



Research paper

Talking about credibility, students, and facilitation: Opportunities to learn about teaching online evaluations in rehearsal debriefs

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ABSTRACT

Teachers need opportunities to learn to teach online evaluations as pressure grows on schools to teach these skills. Debriefs after teachers rehearse facilitating discussions about online source credibility provide a promising context for such learning. We consider opportunities for teacher learning present in these debriefs with thirteen teachers participating in a professional development program. Analyses of six rehearsal transcripts revealed that teachers focused on three topics: how they reasoned about source credibility, how to support students' reasoning about credibility, and general discussion facilitation strategies. Rehearsal debriefs may create opportunities to learn about critical elements of teaching students to evaluate digital content.

Around the world, countries, states, provinces, and school districts are mandating instruction in media, information, and/or digital literacy. Although these mandates vary in their approach, they share an underlying focus on the need to support students to learn to evaluate online information. As digital platforms proliferate, they offer unprecedented access to information from diverse voices; however, they also put more responsibility on readers and viewers to decide what to trust. Media, information, and digital literacy policies attempt to provide education to help people make those decisions, and neglecting such education may threaten both our individual ability to make well-informed choices and our wellbeing as a global society. As the text of the media literacy bill that became law in California in 2023 argued, "The proliferation of online misinformation has posed risks to international peace, interfered with democratic decision making, and threatened public health" (*Pupil instruction: Media literacy, 2023, Section 1*).

Imagine being a teacher in a place where a recently passed policy mandates that they incorporate instruction on evaluating online information into their courses. What does that teacher need to learn in order to teach these skills to students? How might researchers, policymakers, and school systems provide support to help teachers meet this large and ever-growing need? In this article, we explore a professional learning opportunity based in the United States that engaged teachers in learning to evaluate online information and to plan for and practice instruction that would support students to develop evaluative skills. Drawing on practice-based approaches to teacher learning, our professional development included rehearsals to support teachers to learn how to facilitate discussions about students' online evaluations. We specifically focus on

debriefs after teachers rehearsed facilitating these discussions to better understand the possibilities for learning embedded within such professional development experiences.

Below, we review relevant research on student and teacher learning needs related to evaluating online information and examine practice-based teacher education—specifically, rehearsals and rehearsal debriefs—as a possible context in which to provide relevant teacher learning opportunities.

1. Framing

1.1. Supporting students to evaluate online information

Without up-to-date, explicit instruction, students may not effectively evaluate online information. Students often turn to *weak heuristics* (McGrew, 2021), or evaluative approaches that rely on features of sources not directly tied to credibility. For example, studies conducted around the world have found that, before instruction, students often judge .org websites to be credible based solely on their URL, trust nicely designed websites more than those with amateur appearance, attempt to evaluate content even when they lack relevant expertise, and struggle to effectively evaluate the strength of evidence provided (e.g., Abed & Barzilai, 2023; Breakstone et al., 2021; Ku et al., 2019; Nygren & Guath, 2019). These and other weak heuristics can all result in flawed evaluations of sources. Further, evidence suggests that these problematic approaches are widespread: middle school (Barzilai & Zohar, 2012; Coiro et al., 2015), high school (Breakstone et al., 2021), and college

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(Breakstone et al., 2022; Hargittai et al., 2010; List et al., 2016) students and even adults (Metzger et al., 2010; Weisberg et al., 2022) often struggle to effectively evaluate digital content.

A growing body of scholarship presents an alternative to weak heuristics in the form of stronger, more effective evaluative approaches (e.g., Caulfield & Wineburg, 2023; Wineburg & McGrew, 2019). This study focused on a professional development experience designed to help teachers teach the strategy of *lateral reading*. Conceptualized through research that examined how professional fact checkers searched for and evaluated online information, lateral reading involves leaving an unfamiliar site or post and searching for more information about the source via other resources outside the original site (Wineburg & McGrew, 2019). Scholars in the U.S., Canada, India, Germany, and Sweden, among other countries, have designed and tested interventions to teach lateral reading (e.g., Axelsson et al., 2021; Badrinathan, 2021; Barzilai et al., 2023; Brodsky et al., 2023; Fendt et al., 2023; Panizza et al., 2022; Wineburg et al., 2022). These interventions often involve opportunities for teachers to model lateral reading, students to engage in collaborative practice, and for the class to discuss what students decided about the source's credibility based on what they learned from lateral reading (e.g., Brodsky et al., 2023; Kohnen et al., 2020; Wineburg et al., 2022).

Discussions after lateral reading are a critical part of the lessons. Discussions offer rich opportunities for students to share, reflect, and collectively construct knowledge (Rogoff, 1990; Vygotsky, 1978). In lateral reading lessons, these discussions provide opportunities for students and teachers to co-construct an assessment of the credibility of the source as they weigh different clues gleaned from lateral reading. Research suggests that, even as students learn to read laterally, they may still fall back on weak heuristics (McGrew, 2021) or need more support understanding factors that contribute to and detract from a source's credibility (McGrew et al., 2024). Because discussions after lateral reading are a chance for students to share what they learned about a source, discussions offer opportunities for teachers and students to encourage lateral reading while discouraging weak heuristics and to help students deepen their conceptualizations of source credibility.

1.2. Supporting teachers to teach online evaluations

Teaching lateral reading through modeling, guided practice, and discussion requires well-prepared teachers, and the task of preparing teachers is complex. First, teachers need access to professional learning opportunities that help them learn effective evaluative approaches. To learn to read laterally, teachers need to ignore information on the original site until they have learned more about the source. They need to use effective search strategies to help them locate credible lateral sources that shed light on the original source. Finally, they need to consider how the information they gathered impacts the source's credibility as they decide whether to use it. Research with both pre- and in-service teachers suggests that before explicit learning opportunities, they, like students, need support in many of these areas. Teachers may rely on weak heuristics to evaluate online information (e.g., Castellví et al., 2020; Weisberg et al., 2022). They may also need support developing complete conceptions of credibility that include considerations of both expertise and trustworthiness (McGrew et al., 2024). Otherwise, teachers may be overly focused on evaluating sources based on their perceived bias and neglect other components of credibility like a source's expertise (e.g., Clark et al., 2020).

Second, teachers need support learning and planning to teach evaluative strategies. Recent research has found that even after they learned effective strategies in professional development, teachers needed help planning for and practicing how to challenge weak heuristics when students used them during lessons (McGrew, 2021) and ensuring that discussions after lateral reading stayed focused on aspects of the strategy likely to transfer to future lateral reading instead of only on sharing details students learned about the source (McGrew & Byrne,

2022). These examples illustrate a *problem of enactment* (Kennedy, 1999) in which there may be a gap between what teachers know or can imagine in their classrooms and what they enact in practice with students. Professional development that tackles this problem of enactment by supporting teachers to learn and practice teaching evaluation strategies deserves more study.

Finally, because many of the opportunities to build students' competence with lateral reading come during class discussions, teachers need support learning to facilitate these discussions. Although a great deal of research agrees that classroom discussions are a powerful site for student learning (e.g., Engle & Conant, 2002; Hess, 2009; Kazemi & Stipek, 2001; Murphy et al., 2009), such discussions are rare in secondary classrooms (e.g., Cazden, 2001; Hess, 2022; Nystrand et al., 2003; Saye et al., 2014). Teachers who are learning to teach online evaluations are unlikely to have extensive experience facilitating discussions of any kind. Thus, activities that support teachers to learn to facilitate lateral reading discussions should consider how those learning opportunities can help teachers develop and practice general discussions facilitation strategies.

1.3. Practice-based teacher education and learning to teach online evaluations

How might teacher educators simultaneously help teachers learn effective evaluative strategies, plan for and practice teaching those strategies, and hone their discussion facilitation? Practice-based teacher education (PBTE) offers theoretical and practical tools for addressing such complex questions of teacher learning and problems of enactment. Research in PBTE theorizes a teacher learning cycle in which teachers investigate and enact focal teaching practices (McDonald et al., 2013). Within this cycle, teacher educators *represent* focal teaching practices through modeling, watching videos of teaching, or analyzing lesson plans. The strongest representations allow teachers to analyze both the pedagogical approach of focus and the reasoning underlying the pedagogy (Grossman et al., 2009). Next, teacher educators and teachers work together to *decompose* practice by analyzing its core components; as Grossman et al. (2009) argued, "Decomposing practice enables students both to 'see' and enact elements of practice more effectively" (p. 2069). Finally, teachers *approximate* the focal practice by trying it out in an environment of reduced complexity. Although much of the research on practice-based approaches is based in the context of pre-service teacher education, scholars have extended these practices to in-service teachers through cycles of practice-based teacher learning (e.g., Baldinger & Munson, 2020).

We relied on a practice-based approach to support teachers to learn to facilitate discussions about lateral reading (McDonald et al., 2013). We provided and examined representations of lateral reading discussions and decomposed the facilitation practices present within them (Grossman et al., 2009; see Methods for a description of these activities). Here, we focus on the opportunities for learning that came via an activity designed to help teachers approximate discussion facilitation. Teachers participated in *rehearsals* in which the rehearsing teacher (RT) acted as a teacher and discussion facilitator while the other non-rehearsing teachers (NRTs) participated as students (Lampert et al., 2013). After each rehearsal, the teacher educator kicked off a debrief discussion in which all teachers participated as themselves and discussed the preceding rehearsal.

Although foundational research on PBTE has theorized and explored the role rehearsals can play in helping teachers approximate practice and argued that they are a key component of teacher education pedagogy (Forzani, 2014; Grossman et al., 2009; Lampert et al., 2013), researchers are still exploring how rehearsals and debriefs might be structured and leveraged to support teacher learning (e.g., Kavanagh, Metz, et al., 2020; Kazemi et al., 2016; Schutz et al., 2019). Much of this research has focused on how participating teachers engaged in the focal practices, like discussion facilitation, that they rehearsed (e.g.,

Kavanagh, Metz, et al., 2020) and what teachers learned as a result (e.g., Troyan & Peercy, 2016). Research has also examined opportunities for interactivity and discussion during rehearsals, primarily in the form of pauses, or opportunities for the teacher educator or teacher to ask a question, get feedback, or solicit ideas from the group in the midst of the rehearsal (e.g., Averill et al., 2016; Davis et al., 2017; Ghoussseini et al., 2015; Kazemi et al., 2016). For example, Davis and colleagues (2017) examined how rehearsal pauses supported science teachers to learn to focus on, interpret, and productively respond to student thinking. In an analysis of 90 rehearsals of math teaching, Kazemi et al. (2016) found that exchanges between teachers and teacher educators typically focused on “eliciting and responding to student thinking, using mathematical representations, supporting student engagement, and learning the structure of the [instructional activity]” (p. 21).

Although much research has focused on how rehearsals support teachers to develop pedagogical practices like facilitating discussions and responding to students in the moment, emerging evidence suggests that teachers can grow in additional ways. For example, rehearsals can offer opportunities for teachers to develop pedagogical reasoning, or learn how to engage knowledge and weigh alternatives as they make instructional choices in the course of teaching (Kavanagh, Conrad, et al., 2020). Further, rehearsals can provide chances to develop disciplinary knowledge and pedagogical content knowledge related to disciplinary practices. In a study of discussion rehearsals in three teacher education programs, Kavanaugh and colleagues (2019) found that teacher educators supported candidates to consider how to respond to students’ reasoning about history/social science content and how to frame discussions to build students’ disciplinary practices. In addition to supporting teachers to develop their practice, then, rehearsals may help teachers build pedagogical reasoning and content knowledge for teaching. More research is needed that traces changes in practice and teacher learning outcomes from practice-based teacher education opportunities (see Meneses et al., 2023; Kloser et al., 2019 for exceptions). Still, the learning experiences present within rehearsals may be particularly fruitful for the RT, who has a chance to try out their practice in a supportive environment.

Here, we narrow our focus further to rehearsal debriefs, a time after the formal rehearsal ends in which all participating teachers reflect on the rehearsal. These debriefs are a potentially rich time for all participating teachers—not just the RT—to process their experiences, share knowledge, and collectively build expertise. Theoretically, we draw on a sociocultural approach that views learning as a shared activity that is mediated by communication (Rogoff, 1994; Wells, 2000). As teachers work together to discuss the rehearsal, they have opportunities to surface data about their shared experiences, negotiate the meaning and interpretation of that data, draw connections to their own students and practice, and consider implications for teaching. That talk, in and of itself, presents an opportunity to learn.

In studies focused on rehearsal debriefs, Baldinger and Munson (2020), Munson et al. (2021), and Peercy and Troyan (2020) found that these spaces offered teachers an opportunity to collaboratively develop adaptive expertise as they decomposed and discussed their experiences during the rehearsal. During the debrief, Peercy and Troyan (2020) argued, teachers “had more opportunities to engage and consider questions about the work of teaching” (p. 10). Thus, emerging evidence suggests that rehearsal debriefs may help teachers convert what they experienced in the rehearsal into opportunities to learn. By analyzing what teachers discussed during rehearsal debriefs, we can understand the opportunities rehearsals offer teachers to grow their knowledge and expertise in facilitating discussions after lateral reading.

1.4. The present study

In this study, we focus on professional development sessions in which teachers rehearsed facilitating discussions about the credibility of online sources. Scholarship in practice-based teacher education has thus far

analyzed rehearsals of disciplinary practices in core subject areas like mathematics (e.g., Munson et al., 2021), history/social studies (e.g., Kavanagh et al., 2019), or world languages (Peercy & Troyan, 2020). Here, we focus on both Language Arts (ELA) and social studies teachers and on discussions about evaluating online information, which could happen in any subject area class. Such work is needed to understand whether rehearsals and debriefs offer opportunities for teachers to learn to teach skills like evaluating online information in a context in which teachers do not share a disciplinary background. We explored how these teachers participated in debrief conversations after rehearsals, probing the topics of focus and opportunities for learning during the discussions. We asked: What were the foci of teachers’ post-rehearsal debriefs? What opportunities to learn did these foci afford?

2. Methods

2.1. Setting and participants

We analyzed rehearsal debriefs drawn from two professional development (PD) sites that were part of the same larger research project, the Lateral Reading-Model-Evidence Link Diagrams Project. The project aimed to support ELA, social studies, and science teachers to implement scaffolds for teaching about socioscientific issues: lateral reading to evaluate online sources and Model-Evidence Link diagrams (MEL; Bailey et al., 2022; Lombardi et al., 2013) to judge the plausibility of competing claims given available evidence. Each PD session consisted of three, 8-h sessions on consecutive days. On the first day of PD, all teachers were introduced to MEL and lateral reading and experienced sample lessons designed to teach these approaches. They then spent much of the second and third days in specialized groups, with science teachers focused on teaching MELs and ELA and social studies teachers focused on teaching lateral reading. The PD sessions at both sites followed a shared outline of learning activities, including the rehearsals and debriefs. The author was the primary facilitator of lateral reading-focused activities, including rehearsals, at both sites.

Rehearsals and debriefs in Site 1, in a suburban setting on the East Coast, included six teachers. Site 2 was located in an urban setting on the East Coast and included seven teachers. Teachers were recruited to participate in the PD via messaging from their school districts and outreach via conferences and professional listservs. Pairs of science and either social studies or ELA teachers who worked at the same school were encouraged to attend the PD together, so some teachers were directly recruited by a colleague in the same school. Interested teachers filled out a short application, and all teachers who applied were accepted. Teachers received \$750 for attending all three days of PD. At Site 1, two teachers had 6–10 years of teaching experience, 3 teachers had 11–20 years of experience, and one had been teaching more than 20 years. At Site 2, two teachers had 1–2 years of experience and five had been teaching 11–20 years. At both sites, one or two members of the PD team also participated in the rehearsals and debriefs as additional NRTs. These team members focused on teaching MELs and had not had additional training in teaching lateral reading. Their contributions are included as part of the analysis here.

At the outset of the PD session, the research project was introduced to teachers and their consent to participate in videorecording (Site 1) or audio-recording (Site 2) sessions was solicited. All teachers consented to participate.

2.2. Lessons to teach lateral reading

Participating ELA and social studies teachers were provided with lesson plans and accompanying student and teacher materials (slides and graphic organizers) to help them teach lateral reading. There were four lesson plans focused on teaching lateral reading that followed a similar outline. First, the teacher introduced lateral reading or some element of lateral reading through direct instruction, usually modeling.

Second, the teacher engaged students in guided practice reading laterally. The lesson plans provided websites or social media posts that students should read laterally about as well as guiding questions to scaffold the process for students. Depending on the classroom context, this guided practice could be done individually or in small groups. Finally, the lesson plans directed teachers to engage students in a full-class discussion after they practiced reading laterally. The lesson plans provided sample questions to ask to kick off such a discussion, including “How credible did you decide the source was?” or “Would you use this source to learn more about [topic]?”

2.3. Procedures and data

Rehearsals took place on the second of three days of the PD. See Table 1 for an outline of activities related to facilitating lateral reading discussions that preceded the rehearsals.

As Table 1 shows, teachers decomposed and analyzed multiple representations of lateral reading discussions on Days 1 and 2. The focus of this work was to understand the role discussions after lateral reading played in the lessons, especially in terms of helping students collaboratively co-construct an argument about the credibility of a digital source. To aid participants in understanding how they might facilitate discussions, we introduced a framework adapted from Reisman et al., (2018) framework for facilitating historical discussions. The framework presented ways that teachers could use questions and facilitation moves to guide the conversation, respond to students, and elicit additional contributions. First, teachers could *orient students to each other* by asking students to build on each other’s ideas or voice agreement and disagreement. Second, they could *orient students to evidence from lateral sources* by prompting students to share where they learned details about sources while reading laterally and how they knew those lateral sources were themselves credible. Finally, teachers could *orient students to conceptions of credibility* by asking students how the details they shared about a source contributed to or detracted from its overall credibility and, ultimately, how credible they thought the source was. See Fig. 1 (left-hand side) for a summary slide of this framework as presented to teachers.

In the middle of Day 2, teachers were given approximately 30 min to prepare to facilitate a discussion. Teachers were provided with two websites and could choose to frame the discussion about the credibility of one or both of those sites. Both articles focused on the relationship between fracking and earthquakes in the Midwest. One article was from *Mother Jones*, a progressive American news magazine. The other was from the American Petroleum Institute, the main trade organization for the American oil and gas industry. Both articles argue that the link between fracking and earthquakes is complex and point out that wastewater injection is more likely responsible for an uptick in earthquakes. Here, the articles diverge: *Mother Jones* argues that fracking has recently “boosted the volume” of wastewater injection (Battistoni, 2012, para. 3)

Table 1
PD activities related to facilitating lateral reading discussions.

Day	Activities
1	<ul style="list-style-type: none"> Participated in a simulated lesson that included modeling lateral reading, guided practice with lateral reading, and a discussion about what they concluded about the credibility of two sources based on what they learned while reading laterally Debriefed the lesson as teachers
2	<ul style="list-style-type: none"> Introduced and discussed purpose and goals of discussions after lateral reading Introduced framework for discussion facilitation: orienting students to each other, to evidence from lateral sources, and to conceptions of credibility Analyzed audio of Day 1’s discussion using the framework for discussion facilitation Analyzed transcript of another discussion using the framework for discussion facilitation Prepared for and participated in rehearsals and rehearsal debriefs

while the American Petroleum Institute claims that wells “receive wastewater from a variety of industrial processes,” not just fracking wastewater (American Petroleum Institute, n.d., para. 2). See Fig. 1 (right-hand side) for guiding questions teachers could use to help them plan to facilitate the discussion.

The goal of the rehearsals was to provide several RTs with experience approximating practice while the NRTs saw additional representations and all participants had opportunities to continue to decompose discussions. Rehearsals began with the facilitator explaining the purpose and protocol for rehearsals and setting norms for participation. Each site included time for three teachers to serve as the rehearsing teacher; all of these teachers volunteered for this role. After the rehearsing teacher wrapped up the discussion (which typically lasted 8–10 min), the facilitator asked the RT, “What is going through your head right now? Are there any questions you have for us?” The RT shared initial questions or thoughts, and then the facilitator asked the NRTs, “What are your thoughts?” As teachers—both the NRTs and the RT—subsequently engaged in discussion, the facilitator at times participated by injecting thoughts or questions. As the conversation wound down (after 7–10 min of debrief discussion), the facilitator asked the RT for concluding thoughts. The next RT then began their rehearsal.

All six rehearsals and rehearsal debriefs (three in each site) were video- or audio-recorded and transcribed.

2.4. Analysis

We reviewed transcripts of the rehearsal debriefs from both sites to probe initial patterns in the debrief discussions (Glaser & Strauss, 1967). In these initial passes, we saw evidence that teachers had three main foci in the debriefs: learning about and practicing evaluation strategies like lateral reading themselves, planning for teaching lateral reading with students, and learning about strategies for effective discussion facilitation. These three elements surfaced repeatedly across rehearsal debriefs and sites. We developed complete descriptions of each foci and coded all transcripts for these foci. A talk turn, or one teacher’s complete contribution before another teacher began talking, was the unit of analysis; each talk turn was coded for one or more foci. Across all six rehearsal debriefs, there were 196 talk turns. A second coder was trained and coded two rehearsals in different sites (67 talk turns; 34% of the data corpus). Interrater agreement was 90% (Cohen’s $Kappa = .84$).

Working within each of the three foci described above, we next applied sub-codes to capture in greater detail the focus of the conversations. During initial data passes, descriptions of potential sub-codes were developed inductively to describe teachers’ topics of focus within the context of each code. For example, within the code of general discussion facilitation, there were initially eight sub-codes developed; these included the importance of wait time, how to plan follow-up questions, and how best to tie students’ comments to each other. Through additional data passes, the sub-codes were condensed and refined. Final subcodes within the category of teachers discussing facilitation were *teacher planning* (when teachers discussed their preparation or ways they structured the discussion), *responding to students* (when teachers discussed wait time, planning follow-up questions responsive to students’ contributions, or linking students’ comments to each other), and *emotional experience* (when teachers discussed how it felt to be either a facilitator or participant in the discussion). See Appendix A for a description of codes and subcodes. A second coder was trained on the subcodes and coded two rehearsals in different sites (67 talk turns; 34% of the data corpus). Interrater agreement was 88% (Cohen’s $Kappa = .86$). Finally, we analyzed codes and subcodes, including the frequency and location of different topics and sub-topics of conversation to understand foci of lateral reading discussions.

3. Findings

In what follows, we examine the three elements that teachers focused

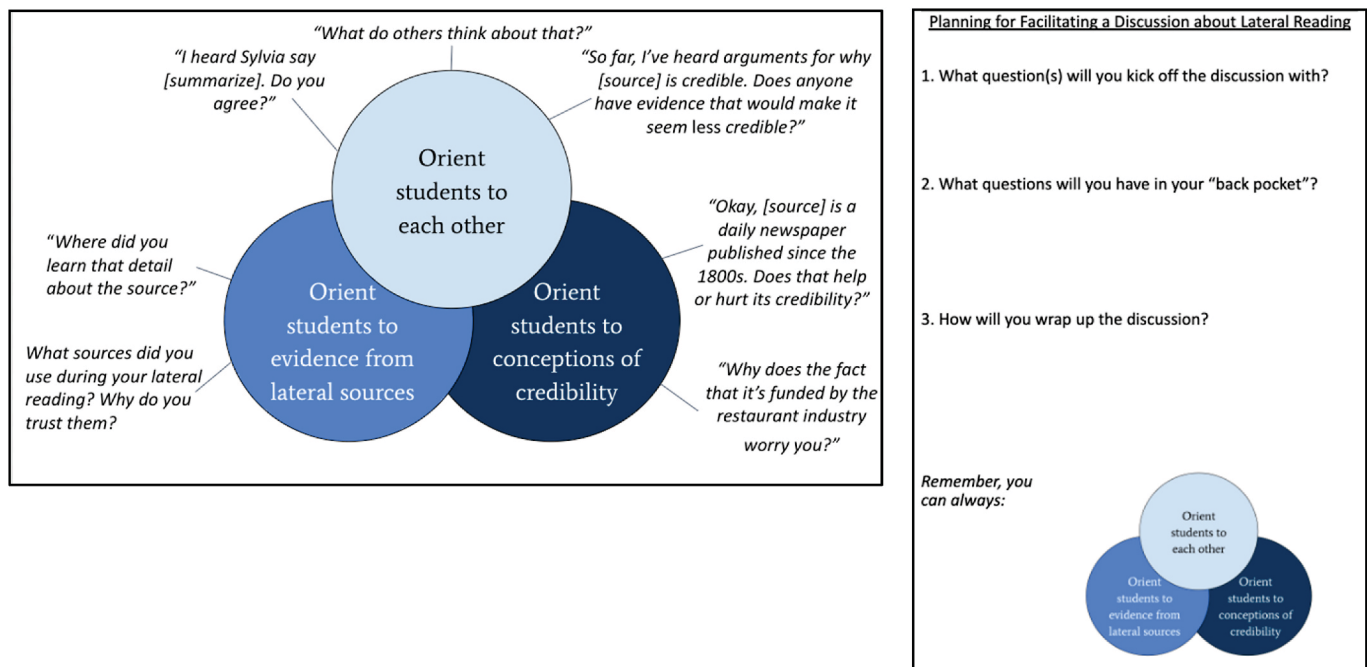


Fig. 1. Supports provided for teachers as they learned to facilitate and decomposed discussions (left) and planned to facilitate their own discussion (right).

on over the course of the discussions as well as how these foci were organized within the debriefs. We found that teachers had three distinct foci: first, they talked about how they themselves researched and reasoned about the *credibility of sources*; second, they focused on how to support *students’ reasoning about credibility*; and finally, they talked about *discussion facilitation*, including how to manage discussions with students. Below, we first present each of these foci and the topics teachers discussed within them. We then examine how these foci were organized and ordered.

3.1. Elements of focus in lateral reading discussions

3.1.1. Talking about the credibility of sources

In 35% of talk turns, teachers discussed how they researched and reasoned about the credibility of the focal sources. These segments focused on how they, as people still learning to read laterally, approached analyzing credibility. In some ways, these sections of debriefs mirrored the discussions teachers had just rehearsed a few minutes before: Teachers weighed clues about sources that they learned from lateral reading. However, in the debriefs, teachers represented themselves and their own reasoning instead of acting as students. Thus, the debriefs offered opportunities for teachers to boost their competence with lateral reading, including building knowledge that underlies successful lateral reading like knowledge of credible sources to turn to while reading laterally. In a debrief at Site 1, the teachers discussed what they learned about the magazine *Mother Jones* while they read laterally. One teacher, NRT4, drew attention to the “Controversies” section of *Mother Jones*’s Wikipedia page in which the magazine’s handling of a workplace sexual harassment allegation against one of its journalists is discussed:

NRT6: When we were looking at *Mother Jones*, I was like, Oh my God, they’re like award winning. Everyone loves them. They’re trusted.

NRT3: And I did the whole opposite of that, I was like “oh my gosh.”

NRT4: So I actually looked at the person that was accused of sexual harassment, and he was apparently, so they had investigated his

behavior and then just ended up with a warning to him ... and they said they would probe new allegations because there is more.

The teachers went onto discuss whether a publication that has grappled with issues of workplace sexual harassment can be considered a credible source. In this way, the teachers focused on how they evaluated *Mother Jones*, with some sharing that they had focused on positive information while others keyed in on negative details. As in this example, talk turns that focused on the teachers’ own credibility judgments most frequently consisted of them sharing details about sources that they uncovered while reading laterally and contemplating credibility. 73% of talk turns within this category were similar in nature.

As teachers discussed credibility, they also focused on the sources they turned to as they read laterally and deliberated whether those sources were credible. These discussions accounted for 27% of talk turns within the category of talking about the credibility of sources. For example, as teachers in Site 2 discussed the credibility of *Mother Jones*, they had the following conversation:

NRT7: [NRT1], you went to a different site, right? What site did you go to?

NRT1: Allsides.

NRT7: What did they say about *Mother Jones*?

NRT1: Well [Allsides] is kind of like, it tries to sort publications politically. So it sorts them [*Mother Jones*] I think as far left but if you read about [Allsides] it was founded by Republicans. *The New York Times* is also far left [according to Allsides]. That’s all [Allsides] really says about it, it doesn’t say anything about their credibility.

Up to this point in the PD, the teachers had not discussed credible sources to rely on while reading laterally. NRT7’s question prompted NRT1 to share the research they had done into Allsides, a site that commonly appears in search results during lateral reading. However, as NRT7 pointed out, the site only reports on the perspective of sources and does not offer information about their expertise.

Thus, focus on credibility offered teachers opportunities to build background knowledge for and skill at lateral reading. Teachers had

genuine conversations in which they grappled with complex and nuanced issues like what disqualifies a source from being considered credible (realizing that there is no clear-cut metric for credibility) or how to make decisions about what sources to rely on while reading laterally. Through the debriefs, the teachers worked to figure these things out together.

3.1.2. *Talking about supporting students*

In 41% of talk turns, teachers focused on how best to support students' reasoning about credibility. Instead of talking directly about the credibility of sources as they did in the examples above, in these portions of the debriefs, teachers considered how to help students learn to weigh credibility. They complimented approaches the RT had used during the rehearsal to help them (as students) consider a source's credibility, offered suggestions for places to provide more scaffolding, and brainstormed questions they could pose to students. For example, in Site 1, the RT began the debrief after they led a discussion about the credibility of the American Petroleum Institute article by asking, "What questions did I not ask that I should have asked?":

NRT1: I think I felt like the only notable thing was like when [NRT2] was talking about being backed by businesses, it might have been more powerful if we had dug into the fact that businesses were those oil and natural gas industry—

NRT2: Yea—

NRT1: because that led to more of the conflict of interest, I think with the fracking or with the climate change. And so maybe kind of digging into that piece a little bit more. The oil and natural gas industry piece.

RT: I get that, too. And I feel like because like I felt like I knew what you were talking about, I was like oh I recognize that.

NRT2: Uh-huh.

NRT1: Well and I think that's the hard piece, right? Because we keep talking about our sixth graders and that connection is so easy for us to make, and remembering that it's not easy for them to make.

NRT2: Yea.

NRT4: Uh huh.

NRT1: And remembering that it's not so easy for them to make. So kind of explicitly digging out and like digging into those pieces to make sure that they make those connections. That's I feel like that's going to be a little bit harder for me because that comes naturally to us.

Facilitator: And I think that's a moment like where you could orient to other students, you could say like, "Oh, hey, you mentioned business." Stop and sit with that for a minute. Like, "Let's talk about, did anybody else read about business connections that American Petroleum Institute has? What are those businesses?"

Here, the teachers discussed how the RT could have supported students to be more explicit about a potential conflict of interest that was raised, but not spelled out, in the discussion. NRT1 pointed to the difference between them as adults—who more intuitively understood the conflict of interest—and their middle and high school students, who may not immediately grasp the problem and its relationship to the source's credibility. Conversations like this, that focused on how to support students to consider how details they learned about a source impacted its credibility, accounted for 62% of the talk turns within this category.

In other cases, teachers discussed how to support students to draw final conclusions about the credibility of sources. These segments of the conversation accounted for 28% of talk turns within the category and often focused on what to ask as a discussion neared its end. In Site 2, teachers had the following conversation about the question the RT asked toward the end of the discussion:

NRT4: I like your final question too, not like would we trust this, but like if you had a choice, is this your number one choice?

NRT7: Yea, that's a great question.

NRT4: Because my answer is "Not my number one but I don't know what my #2 is yet." It really opened it up as a possibility like, I have to see what else I could work with, but not straight up this is a horrible site that we should never trust.

In another case, teachers in the same site commented on another question the RT asked at the end of the discussion, with NRT6 saying, "The question you posed to me, which is who are they writing for, who is their crew, who is this for? And I think that's an easy question for students to understand—like is it meant for everyone ... or is it only focused on a small group of people? And you don't have to be a crazy fact checker to know if it's only for a small group of people ... maybe it's not the most trustworthy." Through conversations like these, teachers had opportunities to expand their view of the ways they could support students to make final decisions about the credibility of sources, especially in ways that were accessible for students.

Finally, 10% of talk turns within this category focused on how teachers could plan for and structure discussions in ways that scaffolded students' understanding of credibility. Unlike the sub-categories introduced above, which focused on teachers' in-the-moment decision making and question formulation, talk turns here focused on discussion structures teachers could plan in advance. For example, teachers in Site 1 had the following conversation about the way the RT opened and closed the discussion with parallel activities:

NRT4: And I liked that we did like the show of fingers of reflection, I mean, of our rating of credibility in the beginning, because we were able to kind of see like where everyone was at. And then I liked that we wrapped it up with ... Now if you want to change, change, show of hands, and then I think it would have been like, so great if we all kind of had like a little turn and talk or a discussion on why did you change now? What did we say? What did we talk about that changed your standpoint?

NRT6: That was a great way to get engagement right from the beginning. And it was a great way to reengage at the end.

Here, the teachers discussed the efficacy of asking students to vote at the beginning and end of the conversation about how credible the source was—and, as NRT4 suggested, to ask students to reflect on how and why their opinion changed. In this interchange, teachers made visible how they might normalize students shifting their credibility judgment over the course of a discussion or as they uncovered new details about a source. Teachers could plan activities like this in advance and use them to support student participation and reflection on how their credibility assessments changed, as well as for formative assessment. In other segments, teachers talked about additional ways they could plan to support students' reasoning about credibility, including questions or other prompts they planned to kick off the discussion like asking a student to quickly summarize the purpose of lateral reading.

Thus, throughout the talk turns focused on how to support students' reasoning about credibility, teachers highlighted discussion structures and questions they felt would support such reasoning. Teachers shifted from playing students during the rehearsals to, in the debriefs, thinking

about their own teaching practice and students. As part of this shift in roles, teachers anticipated what aspects of the discussion—and the work of researching and analyzing credibility—might be difficult for students. They decomposed the work of credibility assessments and used their knowledge of students to consider what would be accessible and what would be hard. For the latter, teachers collectively brainstormed pedagogical approaches that might scaffold and ease the difficulty for students.

3.1.3. Talking about discussion facilitation

In 24% of talk turns, teachers discussed how to manage and facilitate discussions with students. These segments were not specific to the topic of evaluating credibility; they could have taken place during any conversation about facilitating discussions. For example, in Site 1, NRT4 shared that she felt comfortable brainstorming initial questions to frame discussions, but she struggled with “those follow up questions.” The RT immediately agreed, saying “Yes!” and NRT4 continued:

You know, like in the moment. Yeah. I’m like, okay, like how? Because it’s like, so quick that you don’t want to stand there like okay, let me think and reflect on what you said. It’s kind of like, you have to kind of be quick with that because you want to keep the conversation going, but having meaningful follow-up questions and meaningful guiding questions that you don’t really think about ...

After this conversation about the difficulty of generating questions in the moment, the group went on to brainstorm strategies for generating follow-up questions to spur student thinking. The majority (59%) of talk turns in this category were like the example above, in which teachers discussed how to respond to students in ways that recognized their contributions and moved the discussion forward without dictating a specific direction. In a similar case, teachers in Site 2 had the following discussion based on the RT’s initial question:

RT: I guess if it felt like I was directing the conversation too strongly, I felt like I was getting the main points across, that’s what I was debating as I was going, which rabbit holes to let people take on, and which to—to steer clear of.

Facilitator: What do you all think?

NRT9: I appreciated, I think [RT] gave student opportunities to sort of reflect and then sort of voice out why they said what they said or what made them come to the conclusion of where they came from, that felt good. There was a lot of validation coming from you.

NRT5: I thought [RT] did a good job of asking the questions in a way that allowed for an open-ended response, as opposed to just a very closed response. So that while it might open up the door for those rabbit holes it allowed people to talk through their thought processes.

NRT9 and NRT5 responded to RT’s quandary with specific feedback based on their experience in the discussion, affirming the way the RT asked questions and guided the discussion.

In 24% of talk turns within the category, teachers discussed how they prepared for the discussion. For example, in the conversation below, teachers at Site 1 discussed how their background knowledge and depth of preparation affected their discussion facilitation:

NRT1: And I think a big piece of [planning follow-up questions] is your comfort level with the material as well.

NRT4: Yea. Right, exactly.

NRT1: Because to me, I’m like, I just looked at this. Yeah, I did understand it, but I’m not 100%, so trying to listen to somebody’s feedback and then immediately ask a follow up question, not fully knowing this is kind of challenging too. Like, I don’t feel confident in the information enough to question you on your thoughts.

NRT4: And so even me, like that first source, API, that’s what I [read laterally about] first. So I was a little bit more comfortable that one, because we had more time to look at that first one versus [Mother Jones]With API I’d be like oh yeah, I can ask all these follow up questions but the *Mother Jones* I’d be like, I really don’t follow up with, you know ...

Here, two teachers discussed how their discussion preparation—in this case, how much time they spent researching the sources being discussed—affected their comfort facilitating the discussion. The implied takeaway from this conversation was that deeper preparation would make teachers more comfortable facilitating discussions and responding to students in generative ways.

Finally, in 22% of talk turns in this category, teachers shared their emotional experiences as discussion facilitators and participants. These were usually single talk turns where teachers shared their experiences, not back-and-forth conversations involving multiple talk turns. For example, NRT2 at Site 1 told the RT, “It was a very comfortable and safe atmosphere that you brought that I felt that we can have a discussion and you gave the time and space for that to happen as well, by asking, [NRT2] said this compared to that, what do you think?” In another instance, NRT9 at Site 2 told the RT, “I thought it was very open. Your tone was great, and I felt very comfortable responding. If I was a high school kid I definitely would have felt comfortable contributing to the discussion the way that you did it.” In both of these instances, NRTs offered their own emotional experiences as a form of feedback to the RT. They provided insight into the possible experiences of students in their classrooms as they facilitated discussions. Further, these instances suggest that teachers understood that because credibility judgments are not clearcut, sharing one’s reasoning and evidence involved some risk. By explaining that the RTs made them feel “comfortable” and “safe,” NRTs suggested that classroom conditions could support students to feel able to participate. Although the importance of a safe, supportive environment was not decomposed elsewhere, it was a subject in the debriefs.

Within the category of talking about discussion facilitation, teachers had opportunities to discuss and learn how to approach discussion facilitation in their classes—whether they were discussing lateral reading or some other topic. Teachers brainstormed how to productively respond to students in the moment, reflected on how their preparation affected their facilitation, and shared their emotional experiences as participants in the discussion.

3.2. Foci’s variable sequencing in lateral reading discussions

In addition to identifying teachers’ foci during rehearsal debriefs, we determined that teachers shifted focus among these elements repeatedly over the course of the debrief. As Fig. 2 shows, teachers moved between at least two—and usually all three—foci during a single debrief. They shifted between these foci fluidly, often returning to different foci at multiple points in the discussion. At times, teachers’ discussion of one element was quite sustained; at other points, their focus shifted rapidly from element to element.

For example, in the conversation below from Site 1 after a rehearsal in which teachers discussed the credibility of *Mother Jones*, they shifted from commenting on how to support students’ reasoning about credibility to how they analyzed credibility themselves—and then back to supporting students:

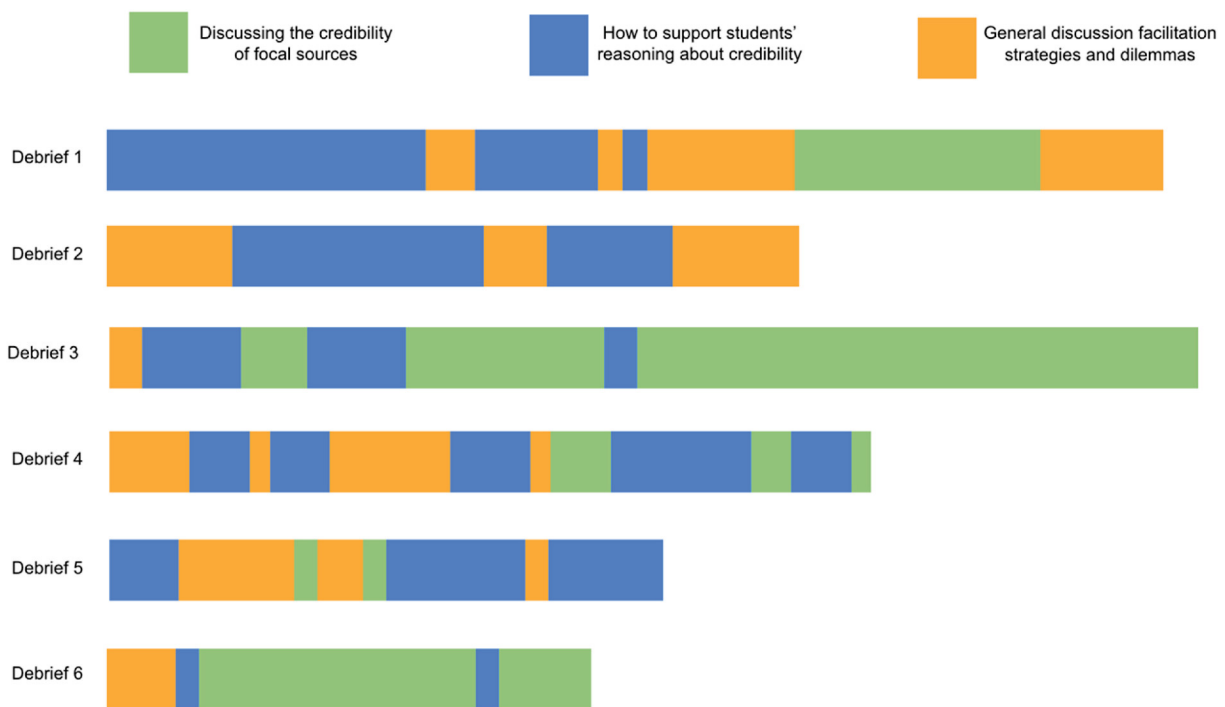


Fig. 2. Foci arrangement during Rehearsal debriefs.

Note: Segments in the figure represent the number of talk turns devoted to each area of focus; they do not represent the actual time in seconds spent on each foci or in each overall debrief.

NRT6: I do like, as a facilitator, he reminded us of the difference between, like, expertise and trustworthiness. And I think sometimes when we're debating about credibility, we can lose that.

NRT3: I agree that was a lot of my focus on the post. I had a hard time looking past the trustworthy part to get some expertise because there was so much [that could impact *Mother Jones's* trustworthiness]. Even though it was the past. But if you go back to like what we're looking at, like, you know.

NRT6: No I hear what you're saying because I'm on *Influence Watch* right now being like, now who was arrested? Yeah. [laughing]

Facilitator: That's so interesting [NRT6], because you guys are falling into that right now and your students will fall into that 100 times more than you will.

Multiple teachers: yes!

Here, NRT6 initially commented on how the RT prompted students to connect what they shared about the source to either expertise or trustworthiness. NRT3 then shifted the conversation to their own credibility analysis, admitting that they were distracted by controversies involving *Mother Jones* as they read laterally. NRT6 took the opportunity to go back to reading laterally about *Mother Jones* before the facilitator shifted the conversation back to supporting students. The group went on to brainstorm how they might help students weigh positive and negative details about a source and ensure they considered both expertise and trustworthiness.

Finally, there was no fixed order in which the elements were discussed; however, discussing the credibility of the focal source(s) was never the first topic discussed. Talking about facilitating discussions or supporting students was always the first topic in the debriefs. Further, discussions about the credibility of the focal sources were more frequent in the third debrief in each site (Debriefs 3 and 6) than they were in the preceding debriefs.

4. Discussion

This study examined the focus of teacher talk during debriefs after rehearsals of discussions about lateral reading. These relatively unstructured debriefs were framed as an opportunity for teachers to discuss their experiences, questions, and takeaways from participating in rehearsals. Instead of acting as a teacher (for the RT) or students (for NRTs) as they had in the rehearsal, all the teachers came together in the debrief as themselves, with their own practice and students in mind. This study suggests that rehearsal debriefs are an avenue for opening up conversations about critical elements of facilitating discussions about evaluating online information that teachers need support learning.

4.1. Learning to teach online evaluations

There were numerous learning opportunities present in the rehearsal debriefs as teachers collectively reflected, offered feedback, and brainstormed. Teachers discussed their decisions about the credibility of sources and the information they used to make those decisions, how they could structure and facilitate discussions to support students' reasoning about credibility, and how to approach facilitating discussions in general. Across the three foci, we can see parallel, at times overlapping learning opportunities. For example, when teachers discussed the credibility of sources themselves, they grappled with the complexity of credibility decisions and learned (or reinforced their learning) that credibility is not a binary decision. Relatedly, when they discussed how to support students to consider how source details impact credibility, teachers brainstormed how to use discussions to scaffold students' understanding: how to take something they realized was complex even for them as adults and make it more accessible for students. Such scaffolding came in the form of general discussion strategies (e.g., how to set up the discussion; how strongly to control the flow of conversation) but also in the form of brainstormed questions about the source and credibility itself. Thus, even as they discussed different aspects of facilitating discussions after lateral reading, teachers had opportunities to deepen

their understanding of the preparation, content knowledge, pedagogical moves, and even emotional elements that underlie facilitating discussions about lateral reading.

Research shows that students around the world need more support learning to evaluate online information (e.g., Breakstone et al., 2021; Nygren & Guath, 2019; Abed & Barzilai, 2023) and that interventions to teach evaluation skills like lateral reading can help (e.g., Barzilai et al., 2023; Brodsky et al., 2023; Wineburg et al., 2022). However, much less work in the U.S. or internationally has focused on the teacher education efforts that can effectively support teachers to learn to teach online evaluations (see Weisberg et al., 2022 for an exception). This study suggests one potential route forward in planning for teacher learning: Professional learning opportunities that take a practice-based approach and include opportunities for rehearsals and debriefs. The elements that teachers discussed during rehearsal debriefs—evaluating credibility, supporting students' evaluations, and facilitating discussions—are all parts of learning to teach online evaluations that research suggests teachers might need more time and support to learn (e.g., Hess, 2022; McGrew, 2021). The debriefs were not specifically structured to focus on these elements, and the facilitator did not routinely prompt teachers to discuss them. This suggests that the experience of facilitating or participating in a discussion and then reflecting on it provides a rich context for learning the skills that teachers most need to learn as they prepare to teach students to evaluate online information. Rehearsal debriefs can play the dual role of supporting teachers' skill development at evaluating online information *and* their pedagogical knowledge for teaching such skills to students.

4.2. Rehearsals as a pedagogy for professional learning

This study also builds on and extends research in practice-based teacher education. This study is among the first to extend PBTE work beyond traditional disciplinary bounds and into the context of a cross-disciplinary group of ELA and social studies teachers learning to teach online evaluations. Prior work in PBTE has, not surprisingly, focused on contexts in which discipline-based groups of teachers collaborated to learn teaching practices central to their subject area. As the emerging work on what teachers learn in these contexts suggests (e.g., Kavanagh, Conrad, et al., 2020; Kavanagh et al., 2019), teachers in this study had opportunities to learn about and extend their teaching practice—facilitating discussions that supported students' reasoning about credibility—as well as content knowledge in the form of their understanding of how to make credibility judgments while reading laterally. This suggests that teachers do not necessarily need a common disciplinary base to learn together during rehearsals, and that the learning they do can be outside typical disciplinary bounds. Further, although prior studies of rehearsal and rehearsal debriefs have described opportunities for teachers to learn about disciplinary content (Kavanagh et al., 2019) and pedagogical practice (e.g., Kavanagh, Metz, et al., 2020; Schutz et al., 2019), this study suggests that rehearsal debriefs offer opportunities for teachers to learn about content *and* pedagogy within the same debrief space. Finally, like a few existing studies (Baldinger & Munson, 2020; Munson et al., 2021), this study focused on a practice-based opportunity for in-service teachers. Rehearsals, which require a degree of vulnerability from participating teachers, may be more difficult with a group like the one in this study that has not had extensive time to build rapport and trust. However, teachers in this study still had generative discussions, even on their second day together as a group. This suggests that rehearsals are a promising pedagogy even within relatively short professional development experiences.

Like Baldinger and Munson (2020), Munson et al. (2021), and Peercy and Troyan (2020), we narrowed our focus specifically to rehearsal debriefs and echo the finding that these discussions hold promise as spaces for teachers to develop their knowledge and expertise. When teachers were given the agency to control the flow of conversation in the rehearsal debriefs, they did so in ways that ultimately focused on the

elements of teaching students to evaluate online information where we know teachers need more support. In other words, teachers took advantage of the learning opportunities provided in the collaborative space of the rehearsal debriefs to actively make sense of difficult aspects of teaching online evaluations. As Peercy and Troyan (2020) argued, much existing work on rehearsals “position[s] the TE as expert ... evidenced by TEs' primary role in directing rehearsals and providing feedback” (p. 4). In rehearsal debriefs, the teacher educator participated but was not the primary driver of questions and feedback; these conversations were a space for teachers to take ownership of their learning and direct the conversations in ways that suited their interests, questions, and learning needs.

At the same time as the teacher-directed nature of the debrief was a strength of the data analyzed here, not all teachers may be willing or able to engage openly in discussing a wide range of topics. It may be useful for teacher educators to prepare a set of topics that they could use to spur discussion if necessary. For example, in rehearsal debriefs like those in this study, teacher educators may keep the three foci identified here in mind. Teacher educators could use questions or comments focused on these areas to spur lagging or siloed conversations. Research should also continue to investigate how teacher educators ensure balanced and productive conversations that address teacher learning needs.

4.3. Limitations and future research

Although this study provides promising evidence about the possibilities for teacher learning from rehearsal debriefs, more work is needed. Two sites were included in the data, but both were part of the same professional development program and the number of teacher participants was modest. Studies of rehearsals and rehearsal debriefs in a wider variety of contexts, with more teachers and different facilitators, could confirm and extend these findings. For example, studies could examine debriefs with pre-service teachers, who may be still developing knowledge that the in-service teachers in this study brought to the debriefs, or investigate whether the presence and arrangement of foci is similar in additional contexts. Further, this study did not use formal pre- and post-PD surveys or follow teachers into their actual classrooms to track teacher learning: We do not have data about whether or how the teachers' evaluation strategies or conceptions of credibility grew more sophisticated or if their learning was apparent as they facilitated lateral reading discussions with their students. Studies that did this would strengthen our understanding of whether learning opportunities present in rehearsals actually translated into teachers' practice. Research should continue to probe the design and structure of rehearsals and debriefs (e.g., Benedict-Chambers, 2016) to understand the substance of teacher discussions, what purposes debriefs serve depending on what is being rehearsed, and the teacher learning that results from these shared experiences.

4.4. Conclusion

As pressure grows to teach digital media literacy in schools around the world, the question of how policymakers and school systems might support teachers to begin teaching these skills is one that largely lacks empirically-supported answers. This study takes a first step toward suggesting that practiced-based approaches might provide an avenue for supporting in-service teachers. This study contributes to understandings both of how to support teachers to learn to teach online evaluations and how rehearsals and rehearsal debriefs support teacher learning as one element of practice-based teacher learning. Teachers in this study rehearsed facilitating a discussion, but the debrief after that rehearsal did not focus solely on general discussion facilitation moves. Teachers also had opportunities to learn about how to research credibility and how to support students as they learned to read laterally. In this way, rehearsals and rehearsal debriefs may be one key component of teacher

education and professional development experiences that support teachers to learn to teach the critical democratic skill of evaluating online information.

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Declaration of competing interest

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Appendix A. Coding Scheme

Code	Subcode	Example
Talking about supporting students' credibility assessments	Final credibility decision: Discussing how to support students' final decisions about how credible a source is, whether they would use it, or which source is more credible.	"I think it showed the importance of having like two sources during these conversations ... But to have in a real classroom, to be able to say, API against this, or whatever you're looking at against this, which one would be more credible? It's just something that kind of drives the point home that we should have a minimum of two sources that we're looking at in these types of things."
	Effect on credibility: Discussing how to support students' understanding about how details they shared about a source add to or detract from its overall credibility.	"I thought you did a good job of relating it back to trustworthiness or expertise of a source, and relating how that source was credible."
	Teacher planning: Discussing aspects of discussions that teachers could plan in advance to support students' reasoning about credibility during the discussion.	"And I liked that we did like the show of fingers of reflection, I mean, of our rating of credibility in the beginning, because we were able to kind of see like where everyone was at. And then I liked that we wrapped it up with, okay, now we can, based on our conversation. Now if you want to change, change, show of hands, and then I think it would have been like, so great if we all kind of had like a little turn to talk or a discussion on why did you change now? What did we say? What do we talk about that has changed your standpoint?"
Talking about their own lateral reading and the credibility of focal sources	Source details: Discussing details they learned about sources from lateral reading and how those details affect the source's credibility.	"You see, in mine was the opposite, because when we were looking at Mother Jones, I was like, Oh my God, they're like award winning. Everyone loves them. They're trusted."
	Lateral sources: Discussing what lateral sources they used to learn more about the original source and whether those lateral sources are credible	"Allsides only rates media bias/perspective, it doesn't rate expertise at all, which is why I struggle with Allsides a bit because you don't get any perspective on [the source's] expertise."
Talking about how to facilitate discussions in general	Responding to students: Discussing how to respond to students in the moment in discussions, including follow up questions and how much to direct conversation.	"I think you did a good job tying into what other people said. Like how, like you confirmed when somebody was on, like 'Yes that's a good point' and then you tied in when there were similar comments that people made, which always gives the students confidence to talk more."
	Emotional experience: Teachers' expressions of how facilitating or participating in the discussion felt or how they imagine students would feel.	"I thought you did a very good job of getting us to talk to each other as well. It was a very comfortable and safe atmosphere that you brought that I felt that we can have a little discussion and you gave the time and space for that to happen as well."
	Discussion planning: Discussing how to plan for successful discussion facilitation that is not specific to supporting students' credibility judgments.	"Just a general teaching perspective, I like the variation in show of hands at the beginning, show of thumbs at the end, just makes sure we're all listening to what you're asking us to do."

Data availability

The data that has been used is confidential.

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