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Less than One Percent is not Enough: How Leading Literacy Organizations Engaged with Climate Change from 2008 to 2019

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Abstract: This paper considers a twelve-year period (2008-2019) and examines to what extent conference presentations and journal publications from three leading literacy and language professional organizations addressed the topic of climate change. Despite it being perhaps the most significant "mega-problem" of the 21st century (Martin, 2007), findings from this study demonstrate that climate change was largely invisible across the thousands of presentations and publications in this data set. It is time literacy and language educators and corresponding professional associations reckon with this troubling reality.

Keywords: climate change, climate justice, environmental justice, literature review, literacy

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Introduction[1]

The International Literacy Association (ILA), the National Council of Teachers of English (NCTE), and the Literacy Research Association (LRA) are three leading professional organizations based in the United States with a shared commitment to promote, nurture, and expand literacy and language learning, teaching, and research in order to make positive, enduring contributions in communities across the country and the world. Central to this commitment is an understanding that advancing literacy and language development cannot be separate from the social worlds that learners of all stripes inhabit (students, teachers, administrators) -- social worlds that, when situated locally or globally or both, are always imbued with challenges and problems. As former classroom teachers and current university faculty members at research institutions, we are proud to be involved in each of these three organizations and like our fellow members of ILA, NCTE, and LRA, we believe literacy and language are tools or engines for empowerment and change, for understanding and addressing a host of societal challenges.

James Martin (2007) has identified 16 challenges or "mega-problems" facing humanity. One is anthropogenic, or human-caused, global warming while most others (e.g., water shortages, destruction of ocean life, spread of deserts, unstoppable global migration, mass famines) are exacerbated by this mega-problem. In 2007, the United Nations-led Intergovernmental Panel on Climate Change (IPCC), the leading global scientific authority about climate change, issued a grave warning about irreparable global warming with cataclysmic results unless rapid and far-reaching measures were taken, namely by the world's leading industrialized and intensive energy-use countries. Importantly, the impacts of this crisis have not been and will not be felt evenly across our own communities or the world more broadly. Climate change impacts inevitably accumulate in places and on the backs of front-line communities (Turrentine, 2019). These impacts amplify and fuel racial, gender, economic, and geographic, among other, injustices in the United States and around the globe (Islam & Winker, 2017; Johnson & Wilkinson, 2020; Klein, 2014). In 2020, we might look at the pummeling by hurricanes, tropical storms, and flooding of the gulf coast states of Texas, Louisiana, Mississippi, and Alabama where many Black and majority low-income communities live continually in recovery mode as a sobering example.

This paper considers the twelve-year period (2008-2019) following the IPCC's warning and examines to what extent conference presentations and journal publications from ILA, NCTE, and LRA addressed the topic of climate change. After outlining three core understandings about climate change with respect to literacy and language studies (Damico, et al., 2020), we delineate codes that examine the extent to which journal publications engaged with climate change. Despite climate change being perhaps the most significant problem of the 21st century, our findings show that climate change was largely invisible across the thousands of presentations and publications in this data set. It is time literacy and language educators, and corresponding professional associations, reckon with this troubling reality.

Core Understandings about Climate Change

In the following sections we unpack core understandings that we have come to center in our orientation to climate change and its intersection with literacy. In this paper, while we outline what is

[1] We acknowledge that there is a gender spectrum and that myriad pronouns exist that we can use when referring to individuals in our writing. Throughout this article we use pronouns to refer to individuals that correspond with the pronouns that they use to refer to themselves.

clearly a disconnect between the field of literacy and its location in the mega problem of climate change, we also highlight synergies that are already present and might be nurtured by the field.

Climate change is a complex socioscientific, interdisciplinary topic and problem.

For literacy researchers, complex issues include social, cultural, spatial, political, and affective dimensions of our environments and the texts that circulate across them. Importantly climate change is understood in the United States through a range of perspectives (Gustafson et al., 2019) related to political allegiances and "cultural worldviews" (Kahan et al., 2012; Leiserowitz, et. al., 2014; Lombardi and Sinatra, 2012; McCright and Dunlap, 2011; Weber and Stern, 2011). Fundamentally, climate change is about *more than* science; as such, it must be understood as a socioscientific topic cutting across academic disciplines and their political, civic, geographic, economic, social, cultural, psychological, and historical dimensions (Damico et al., 2018; Klein, 2014), as well as across traditions in environmentalism, activism, economics, politics, religion, and art (O'Brien, 2017). Literacy as a field intersects in meaningful and important ways across academic disciplines and community spaces when it comes to complex issues that deserve exploration in and out of formal classroom environments with learners of all ages. Socioscientific issues or problems, for example, often play a prominent role in content area literacy, disciplinary literacy, critical literacy, and community literacies (Damico & Baildon, 2011; Wargo & Oliveira, 2020). Put simply, as a complex, socioscientific topic, climate change is well within the purview of literacy educators, scholars, and our professional organizations.

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Engagement with climate change is mediated primarily by a complicated, diverse array of "motivated" digital texts and "motivated" readers.

One straightforward connection between literacy and climate change is in the area of motivated text. All texts are motivated because they represent interests and agendas. This includes texts that have a global reach and come in the form of sponsored content, part of an "epic scramble to get inside our heads" (Wu, 2017). This most certainly includes texts that promote denialism or "manufacture" doubt about established scientific findings by distorting the line between fact and opinion about climate change (Oreskes & Conway, 2010; Washington & Cook, 2011). In addition, as readers, we come to texts with particular ideas, values, perspectives and positions which "motivate" each of us to receive and accept information that aligns with our beliefs or confirms pre-existing perspectives. Climate change is not read in isolation, rather these motivated texts circulate as readers gravitate towards "echo chambers" which tend to reinforce, rather than challenge, their own worldviews. This presents a range of challenges for comprehension and text evaluation (Jamieson, 2008; Manjoo, 2008; Kahne & Bowyer, 2016). Indeed, most recently we have seen other vestiges of these echo chambers, and the perpetuation of disinformation, related not just to climate change, but also to verifiable facts about the 2020 election of President Biden. Climate change denial and issues of motivated reading are the provenance of literacy researchers: motivated readers

and reading have perpetuated issues of disinformation about scientifically sound knowledge in the current "post-truth" era with profound implications for the safety and wellbeing of the present and future of people, animal and plant life, and the land here within the United States and around the world.

Climate change is about climate (in)justice.

Today there is greater recognition that different language is necessary to describe the scientific realities of climate change and clarify courses of action to address it fully (Monbiot, 2018; Nader, 2019; Search & Finzi, 2020). For example, Greta Thunberg (2019), the young activist from Sweden and key leader in the climate justice movement, has advocated on Twitter to "stop saying 'climate change' and instead call it what it is: climate breakdown, climate crisis, climate emergency, ecological breakdown, ecological crisis and ecological emergency."

Understanding climate change as a socioscientific or sociological (rather than strictly scientific) topic helps keep issues of inequality and injustice central because "sociologists are unique among scientists in [their] relentless focus on inequality" (Harlan et al., 2015, p. 128). Reframing climate change as climate justice has also been the call of world leaders, scholars, educators, and activists who reflect a more intersectional perspective, linking climate work with, for example, economic, racial, decolonizing, abolitionist, and gender justice aims (e.g., Bullard & Wright, 2012; Francis, 2015; Klein, 2014; Movement4BlackLives, 2020; Newberry & Trujillo, 2019; Robinson, 2018; Smith, et al, 2019; Tuck & Yang, 2018). Large scale destruction of ecosystems and animal life has been perpetrated primarily by the world's wealthiest nations and transnational corporations as a product of globalized capitalism (Klein, 2014). Yet, the most destructive climate change consequences, such as depleted access to food, water, and safe living conditions, are being and will continue to be felt most in the poorest countries and in locales where a range of inequities, including those connected to economic, citizenship, gender, racial, and ability statuses, among others, compound over time: extreme events (e.g., weather, fire, water) are not slowing and only serve to exacerbate these inequities (Islam & Winker, 2017).

Methods

Other scholars have examined literacy publications to better understand the broader state of the field (e.g., Parsons et al., 2020). We, however, wanted to cast a different net and focus on conference presentations and journal publications across the three most powerful U.S. organizations in literacy and language in order to identify work being done on climate change. A systematic review was employed to identify presentations and publications related to climate change. This took place over three stages.

Conference Search

First, we obtained programs for the annual conferences conducted by the ILA, LRA, and NCTE for the years 2008-2019[2]. We focused on the primary annual conference for each organization, excluding, for example, the English Language Arts Teacher Educators and the Conference on College and Composition and Communication conferences within NCTE. We searched for session titles and abstracts that included any of the following keywords: *climate, climate change, climate crisis, climate fiction, climate justice, ecocomposition, ecoliteracy, ecological, environment, environmental justice, sustainability,* and *global warming*. We intentionally cast a wide net in our searches, seeking

[2] The organizations were unable to provide conference programs for ILA (2008, 2009); NCTE (2011, 2012).

to identify as many works as possible that addressed environmental, ecological, or climate issues. We included all session types. In order to discern the percentage of conference sessions that included some emphasis on climate or ecological concerns, we tallied the total number of conference sessions each year. We excluded from this total any sessions with more administrative purposes (e.g., committee meetings).

Journal Search

Second, we searched electronic databases of journals for the years 2008-2019. This included five NCTE journals (*Language Arts, Voices from the Middle, English Journal, English Education, Research in the Teaching of English*), three ILA journals (*Reading Research Quarterly, Journal of Adolescent and Adult Literacy,* and *The Reading Teacher*), and one LRA publication, (*Journal of Literacy Research*). We excluded the journal, *Literacy Research: Theory, Method, and Practice,* as its content is drawn directly from the LRA annual conference. We used boolean logic/operators for the same keywords used above and screened abstracts for articles using the inclusion criteria. We excluded publications that used keywords in non-environmental ways, such as the "sustainability" of a curriculum or the "climate" of a school.

We contacted each journal's editorial assistant to request their total publication figures but did not receive responses or were told this was not possible. Thus, to identify the total number of published articles in each journal, we manually counted all articles published in each journal for each year. We included all research or teaching-focused articles as well as book reviews. We excluded from this count any journal sections with more administrative purposes (e.g., thanks to reviewers, in memoria, calls for manuscripts, award descriptions). *English Journal* includes poetry submissions in many of their volumes and we excluded these as well.

Collaborative Qualitative Analysis

This search identified 53 articles meeting our criteria. We conducted collaborative, qualitative coding of these articles. Codes were assigned based on the criteria described below. These definitions were arrived at through both the a priori core understandings *and* iterative discussion/revision as we read the entirety of each article. Using Google Sheets, each author coded every article independently to identify 1) level of engagement with climate change; 2) qualitative features (e.g., paper type, context, theory); and, 3) core understandings of climate change. Alex, Author 1, identified areas of difference in coding, then we met virtually and discussed discrepancies until consensus was reached.

Engagement Level Codes

Coding began with identifying the level of engagement with the subject of climate change (primary, secondary, or tertiary). For articles coded as "primary," climate change was central to the framework, analysis, writing and/or description of data or teaching. Articles identified with a code of "secondary" included environmental issues but were primarily about literacy practices or other English Language Arts (ELA) discipline specific concerns. This category was discerned after multiple rounds of coding and discussion: through our iterative analysis we found a few articles that privileged literacy practice and broad environmental issues, but did not engage climate change specifically. These were also included in the secondary code. For "tertiary" articles, climate change and/or other environmental issues were included more parenthetically, for example, as one among many potential topics for a classroom inquiry.

We identified a number of additional qualitative codes during our analysis. For example, we coded for paper type (e.g., empirical, conceptual, teacher research), research context, theory, method, and references to climate science research or related sociohistorical events (e.g., Paris Climate Accord of 2015).

Socioscientific Code. The first two codes are closely related: whether the article positioned the topic of climate change as a socioscientific and/or interdisciplinary issue. We initially coded these together as "socioscientific," but we came to recognize these as two distinct codes. We used the code "socioscientific" when authors located the issue of climate change in terms of its social, cultural, and/or political dimensions -- for example, if they used language such as "social" or "complex" issue or problem, or "global topic of concern."

Interdisciplinary Code. We employed this code when authors positioned the issue or teaching of climate change as connected to academic disciplines outside of literacy, such as science, history, mathematics, art, or environmental science.

Motivated Code. The third code identified whether the article addressed the role of motivated texts or motivated readers. In terms of "motivated texts", we identified if authors explicitly named texts as having a particular purpose or agenda. In terms of "motivated readers and writers," we considered whether authors acknowledged or analyzed if study participants drew upon their beliefs, values, or orientations about climate change or environmental issues as they wrote or read.

Justice Code. We included an article in this code if authors explicitly identified climate change in terms of justice or inequality/inequity.

Findings

In the following sections we describe findings from our analysis focusing on 1) conference proceedings, 2) journal articles, and 3) articles identified as "primary".

Table 1

Frequency of Conference Total Presentations, Climate Change Presentations, and Percent of Climate Change Presentations (excluding ILA - 2008, 2009; NCTE - 2011, 2012)

Literacy Organization	Climate Change Presentations	Total number of Presentations	*Percent Climate Change Presentations*
International Literacy Association	16	13,023	*.12%*
Literacy Research Association	5	5,811	*.09%*
National Council of Teachers of English	82	17,560	*.47%*
Total	103	36,364	*.28%*

Conference Sessions

Our search of abstracts or descriptions of sessions from the ILA, NCTE, and LRA annual conference from 2008-2019 yielded 103 sessions related to climate change. This number is much less than one percent, or just 0.28%, of the total number of 36,364 sessions (see Table 1). Further breakdown reveals that none of the major organizations included climate change presentations at greater than 0.5% of their total program schedule.

NCTE hosted the most conference sessions about climate change (n=82). Notably, from 2016-2019, a group of English Education scholars led an annual NCTE session on climate change that included a number of breakout or roundtable sessions (e.g., Beach, n.d.). This accounted for 57% (n=59) of the total number of presentations across the twelve-year period for all three organizations. Excluding sessions led by these scholars, the percent of overall presentations falls to 0.12%. While this review of conferences was limited to session titles and

Table 2

Frequency of articles addressing climate change or environmental issues by journal and percent total of all articles per journal

Journal	Climate Change Articles	Primary Coded Articles	All Articles	*Percent Climate Change Articles*
Journal of Literacy Research (LRA)	7	0	245	*2.86%*
Reading Research Quarterly (ILA)	4	2	301	*1.33%*
Journal of Adolescent and Adult Literacy (ILA)	13	4	1,157	*1.12%*
English Journal (NCTE)	12	4	1,457	*.82%*
The Reading Teacher (ILA)	8	2	1,107	*.72%*
Language Arts (NCTE)	4	1	608	*.66%*
Voices from the Middle (NCTE)	4	2	651	*.61%*
English Education (NCTE)	1	1	227	*.44%*
Research in the Teaching of English (NCTE)	0	0	262	*0%*
Total	53	16	6,015	*.88%*

abstracts, we were able to examine journal articles in greater depth.

Journal Publications

We considered all the publications of nine journals published by either ILA, NCTE, and LRA (see Table 2). Using keywords listed above, we identified a total of 53 articles, which represents 0.88% of all 6,015 published articles across these journals from 2008 to 2019. Table 2 also highlights the number of articles that more directly engaged with climate change and were designated as "primary." Of the 53 articles, 57% (n=30) were research studies situated in classrooms, universities, or community contexts. Non-empirical studies (n=23) included essays, book reviews, analysis of children's literature, and commentaries. In addition, a breakdown of articles by organization indicates that of all ILA publications for the years reviewed, 0.97% (n=25) were about climate change. NCTE published 21 articles about climate change, comprising 0.66% of all its articles. JLR, the sole LRA journal, published no primary coded articles while 2.86% (n=7) of all its publications addressed environmental issues.

Of note, five of the articles for the *English Journal*, including four designated as "primary," were from one special issue in 2011 (Lindblom, 2011). However, the vast majority of publications across all journals were not part of special issues, columns, or calls.

Level of Engagement Codes

We were most interested in learning how and to what extent climate change was dealt with in each of the 53 articles. We found that less than one-third (n=16) could be categorized as "primary" -- in which climate change was central to the framework, analysis, writing and/or description of data or teaching (we further explore this category in the next section). This means climate change was not centered in more than two-thirds of the articles that met the initial inclusion criteria. We identified 15 of these as secondary and 22 as tertiary (see Appendix B for list of citations). In addition, Table 3 provides a frequency count for the four core climate change understandings. Notably, 55% (n=29) of all articles positioned the issue as socioscientific, while less than half positioned it as an interdisciplinary issue (n=22) connected to motivated texts, readers, or writers (n=17), or as an issue of justice (n=16).

Tertiary. Of the 22 tertiary coded articles, 12 were empirical, eight were conceptual or commentary, and two were curriculum and classroom ideas/reviews. Ten of these articles were located in classrooms, either in the form of qualitative research, classroom and/or teacher research, or teacher reflections. For publications designated as tertiary, climate change or an environmental issue was mentioned parenthetically, typically as a potential topic of study or connectivity to literacy practice. In an *English*

Table 3

Frequency of Codes by Engagement Level

Engagement Level		Socioscientific	Interdisciplinary	Motivated	Justice
Primary	16	16	12	8	8
Secondary	15	7	4	5	3
Tertiary	22	6	6	4	5
Total	53	29 (55%)	22 (42%)	17 (32%)	16 (30%)

Journal article, for example, Burr (2017) listed how students engaged in activism research about "climate change, animal cruelty, pollution, marijuana legalization, masculinity, gender roles, and social media's effects on self-confidence, among other topics" (p. 64). In another example, published in *The Reading Teacher*, Degener and Berne (2017) offer global warming as a possible topic that supports higher-level comprehension practices.

Secondary. Of the 15 articles coded as secondary, ten were empirical. Nine publications were teacher and classroom research or reflections from K-16 classrooms, including two studies that focused on pre-service teachers. More than half of these articles (see Table 3) positioned environmental issues or climate change as a socioscientific issue, while less than half acknowledged climate change as interdisciplinary, and one-third or less considered the motivated or justice dimensions. While articles designated as "secondary" engaged more directly with climate change or an environmental issue, this was not the primary focus of these articles. For example, Murphy et al.'s 2016 empirical study in *Journal of Literacy Research*, considered intratextual persuasive messaging about climate change, the economy, global warming, and politics. The study explicitly named and considered this content in terms of the texts chosen for the study and how participant background knowledge about these topics impacted specific literacy skills. Yet, the article's theoretical framing, findings, and implications focused solely on the literacy practices of novel text, persuasive messaging, and argumentation. The majority of the articles designated as "secondary" (11 of 15) were similar.

It was less clear-cut for four of the 15 "secondary" articles. Because these articles positioned environmental issues more broadly (e.g., in terms of sustainability) and more direct connections to climate change were missing, we ultimately decided these were distinct from articles designated as "primary." For example, Schneider et al.'s (2014) article in the *Journal of Adolescent and Adult Literacy* considered a local school-university partnership project that focused on sustainability practices in both places. While the article unpacked the various ways instruction and research teams worked together to support both "greening" a local space and supporting literacy practices connected to e-book reading and developing promotional films about the project, there were no direct links to climate change or global warming.

Closer Look at Primary Coded Publications

Closer inspection of the 16 publications with a primary climate change emphasis yielded additional insights. Two literacy associations, NCTE and ILA each were responsible for half of the sixteen publications. Primary coded publications included a range of genres: essays (n=4), teacher research (n=4), mixed methods or quantitative empirical studies (n=3), qualitative and classroom-based research (n=3), reviews (n=2), and one conceptual piece. Five of these articles employed an eco-centered theoretical framing (e.g., ecocriticism, ecophilosophy, ecoliteracies, ecocomposition), while the other 11 drew theoretically on one or more traditional literacy frameworks such as multiliteracies, critical literacy, interdisciplinary inquiry, content or disciplinary literacy, text or content analysis, digital literacy, multimodal literacy, cognitive models, intertextuality, or source credibility. Notably, as part of their framing, roughly half cited leading climate change research authorities (e.g., the Intergovernmental Panel on Climate Change, NASA) and approximately a third included key historical events related to our current climate crisis (e.g., 2009 Copenhagen Summit of the United Nations, Paris Climate Agreement signed in 2016, IPCC reports). Appendix A provides an overview of all 16 articles and our findings of how each addressed the

core understandings. All 16 articles addressed climate change as a socioscientific issue or topic and most (12 of 16) incorporated an interdisciplinary lens, connecting primarily to science or social studies. In addition, half of the authors addressed motivated texts or readers and half explicitly employed the term justice.

Articles designated as "primary" demonstrated clear, sustained attention to climate change regardless of the literacy practices, content, or skills also being addressed. In *English Journal,* Webb (2019) examined teaching the novel, *The Grapes of Wrath,* through the lens of climate refugee experience, history, scientific understanding, and justice. Webb describes the drought conditions of the Dust Bowl in the 1930s U.S. as connected to human-caused global warming, positioning drought, migration, and soil erosion as part of our history, present, and future. In *Reading Research Quarterly*, Bråten et al. (2009), share an empirical study situated in a university classroom that used correlational and regression statistical analyses to examine whether source evaluation is related to comprehension and reading multiple texts about global warming as a socioscientific topic. Their findings offer insights not only into sourcing and comprehension, but also the particular challenges of sourcing and background knowledge specific to global warming.

We identified only two articles that included all four core climate change understandings: socioscientific, interdisciplinary, motivated, and justice dimensions (Boggs et al., 2016; Damico & Baildon, 2011). In their review of children's books about climate change, Boggs, et al. (2016) identified climate change as a "pressing issue" of "growing concern," engaged interdisciplinarity with attention to the science and history of climate change and its consequences, analyzed the perspectives or motivations of children's books, and noted the importance of considering "justice, care, and understanding" (p. 674) in selecting and reading children's literature. The second article, (Damico & Baildon, 2011), responds directly to the question, "What part does education have to play in addressing and alleviating climate change and its effects?" (p. 232) by situating it as an issue of justice through which content literacy has a special role to play. Drawing on metaphors of excavation and elevation, the authors identify how motivated multimodal texts about climate change might be approached through the lens of content literacy practice. These two articles value interdisciplinarity, position literacy as having clear stakes in socioscientific topics, and support readers in engaging with complex, motivated texts about climate change as an issue of justice.

Limitations

There are several limitations of this study. First, our review of conference presentations was limited to titles and abstracts. It is possible that some sessions engaged climate change or ecojustice issues that were not visible through the program itself. In addition, this review does not account for the climate change/justice work by teachers across the country that has not made its way to journal publication or conference presentations. Some or perhaps a majority of these teachers might even be members of these three organizations and attendees at the professional conferences. Learning more about what literacy and language arts teachers are doing related to climate change/justice in their classrooms represents a vital area for future research. Nor does this review account for book publications that have tackled these topics. For example, Beach et al. (2017) offer literacy-based pedagogical approaches and implications for teaching adolescents about climate change. Rethinking Schools published *A People's Curriculum for Earth* (2014) which focuses on interdisciplinary and social action approaches to teaching about climate change. Thus, there is undeniably more extensive work going on in the field of literacy than what is covered in our analysis.

Implications

Overall, these findings point to a stark, troublesome reality. For the twelve-year period after the dire 2007 IPCC report, climate change and climate justice work has mostly been off the radar when it comes to journal publications and conference presentations across the three leading literacy-related professional organizations. Just 0.28 % of conference sessions and 0.88% of journal articles dealt with climate change or environmental issues more broadly. To a certain extent, this is not surprising. Throughout this time we were living in an "age of denial" with respect to anthropogenic global warming (Frank, 2013). Climate change has been and remains a deeply divisive and politically partisan issue, particularly in the U.S. where denial campaigns funded by fossil fuel stakeholders, and party affiliation, consistently make a difference in people's perspectives on climate change (Gustafson et al., 2019). Denialism also seeps into all facets of society, including the spaces we as authors contribute to and value deeply. Literacy as a field is not immune to climate change as a socioscientific, interdisciplinary, and partisan issue of justice as it exists in the United States.

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While these findings might not be a surprise, we hope they are also a clear wake-up call for all of us as literacy and language educators and for our professional associations. NCTE has responded to this crisis with its 2019 "Resolution on Literacy Teaching on Climate Change," which emphasizes that "climate change is not simply a scientific or technological issue, but one with enormous ethical, social, political, and cultural dimensions." The resolution calls for: resisting "the politicization of climate science by evaluating curricular texts for scientific credibility;" leading "students to engage thoughtfully with texts focusing on social and political debates" about climate change; and working with teachers across disciplines. The Commission on Climate Change and the Environment in English, through the NCTE English Language Arts Teacher Educators (Mayo & Novack, n.d.), also lays out clear aims and has curated resources for educators. We hope efforts within and across our three professional associations builds from and extends this work.

Toward this end, we think it is essential to frame climate change as a socioscientific and multidisciplinary topic and core "mega-problem" of our time, one that is centrally about all of our social locations and is fundamentally about intersectional and intergenerational justice. Race, class, gender, health, ability and geographic injustices are each shaped by and contribute to climate change or ecojustice related issues and challenges, such as food and water insecurity, health care access, the animal and carbon costs of industrial agriculture, exposure to toxic pollution, and the proliferation of "sacrifice zones" (Lerner, 2012; Martusewitz et al., 2014). Thus, we advocate for an inclusive "ecojustice" lens, one that attends to each pernicious form of systemic oppression (e.g., racism, sexism, colonialism, ableism, white supremacy) and its intersection with climate change with an eye toward the comprehensive whole.

Some next steps for our professional organizations might include: prioritizing ecojustice teaching and research in conferences and journal publications, funding ecojustice curriculum development and research, and seeking multidisciplinary partnerships with other professional organizations in science, social studies, technology, and the arts and

humanities. As teachers, we can work with existing instructional examples (e.g., Beach et al., 2017; Bigelow & Swinehart, 2014; Martuscewicz et al., 2014) as well as a wide range of additional media resources, including podcasts such as, Mothers of Invention (Search & Finzi, 2020), Drilled (Westervelt, n.d.), and Generation Green New Deal (Eilersten, n.d.), along with other resources like webinars and virtual events, including those developed by the Movement4BlackLives (2020) focusing on the triple threat of racial injustice, climate change, and the Covid-19 pandemic. We can also develop new resources to help center ecojustice in our K-12 and postsecondary classrooms. We might begin to do so by drawing on literacy standards teachers must address in classrooms and, importantly, by more closely examining and supporting teachers in navigating the challenges of teaching climate change as a politically complex topic (Panos & Sherry, in press). Similarly, as researchers, there is no shortage of potential lines of inquiry to better understand and address eco-injustices within and across our communities.

"We might see ourselves in 2030 as having created powerful literacy and language tools in our teaching and research as we developed and sustained ecojustice commitments, lines of inquiry, and purposeful practices in all aspects of our work."

Concluding Thoughts

"We are now faced with the fact that tomorrow is today". —Martin Luther King, Jr., 1967

In 2018, the IPCC published another comprehensive report outlining the escalating need to drastically reduce greenhouse gas emissions and transform the global economy with greater and more sustainable energy efficiency by 2030. Although we are already three years into this twelve-year window, we wonder how a target date of 2030 might help catalyze the critical work ahead for our diverse community of talented and passionate literacy and language professionals. Given the stark urgency to act based on climate science, one way to move forward is to practice imaginary hindsight, taking a grander scope of history to envision a future world as we hope it to be (Macy & Johnstone, 2012; Sherry, 2019). With imaginary hindsight, we might see ourselves in 2030 as having created powerful literacy and language tools in our teaching and research as we developed and sustained ecojustice commitments, lines of inquiry, and purposeful practices in all aspects of our work. We might see how we supported each other through large structures like our professional organizations and in smaller networked groups, nurturing and holding ourselves accountable to one another along the way. By 2030, we might celebrate our individual and collective contributions as literacy and language educators, researchers, and organizations who made a pivotal difference in helping to understand and address the complex, multi-faceted "mega problem" of climate change. Such a vision allows us to then turn our thinking towards *how* to enact and manifest the world as we believe it could be. Planning for and enacting how we get to that imaginary future world is no small feat; we welcome the significant work to come.

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Tuck, E., & Yang, K.W. (Eds.). (2018). *Toward what justice? Describing diverse dreams of justice in education.* Routledge.

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Turrentine, J. (2019, December 15). A roadmap for frontline communities. *National Resources Defense Council.* Retrieved from: https://www.nrdc.org/stories/roadmap-frontline-communities

Vasquez, V. M., Janks, H., & Comber, B. (2019). Critical literacy as a way of being and doing. *Language Arts, 96*(5), 300-311.

Wargo, J. M., & Oliveira, G. (2020). What constitutes community? Ethnographic perspectives on adolescent and adult literacy practice. *Journal of Adolescent & Adult Literacy, 64*(1), 102-105.

Washington, H. & Cook, J. (2011). *Climate change denial: Heads in the sand.* Routledge.

Watson, V. W., & Beymer, A. (2019). Praisesongs of place: Youth envisioning space and place in a literacy and songwriting initiative. *Research in the Teaching of English, 53*(4), 297-319.

Weber, E. U., & Stern, P. C. (2011). Public understanding of climate change in the United States. *American Psychologist, 66*(4), 315.

Webb, A. (2019). Opening the conversation about climate refugees with The Grapes of Wrath. *English Journal, 109*(2), 69–75.

Westerveldt, A. (Executive Producer) (n.d.). *Drilled.* Retrieved from: https://www.criticalfrequency.org/drilled

Wu, T. (2017). *The attention merchants: The epic scramble to get inside our heads.* Vintage.

Appendix A

Primary Coded Articles and Core Understandings

Citation	Socioscientific	Interdisciplinary	Motivated	Justice
Damico, J. S., & Baildon, M. (2011). Content literacy for the 21st century: Excavation, elevation, and relational cosmopolitanism in the classroom. *Journal of Adolescent & Adult Literacy, 55*(3), 232-243.	√	√	√	√
Damico, J. S., & Panos, A. (2016). Reading for reliability: Preservice teachers evaluate web sources about climate change. *Journal of Adolescent & Adult Literacy, 60*(3), 275-285.	√	√	√	
Beach, R. (2015). Imagining a Future for the Planet Through Literature, Writing, Images, and Drama. *Journal of Adolescent & Adult Literacy, 59*(1), 7–13.	√	√	√	
Boggs, G. L., Wilson, N. S., Ackland, R. T., Danna, S., & Grant, K. B. (2016). Beyond "The Lorax": Examining children's books on climate change. *Reading Teacher, 69*(6), 665–675.	√	√	√	√
Bråten, I., McCrudden, M. T., Stang Lund, E., Brante, E. W., & Strømsø, H. I. (2018). Task-oriented learning with multiple documents: Effects of topic familiarity, author expertise, and content relevance on document selection, processing, and use. *Reading Research Quarterly, 53*(3), 345.	√		√	
Bråten, I., Strømsø, H. I., & Britt, M. A. (2009). Trust matters: Examining the role of source evaluation in students' construction of meaning within and across multiple texts. *Reading Research Quarterly, 44*(1), 6-28.	√	√	√	

Bruce, H. E. (2011). Green(ing) English: Voices howling in the wilderness?	√			√
Castek, J., & Dwyer, B. (2018). Think globally, act locally: Teaching climate change through digital inquiry. *Reading Teacher, 71*(6), 755–761	√	√		
Chiaravalloti, L. A. (2009). Making the switch: Lightbulbs, literacy, and service-learning. *Voices from the Middle, 17*(1), 24–33.	√	√		
Cortez-Riggio, K. M., & Fink, L. S. (2011). The green footprint project: How middle school students inspired their community and raised their self-worth. *English Journal, 100*(3), 39.	√	√		√
Golden, B. W. (2016). Online resources about climate change. *Journal of Adolescent & Adult Literacy, 60*(2), 231–236.	√	√		
Jewett, M. (2011). Between dreams and beasts: Four precepts for green English teaching. *English Journal, 100*(3), 30–38.	√	√		√
Sherry, M. B. (2019). English education for a sustainable future (or why we need writing teachers at the end of the world). *English Education, 51*(4), 404.	√		√	√
Smith, B. E., Ji Shen, & Shiyan, J. (2019). The Science of storytelling: Middle schoolers engaging with socioscientific issues through multimodal science fictions. *Voices from the Middle, 26*(4), 50.	√	√		
Wargo, J. M. (2019). Sounding the garden, voicing a problem: Mobilizing critical literacy through personal digital inquiry with young children. *Language Arts, 96*(5), 275-285.	√	√		√
Webb, A. (2019). Opening the conversation about climate refugees with The Grapes of Wrath. *English Journal, 109*(2), 69–75.	√		√	√
Total	***16***	***12***	***8***	***8***

Appendix B

Secondary Coded Articles

Beach, R., & Doerr-Stevens, C. (2009). Learning argument practices through online role-play' toward a rhetoric of significance and transformation. *Journal of Adolescent & Adult Literacy, 6*, 460-468.

Gallo, J., & Herrmann, B. (2019). Rediscovering the familiar: Exploring place-based literacy projects. *Voices From the Middle, 27*(2), 32-36.

Hagood, M. C. (2010). An ecological approach to classroom literacy instruction: Lessons learned from no impact man. *Journal of Adolescent & Adult Literacy, 54*(4), 236–243.

Janks, H. (2014). Critical literacy's ongoing importance for education. *Journal of Adolescent & Adult Literacy, 57*(5), 349–356.

Johnson, A.E. & Wilkinson, K.K. (2020). *All we can save: Truth, courage and solutions for the climate crisis*. New York, NY: OneWorld.

McCormick, W. (2019). Broken beaks: Inquiry and activism in a first-grade classroom. *Language Arts, 97*(2), 122.

Miller, D. L., & Pace Nilsen, A. (2011). Sustainability and the recycling of words. *English Journal, 100*(3), 55-61.

Morgan, D. N. (2010). Writing feature articles with intermediate students. *Reading Teacher, 64*(3), 181-189.

Moss, B. (2011). Boost critical thinking: New titles for thematically based text sets. *Voices from the Middle, 19*(1), 46-48.

Murphy, P. K., Andiliou, A., Firetto, C. M., Bowersox, C. M., Baker, M., & Ramsay, C. M. (2016). Intratextual persuasive messages as catalysts for higher order thinking. *Journal of Literacy Research, 48*(2), 134-163.

Olson, M. R., & Truxaw, M. P. (2009). Preservice science and mathematics teachers and discursive metaknowledge of text. *Journal of Adolescent & Adult Literacy, 52*(5), 422-431.

Ruble, J., & Lysne, K. (2010). The animated classroom: Using Japanese anime to engage and motivate students. *English Journal, 100*(1), 37-46.

Schneider, J. J., Kozdras, D., Wolkenhauer, N., & Arias, L. (2014). Environmental E-books and green goals. *Journal of Adolescent & Adult Literacy, 57*(7), 549–564.

Sherry, M. B., & Lawrence, A. M. (2019). Put me in the game: Video games and argument writing for environmental action. *English Journal, 108*(6), 69-76.

Spires, H. A., Himes, M. P., Paul, C. M., & Kerkhoff, S. N. (2019). Going global with project-based inquiry: Cosmopolitan literacies in practice. *Journal of Adolescent & Adult Literacy, 63*(1), 51-64.

Whitney, A. E., Ridgeman, M., & Masquelier, G. (2011). Beyond "is this OK?": High school writers building understandings of genre: for writers, understanding genre means understanding forms, structure, rhetorical devices, and how to write effectively in school and beyond. *Journal of Adolescent & Adult Literacy, 54*(7), 525-533.

Tertiary Coded Articles

Burr, J. C. (2017). Springsteen, spoken word, and social justice: Engaging students in activism through songs and poetry. *English Journal, 106*(6), 61-66.

The Reading Teacher. (2008). Children's choice for 2008. The *Reading Teacher, 62*(2), 157-171.

Cho, B. Y. (2013). Adolescents' constructively responsive reading strategy use in a critical internet reading task. *Reading Research Quarterly, 48*(4), 329-332.

Collin, R. (2014). A Bernsteinian analysis of content area literacy. *Journal of Literacy Research, 46*(3), 306-329.

Colwell, J., Hunt-Barron, S., & Reinking, D. (2013). Obstacles to developing digital literacy on the internet in middle school science instruction. *Journal of Literacy Research, 45*(3), 295-324.

Degener, S., & Berne, J. (2017). Complex questions promote complex thinking. *The Reading Teacher, 70*(5), 595-599.

Dunkerly-Bean, J., & Bean, T. W. (2016). Missing the savoir for the connaissance: Disciplinary and content area literacy as regimes of truth. *Journal of Literacy Research, 48*(4), 448-475.

Francis, P. (2015). *Laudato si: On care for our common home*. Our Sunday Visitor.

Heller, S. B. (2016). High school matters: Timely or timeless? The merits of teaching nonfiction. *English Journal, 105*(4), 13-16.

Lawrence, S. A., McNeal, K., & Yildiz, M. N. (2009). Summer program helps adolescents merge technology, popular culture, reading, and writing for academic purposes. *Journal of Adolescent & Adult Literacy, 52*(6), 483-494.

Lester, L. (2012). Putting rural readers on the map: Strategies for rural literacy. *The Reading Teacher, 65*(6), 407-415.

Lundahl, M. (2011). Teaching where we are: Place-based language arts. *English Journal, 100*(3), 44-48.

Majors, Y., Lewis, C., Tierney, R. J., & Beach, R. (2017). Moving forward with exceptional literacy research and practice amidst educational policy changes. *Journal of Literacy Research, 49*(2), 302-313.

Nichols, T. P., & Campano, G. (2017). Post-Humanism and literacy studies. *Language Arts, 94*(4), 245-251.

Oyler, C. J. (2017). Constructive resistance: Activist repertoires for teachers. *Language Arts, 95*(1), 30-39.

Shawer, S. (2013). Preparing adult educators: The need to develop communicative language teaching skills in college-level instructors. *Journal of Literacy Research, 45*(4), 431-464.

Sinatra, G. M., Broughton, S. H., Diakidoy, I.-A. N., Kendeou, P., & den Broek, P. van. (2011). Bridging reading comprehension and conceptual change in science education: The promise of refutation text. *Reading Research Quarterly, 46*(4), 374-393.

Smyth, T. S., & Hansen, A. (2010). Using regional American short stories to promote student collaboration. *English Journal, 99*(5), 55–60.

Strassman, B. K., MacDonald, H., & Wanko, L. (2010). Using captioned media as mentor expository texts. *The Reading Teacher, 64*(3), 197-201.

Thunberg, G. (2019, May 4). *It's 2019. Can we all now…* [Twitter post]. Retrieved from https://twitter.com/gretathunberg/ status/1124723891123961856

Toliver, S. R., & Miller, K. (2019). (Re)writing reality: Using science fiction to analyze the world. *English Journal, 108*(3), 51-59.

White, S., Chen, J., & Forsyth, B. (2010). Reading-related literacy activities of American adults: Time spent, task types, and cognitive skills used. *Journal of Literacy Research, 42*(3), 276-307.

Wilson, A. A. (2008). Moving beyond the page in content area literacy: Comprehension instruction for multimodal texts in science. *The Reading Teacher, 62*(2), 153-156.

Wolk, S. (2009). Reading for a better world: teaching for social responsibility with young adult literature. *Journal of Adolescent & Adult Literacy, 8*, 664-673.