Hispanic, 3.4% Asian American, 2% African American, 2% Multiracial.

Posttest: Challenge group: M_{age}=44.3, SD_{age}=17.9; Education = 43.2% Master's degree, 10.6% Bachelor's degree, 9.8% some college courses, 7.6% high school diploma, 7.6% Doctorate, and 3% Associate's degree; Ethnicity = 73% identified as White, 3.8% identified as Latinx/Hispanic, 3.8% identified as Asian American, 1.5% identified

as African American, .08% identified as multiracial, and 0.8% identified as Native American. Control group: M_{age}=20.9, SD_{age}=7.5; Education = 74.3% some college courses, 17.1% high school diploma, 2.9% Master's degree; Ethnicity = 82.9% identified as White, 8.6% identified as as Latinx/Hispanic, 2.9% identified as African American.

| | Pretest (*N*=203) | Posttest | |
		Challenge (N=132)	Control (N=34)
Age*	40.9 (17.5)	44.3 (17.9)	20.9 (7.5)
Ethnicity			
African American	2%	1.5%	2.9%
Asian American	3.4%	3.8%	-
Latinx/ Hispanic	3.9%	3.8%	8.6%
Native American	-	0.8%	-
Multiracial	2%	.08%	-
White	86.3%	73%	82.9%
Education			
Doctorate	6.8%	7.6%	-
Master's Degree	46.4%	43.2%	2.9%
Bachelor's degree	12.6%	10.6%	-
Associate degree	2.9%	3%	-
Some college courses	19.8%	9.8%	74.3%
High school diploma	9.2%	7.6%	17.1%

*Averages, standard deviation reported between parentheses

Table 1: Demographic characteristics pretest and posttest groups

Measures

News Literacy was assessed using 14 items from the News Media Literacy Scale (Ashley et al., 2013), such as "News is designed to attract an audience's attention." Respondents used a 7-point scale (1= "Strongly disagree," 7= "Strongly agree"). A higher score indicated a higher level of news literacy. Pretest scores: $N=203$, α: .890. Posttest scores: $N=140$, $\alpha=.929$.

Media Locus of Control was measured using the six-item scale designed by Maksl et al. (2015). Respondents used a five-point scale (1= "Strongly disagree," 5= "Strongly agree") to respond to items like, "If I pay attention to different sources of news, I can avoid being misinformed." A higher score indicates a higher sense of control. Pretest scores: $N=204$, $\alpha=$ .611. Posttest scores: $N=141$, $\alpha=.808$.

Qualitative Assessment of News Literacy. Both the pretest and the posttest asked respondents to answer the following questions: 1) "The news is generally seen to provide information. What other functions do you think the news serves? Can you reflect on the functions it serves for you?"; 2) "Do you think it's possible for one news story to encompass all information and all sides of a given news story? Why (not)? Can you reflect on this?"; and 3) "Fox News and MSNBC[1] are usually seen as radically different in their news reporting. Can you reflect on why they are so different?"

Findings

Participation in the Challenge

Data showed that Challenge participation decreased during the five-day period. Whereas 83 survey participants completed Day 1, only 60 completed Day 3, and 50 completed the fifth and final day of the Challenge. Simultaneously, the number of people who said they would complete this day "in the future" increased from 18 on Day one, to 36 on Day two, and 43 on the final day.

News Literacy Scale and Media Locus of Control

Participants in the pretest scored high on the News Literacy Scale (NLS), $M=5.91$, $N=203$, $SD=.78$. While the Challenge participants' scores did appear higher in the posttest ($M=6.03$, $N=108$, $SD=$ .88) and were higher than posttest respondents who did not participate in the Challenge ($M=5.77$, $N=32$, $SD=.69$), the differences were small. Additionally, scores on the Media Locus of Control (MLC) scale hardly changed between the pretest ($M=2.59$, $N=204$, $SD=.62$) and the posttest ($M=2.59$, $N=109$, $SD=.84$), and there were no major differences between the control group and those who completed the Challenge ($M=2.77$, $N=32$, $SD=.65$)[2].

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1   MSNBC and Fox News are U.S. news stations that are generally perceived as operating on opposite ends of the political spectrum: Fox News is right-leaning and MSNBC is a left-leaning news station.

2   There was insufficient statistical power to conduct an inferential analysis.

Qualitative Analysis
To examine whether the Challenge facilitated learning and critical thinking beyond the basic competencies captured by the NLS or the MLC scale, we next conducted a grounded theory based qualitative content analysis of the answers to the three open-ended questions that participants completed. Using an iterative, open coding approach, the authors each took one of the three questions and looked for common themes. Answers were coded separately for the pretest and the posttest. After reaching saturation, the codes were then grouped into more abstract categories that touched on the same theme (Glaser & Strauss, 1967). The authors then checked each other's coding process, clarifying codes and themes where needed. Although several themes were specific to each question, there was overlap between the questions. Answers from the control group were labeled and analyzed for differences from those who completed the Challenge. The seven themes reported below are those that appeared across more than one question or those that were particularly salient within the answers to one question.

Verifying information. In the pretest answers to questions 1 and 2, respondents often mentioned the need to locate multiple sources of information as a strategy for corroborating and expanding on a news item, as well as providing context for a developing story. This suggests that participants were aware that news stories are often incomplete upon first report and become more complete with time and effort. In response to question 2, one participant mentioned the benefit of knowing how to fact check a story, and another remarked on the potential for perspective-taking that insights from multiple sources can provide. In the posttest, this type of commentary decreased, with participants who completed the Challenge less likely to mention a need to cross-reference a story to make sense of it. Interestingly, those in the control group still mentioned needing to check sources other than the news. This change could be attributed to the framing of the Challenge: The need to verify information was part of Day 2, whereas in the following days, the focus shifted to notions of bias and constraints inherent in news content and production. It is possible that the Challenge materials primed people to consider the ability to verify information as less important than understanding the constructed nature of the news.

Understanding constraints on the news. Respondents showed a solid understanding of the various constraints that make it impossible for the news to present a story in its entirety. In response to Question 2 in both the pretest and posttest, participants who completed the Challenge mentioned a news organization's need to make a profit, an outlet's need to appeal to a specific audience, newsroom routines that influence the nature of a story, the deadlines reporters and outlets face when creating a news story, and the influence that news station owners have on news content. Time and space were considered hindrances to any depth of storytelling, and when

it came to audience appeal, outlets were often described as pandering to a short attention span. Affordances of communication channels were also mentioned, with television segments viewed more negatively and the written word more positively. One notable observation was that the control group focused mainly on the news' inability to cover all sides of a story, often focusing on the notion that it is impossible for the news to incorporate all perspectives. In that sense, the control group focused more on the impossibility of the news to be all-encompassing, rather than the reasons behind it, and the impact of the Challenge can be observed.

One change we observed between the pretest and the posttest was how participants understood the role of profit in determining news content. In their Question 2 pretest answers, participants mentioned a profit motive as a constraint, i.e., as having a negative effect on one's capacity for sufficient or full coverage of a story. One participant stated, "news focuses on being a business rather than informing people" which captures the myriad concerns participants shared regarding a push for ratings, attention, clicks, and quantity over quality. While there was no mention of profit in the posttest, there were more mentions of the costs that news outlets must incur in order to publish stories, referred to at different points as "funding," "resources," "personnel," "budgets," and "financial goals." It thus appears that participants still viewed a profit motive as an essential constraint on the creation of the news, but developed a more nuanced understanding of how this profit motive operates in the daily workings of a news organization. Interestingly, members of the control group did not mention profit motive, although they do mention the need to appeal to viewers, indicating an understanding of the idea that news needs to "sell". This finding seemingly indicates that the Challenge facilitated a more nuanced understanding of profit/finances.

Interestingly, from the Question 3 pretest to the posttest, we observed a change in how respondents discussed the constraints Fox News and MSNBC face. In the pretest, both stations were often dismissed as divisive and not objective, with Fox News especially receiving criticism for appealing to the lowest common denominator: These kinds of comments were not as prominent in the posttest where respondents instead were more matter of fact about how audience appeal, hiring practices, and ownership influenced the content of these networks. This more nuanced view of news media was not captured by the quantitative measures yet reflects an important shift in people's understanding of the news. After completing the Challenge, participants appear to have moved away from centering their own perspectives as a yardstick to measure performance and focused more on what the news is rather than what it should be. In the control group's responses to Question 3, although some respondents discussed issues like hiring practices and profit motives, many of them engaged in the kind of normative evaluation that was dominant in the pretest.

Bias and the news. Respondents showed an awareness of biases that producers and reporters bring to the news, as well as those held by audiences, and how they might shape what the news looks like and how people make sense of news content. Negative assessments of Question 2 (i.e., news stories cannot cover all sides or include all information on a topic) pointed to bias as the primary culprit, in both the pretest and the posttest. Bias was either connected to humanity ("News is created by humans, so it will always be somewhat biased"), the reporter ("While excellent journalists strive to not be biased, their bias (liberal, conservation [sic], or somewhere in between) will be present in their voice, choice of photos, and the publication or medium in which the story is delivered"), the outlet ("personal bias of the reporter, publication, photographer, editor will always affect the story"), or discussed in terms of confirmation bias ("I know that I'm inclined to give weight to things I already believe"), and bias in the news in general ("... bias creeps in through word and detail choice, as well as who is selected as sources"). Control group responses were similarly negative. Positive assessments of Question 2 were fewer, both in the pretest and posttest (i.e., news stories can cover all sides or include all information on a topic), for both the Challenge participants and the control group, and usually ended with a qualifier that pointed to a need for more journalistic and editorial diligence, agency, and/or effort. As a result, it seems the Challenge did not impact people's understanding of bias, possibly because of a ceiling effect.

Similar results were observed in respondents' answers to Question 3, where they also addressed the political bias of news organizations, both in the pretest and the posttest. Participants described the political leanings of both Fox and MSNBC, as well as the political preferences of their viewers. Both the pretest and the posttest answers showed a clear preference among participants for MSNBC. In their responses, participants appeared to be especially critical of Fox News, describing it as having been designed to "scare the listeners," presenting ideas that have been proven to be false as fact, working to elicit an emotional response from viewers, and pushing a specific political agenda. Additionally, answers described MSNBC as more professional and a reliable source of information.

News as a bad actor. Respondents in both the pretest and the posttest touched on how the news did not always have the best intentions, across all three questions. In the pretest, people expressed concern and even disdain for what the news is/does, arguing, for example, that news "is used to sell products and ideas. I think it is used to persuade rather than just document and inform," and that "Until we can rid [irrationality] from our decision making, and especially news reporting, we will continue to be misled and controlled by those with more money who are able to subsidize the media with content that 1) supports their ulterior motives and 2) attracts the

deepest depths of our emotion." The news was described as intentionally divisive, corrupting, and controlling. These beliefs appear to drop off in the posttest among the Challenge participants. Interestingly, the control group members still described the news as "spreading lies and scar(ing) the public" and as remaining focused on "their own political agenda," while being controlled by the government or the very wealthy, clearly showing a view of the news as a bad actor.

In their responses to the Question 3 pretest, respondents also mentioned how Fox News solely aimed to propagate political beliefs, and how neither Fox nor MSNBC qualified as an actual news source. Respondents discussed how news is a political tool, used by politicians to further their causes, and described Fox as "pure propaganda," reporting on "the alternative truth that Trump and Republicans that follow him want people to see." This assessment, however, is also extended to MSNBC, with one respondent describing it as "the anti-Trump network," and another arguing that both networks are associated with different political parties. Most of these responses were highly affective in nature. Negative descriptions of each network did reappear in the posttest, but far less often and with far less vitriol. Fox News, for instance, was described as "just entertainment." Notably, the control group displayed far less vitriol toward either station than the Challenge participants, possibly due to this age group (average age was just shy of 21) being less likely to watch television news and thus less familiar with the landscape (Deloitte, 2021).

Again, this change in responses from pretest to the posttest shows an increase in nuance among participants who completed the Challenge. At the same time, the fact that some of these ideas return in the posttest point to a frustration with the news media, as well as some conspiratorial thinking about the news media's ulterior motives, some of which is not overcome by the training provided in our Challenge.

Journalism as the fourth estate. The protective function of the news, i.e., the role it plays as a watchdog in safeguarding democracy, is mentioned in responses to the Question 1 pretest, but is absent in the posttest. In the pretest, statements included, "the news should provide a check on those in power" and "a free press is vital to a functioning democracy, as it tells citizens hopefully the truth about what is happening in government." In the posttest, however, these ideas are absent, among both the control and the Challenge group. Similar responses emerged in participants' answers to Question 3, in which respondents to the pretest lamented the news media's, but especially Fox News', inability to present factual, well-rounded information, a complaint that is far less common in the posttest. This shift could point to the fact that the Challenge does not cover this aspect of the news, priming respondents to see this function of the news as less important. The absence of this theme among the control group, however, also points to a possible gen-

erational difference in the evaluation of the news and its role in society.

News as a source of information and community building. In response to Question 1, the functions of the news most often expressed were as a source of information, as a means to connect with and build community, for personal growth, and for awareness of current events. What changes from the pretest to the posttest is *how* many of the respondents framed this function. In the pretest, respondents often observed that the primary role of the news *should* be to inform or that for *them* that is its primary role, but that *some* news does not inform or that *other* people are not being informed by the news. In the posttest, respondents who completed the Challenge were more often self-reflective, focused primarily on their own relationships with news media rather than on how others might be mis/using the news. Additionally, the terms self education, opinion-formation, and empathy came up far more frequently in the posttest responses. This, however, does not hold up for the control group, who still discussed providing information as a primary function in the posttest, and did so from a generalized perspective, i.e., "so people can know what is happening around them." Interestingly, two members of the control group took a more critical stance and argued that the purpose of the news was nefarious: to spread lies, protect white supremacy, and scare people.

In regard to community building, a similar shift occurred: In the pretest there were many examples of respondents discussing the *possibility* of news to connect individuals with their communities and the larger society and culture, but in the posttest there were more examples of respondents sharing how the news helps *them* to keep connected to their communities and the larger world. Conversely, people who did not complete the Challenge addressed community building sparingly and did so from an abstract perspective, e.g., the news "provides details about events." It thus appears that the Challenge created a reflective space for participants to consider their personal engagement with the news. Several of the Challenge activities asked that participants respond to questions using Padlets (Berry et al., 2021), which appears to have prompted a more reflective stance toward the participants' relationship with the news.

Understanding "real news" and "good journalism." Answers to all three questions touched on perceptions of what makes something "real news" and "good journalism." Participants, especially in the pretest, talked about what "real news" should be. This often included statements about a need for objectivity and an impartial, unbiased presentation of stories. They also often touched on the notion of good versus bad journalism, with the former characterized by a desire to be objective and the latter marked by opinions, lies, and bias. In their answers to the Question 1 pretest, for instance, participants discussed how the news is responsible for "providing objective information," how some news

sources are "not designed to inform," and how some news stations, particularly Fox News, were not "real" news but "more interested in shock and awe." This line of thinking drops off considerably in the posttest among those who completed the Challenge but is still present among those in the control group, who argue, for example, that "Fox News is much more selective." The idea that balance is a virtue emerged as an indicator of good journalism in the Question 2 pretest, with suggestions like, "news stories should TRY to give as balanced of a view as possible," "True objectivity is probably not attainable, but still, all sides can be represented fairly if the journalist does a good job of it," and "It's possible to have true neutral reporting... Finding a reasonable balance is not difficult..." Such notions of truth, neutrality, and objectivity were noticeably absent from the posttest. Interestingly, participants who did not complete the Challenge appeared more cynical about the ability of the news to be balanced, blaming the myriad perspectives present in any story and speaking to how the news represents political and corporate interests. Additionally, multiple participants suggested that reporters should not provide space or time for "equal sides," or present an "evenness" within a story, pointing to examples of particular positions that lacked journalistic merit (e.g., vaccine or climate change deniers, or "flat earthers"). These sentiments were only present in the posttest among Challenge participants.

In the Question 2 pretest, respondents asserted that much of the challenge to covering multiple sides of a story was due to the demands of the 24/7 news cycle (a shift in the media landscape) with a move toward shorter pieces and away from longer form and investigative stories (in part due to audience attention spans). Similar commentary emerged in the posttest among those who completed the Challenge, although to a lesser degree, with a general valuation of the shifting media environment as one that had "devolved." Suggestions for improving this environment were prolific, primarily in the pretest, with judgments of what is "good" journalism including "sticking to the facts," avoiding partisanship, and journalists' effort/diligence to sufficiently cover a story. Those in the control group did not address this shift in the media landscape, which could be attributed to their age; they are not as likely to have been aware of any shifting in the media environment.

Discussion
In this article, we presented the findings from a case study that attempted to establish the effectiveness of a five-day online, asynchronous news literacy program. Participants came from across the United States and possessed an above average level of education. We used the News Media Literacy Scale (NMLS) designed by Ashley et al. (2013), the Media Locus of Control scale (MLC) (Maksl et al., 2015), as well as several qualitative, open-ended questions to evaluate how people's news literacy and attitudes toward news usage changed as a result of their participation in our program. The study started out

as an illustrative case study meant to provide insight into how effective online news literacy workshops are in encouraging learning. However, as findings revealed the complexity of the learning taking place, the study took a more critical turn, raising questions about the lack of qualitative measures used in media literacy research.

The results from the NMLS and MLC revealed that there were no real differences between the pretest and the posttest or between the people who did and did not participate in the Challenge. Noticeably, participants started off with relatively high scores, so there was no real room to "grow." Simultaneously, in the past decade and a half, social media use has expanded rapidly (Pew Research Center, 2021) and many people are now far more familiar with how to create media content than they were twenty years ago.

However, this does not mean that this population is no longer in need of media literacy education. On the contrary, as indicated by the qualitative responses to our pretest, before completing the Challenge, many of our respondents had a normative, somewhat simplistic view of the news that did not adequately reflect the complexities of news production and consumption. Our qualitative findings show that people who completed the Challenge ended up with an understanding of the news that was more nuanced: less reductive, less normative, more introspective, and less centered on "should" statements regarding what comprises "real news" and how other news consumers "should" engage with news media. Notions of truth and objectivity waned between the pretest and the posttest as well. People who did not complete the Challenge often did not display this kind of nuanced and reflective thinking. Those cases where we did not observe a difference between the control and the Challenge group could be attributable to the age difference between the two groups. The kind of learning observed in these qualitative answers is not commonly captured by quantitative measures developed by news and media literacy scholars, which are still focused on the idea of an "absolute truth" in journalism, yet at the same time this kind of learning is vital to rendering people more critical and engaged media users and actors (Mihailidis, 2018; Schilder, 2016).

These findings challenge many of the assumptions about news literacy education and assessment that informed the design, facilitation, and assessment of our virtual program and other face-to-face workshops like it, as well as many of the news and media literacy tools that are available online. They also raise a key question: Is it possible that the current, accepted quantitative measures of media literacy do not capture critical elements of media literacy? Like many other media, advertising, news, and health literacy programs, this program operated from a deficit-based, albeit critical, framework (Ecker et al., 2022; Scherer & Pennycook, 2020), presuming that our participants were lacking in key news literacy competencies that are mainly cognitive in nature,

i.e., knowledge-based. However, as Rozendaal et al. (2011) noted in their work into advertising literacy, the view that knowledge about certain kinds of media content will result in a more critical attitude toward that content (a perspective known as the *cognitive defense view*), assumes that people process content in a highly rational manner. It is, conversely, possible that the news, like advertising, is consumed in a more affective manner. Considering the timing of this Challenge and the highly polarized view of the news, this is a likely scenario for our case study. In other words, while respondents did possess the kind of knowledge that qualified them as "media literate" per the quantitative measures we used, their initial responses to the news were driven by emotions rather than knowledge, which is what we observed in the open-ended questions used in the pretest. These qualitative questions seem to have tapped into participants' complex personal feelings, attitudes, and relationships with the news. People may be more likely to respond emotionally to open-ended questions that elicit personal preferences and associations, despite their high scores on the quantitative measures of "news literacy." The Challenge primed participants to consider the news from a more rational perspective, which led to the more nuanced responses we observed in the posttest. This suggests that media literacy educators need to reckon with the fact that news cannot be approached from a solely rational, deficit-based, cognitive perspective. In sum, the comparison between our qualitative findings and the results from the quantitative measures show that the latter did not capture critical thinking and learning beyond basic knowledge of the news as demonstrated by the qualitative data. This, however, does not just point to a shortcoming in this particular study but to issues with the entire field of news media literacy. Below we will discuss how the field should move forward to address these issues.

Reimagining News Literacy Pedagogy and Assessment
Media and news literacy education and assessment has, for decades, been informed by a deficit framework, i.e., the idea that if people acquire sufficient skills and knowledge about the media, they will be more critical. As evidenced by this study, the tools and, in particular, the assessments to come out of this framework do not capture the full range of cognitions and emotions that contribute to people's news and media literacy and in fact limit what is seen as useful knowledge. In other words, we need to reassess how to assess news literacy and reimagine common approaches to news literacy education.

Firstly, news media literacy measures need to be redesigned to better capture how news consumers actually engage with and understand news and information in a digital environment awash in media content and technologies. They need to, in other words, center the learner and their understanding of what is important in making sense of and engaging with news content rather than the creator of the assessment. News media literacy measures should integrate the realities

of how audiences are engaging with news in a media-saturated environment, include shared notions of what constitutes quality news, and utilize more nuance when assessing how news is produced and disseminated to audiences. Furthermore, news literacy assessment should embrace more qualitative measures to better capture the complexity and nuance of how learners are engaging with the changing news media environment and how they reflect on their own relationship with news media, things often missed by quantitative measures.

More importantly, we need to reevaluate our approaches to news media literacy education. While extant pedagogical approaches should be part of the materials considered when designing programs, these approaches are generally focused on teaching skills as a quick fix as opposed to acknowledging the complex relationships that learners have with news media and information. As a result, they fail to assess or teach critical inquiry and self-reflection about news media and never move beyond basic competencies; a vital component of an empowered citizenry (Malik et al., 2013). Instead, it is paramount that we design more learner-centered programs and embrace participatory approaches to design, facilitation, and learning. When designing programs, we need to ask questions like: What are our learners' perspectives on and experiences with news media and news media literacy? What do they want to learn and how do they want to learn it? How can we design and facilitate learning that builds from and on learners' experiences and perspectives in order to strengthen their news literacy competencies and move toward deeper critical inquiry and self-reflection, as well as healthier relationships with news media? This does not mean these programs do not rely on extant literature about what works and what doesn't, but that this literacy is considered more critically and that the people for whom the workshop is designed are ultimately the main driver of the program.

Additionally, it is important that we recognize that news serves an affective function for many of its consumers, as evidenced by this study (see, for example, *News as a Bad Actor* in the Findings section). Despite its traditional relationship with objectivity, the news is a medium that defies purely rational approaches (see, for example, "the backfire effect" (Nyhan & Reifler, 2010) and "motivated reasoning" (Hochschild & Einstein, 2015)). The common belief that individuals should be able to rationally engage with all sides and to use simple strategies for identifying "real" news and "quality" journalism through competency-based learning approaches is not reflected in the high levels of emotional involvement in the news shown by our respondents. As a result, we need to go beyond solely cognitive approaches to news media literacy education to interrogate and reflect on our relationships with the news and news media's effect on audiences, culture, and politics.

The media literacy pedagogies and assessment that served peo-

ple well in a media environment where the ability to access, analyze, evaluate, and create media meant one could be a critical media (prod)user appear to no longer hold up in the contemporary media environment, in which mis/disinformation proliferate and news media are more polarized (and polarizing) than ever before (Jurkowitz et al., 2020). Instead, as evidenced by this study, it is time to move beyond competency-based approaches toward values-based approaches (Mihailidis, 2018; Phillips & Milner, 2021). The over-reliance on these quantitative measures and interventionist, top-down pedagogical approaches may be limiting the field's ability to understand and address the public's shifting news perspectives and their understanding of the role of the news in their lives and in society. Further research that prioritizes the actual practices and experiences of learners in both the design and assessment of media literacies will help educators problematize the normative ideals and practices inherent within news literacy education and support educators who wish to move beyond basic competency-based approaches into more critical and social justice-oriented approaches.

Limitations of this Research
This case study has several limitations inherent in its design. Although the geographic profile of participants spanned the United States, our Challenge participants skewed to a specific age (median age of early 40s) and race (predominantly White). As a result of the differential sampling among the experimental and control groups, it is difficult to discern whether observed differences are due to discrepancies in age/experience, or to the intervention itself. Members of the control group were considerably younger (early 20s) and less educated than the people who took the Challenge, rendering a comparison between the two groups difficult. Additionally, the lack of volunteers for the control group meant the group was too small to allow for inferential statistics that would have allowed us to draw conclusions about the differences in quantitative scores between the control and the Challenge group. Furthermore, given the study's focus on anonymity and lowering barriers to participation, we did not design the study to pair the pre-test with the post-test responses, and thus evaluated each set of responses in aggregate, limiting our ability to draw conclusions about the impact of the Challenge. It should be noted that a pre test/post-test design can reveal certain types of learning based on specific interventions or educational techniques, but is limited in its capacity to measure a cause-and effect relationship (Kumanyika, 2010; Stratton, 2019) and information retention (Stratton, 2019). Finally, this type of design tends to center on cognitive outcomes, the very kinds of outcomes that did not appear to be highly relevant in this investigation into news literacy. Future research would benefit from additional representation among participants, a more comparable control and experimental group, disaggregation of data by participant, and greater attention to qualitative and participant driven assessments of learning.

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