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Climate images in the literacy classroom: developing a model for climate literacy discussion with preservice teachers

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Abstract

Purpose – The purpose of this paper is to explore the ways in which humanities preservice teachers (PST) understand and tell the complex stories of climate disaster. Three themes are identified in the data and implications for each are discussed.

Design/methodology/approach – To address the research question, How do preservice teachers tell/understand stories of climate disaster? This study used focus group conversations with PST in their final year of undergraduate studies ($n = 5$) to elicit dialogue and reflection about their intended use of visual texts depicting climate challenges and issues of environmental justice in their future classrooms. Qualitative methods were used in study conceptualization and data collection. Thematic analysis methods were used.

Findings – The analysis highlighted that participants shared existing stories of their beliefs and experiences and negotiated the construction of new stories. The findings describe participants' stories of dismissal, victimhood and contention as they interacted with climate-related photographs. These themes indicate PST need intentional support in preparing to teach multimodal texts, including those related to teaching environmental justice issues. Findings reveal both participants' hopes to teach about climate justice in humanities classrooms, and their limitations with regards to preparation to successfully navigate complex contexts.

Originality/value – Within an ever-increasing visual world, there is value in hearing PST speak about photographs from personal response, content perspectives, as well as sharing their decision-making processes for using multimodal texts in classrooms. This study informs the work of teacher educators as well as school administrators who are supporting classroom teachers, early career and otherwise, in the advancement of intentional decision-making with regards to climate teaching and multimodal text selection.

Keywords New literacies, English teaching, Dialogic instruction, Teacher education, Humanities, Visual texts

Paper type Research paper

Introduction

2025 observed the anniversaries of two significant climate disasters in US history. April marked the 90th anniversary of the Black Sunday dust storm, a defining event of the 1930s Dust Bowl era. August commemorated the 20th anniversary of Hurricanes Katrina and Rita, storms causing historic damage across the Gulf Coast of the USA, resulting in over 1,800

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deaths and the displacement of an estimated 1.5 million people from Alabama, Mississippi and Louisiana (Bassuan, 2015). Both historic events challenge the normative conception of "natural disaster," creating opportunities for critical investigation into stories we tell about human culpability, climate, and our evolving understandings of the tenuous relationship between people and the environment.

The purpose of this paper is to explore the ways in which preservice teachers (PST) understand and tell complex stories of climate disaster. We describe a qualitative investigation centering PST and their selection, curation and use of climate-focused visual texts in secondary humanities classrooms (i.e. social studies and English language arts). We employed focus group conversations ($n = 5$) to elicit dialogue and reflection about PST intended use of visual texts depicting climate challenges as a means of introducing the concept of environmental justice in their future classrooms. The research question guiding this study is, How do preservice teachers tell/understand the stories of climate disaster?

Theoretical framing: place-conscious approaches in teaching and research

Place-based pedagogies and the use of place-conscious frameworks guide students to reconsider the *spaces* we live within as *places* that hold ideological, social, cultural, perceptual, political and ecological meanings (Gruenewald, 2003; Kershen, 2025). By fostering connections to the world around us, place-consciousness positions us to reflect on and investigate the stories-we-live-by (Stibbe, 2015) which are "larger narratives that guide individual and collective sense-making, especially about the relationship between humans and the environment" (Damico *et al.*, 2020, p. 683). These approaches emphasize the importance of connecting learning experiences to local communities, cultures and environments. Place-consciousness also engenders agency by supporting people to reflect on the places where they feel belonging and acceptance, as well as places they exist within that may harm or constrict them (Fischer, 2020). Importantly, a place-conscious approach recognizes that conceptions of places are dynamic and changing, especially for youth.

In classrooms, teachers can couple place-conscious approaches with social and literary study by inviting readers to analyze the construction of places in texts from both character and author perspectives. This also involves analyzing human impacts on climate, geography, flora and fauna (Gruenewald, 2003). By reading with an eye for place, texts support students' inquiry into the settings of their lives, creating a heightened awareness that propels them into individual and collective inquiry. Local manifestations of global environmental challenges, illuminated through study of place in texts, create opportunities to consider notions of caretaking, stewardship, power, leadership and responsibility in response to the climate crisis. By fostering a sense of place, students become engaged to address real-world problems and work toward social and ecological change. Place-conscious framing compliments climate inquiry.

Place consciousness and place-based pedagogies are deeply intertwined with visual/cultural studies. These connections trouble notions of place and landscape as neutral or natural, prompting the meaning-making viewer to notice the *cultural* landscape and the ways in which humans shape, take, imagine, and own places through our visages and by design (Lewis, 1979; Mitchell, 2008; Mirzoeff, 2011). Mirzoeff (2011) describes "the right to look" as "the claim to a subjectivity that has the autonomy to arrange the relations of the visible and the sayable" (p. 1). This assertion begins his counterpoint to visuality as the presentation of a singular, authoritative history, narrative, or way of seeing place and people within places, as told by "the visualizer." In the theoretical construction of our research, we take up Mirzoeff's (2011, 2025) challenges to dominant ways of seeing to consider place, multiperspectivity and how the right to see and be seen shape visual texts use in secondary humanities classrooms.

Literature review

Visual literacy

Visuality is an overarching term that encompasses a broad range of visual texts (e.g. data visualizations, pictures, images and moving digital texts). Within the current line of inquiry, we focus on photographs (i.e. tangible pictures), each of which has their own distinct history, origin, materiality, intentions and uses. Visual literacy is the ability to "to interpret, recognize, appreciate, and understand information presented through visible actions, objects, and symbols, natural or man-made" (Yenawine, 1997). To demonstrate these skills and dispositions, visual literacy must be explicitly taught. Research indicates students need direct instruction about how to use images for learning purposes (Roberts *et al.*, 2014; Roberts and Brugar, 2014; Roberts and Brugar, 2017; Guo *et al.*, 2018) because classroom teachers, particularly when teaching social studies, utilize visual texts as functionally *decorative* rather than instructional (Brugar, 2018; Levin *et al.*, 1987).

To effectively teach visual literacy, it is important to understand visuality. Foster's (1988) defining of visuality grapples with the subjectivities involved with "seeing," recognizing the historical, cultural and social constructs that shape meaning making as viewing. "Visuality is a form of power that organizes perception and distributes authority over meaning-making and what is systematically excluded from the view" (Mikhaylova, 2025, p. 3; Mirzoeff, 2011). Thus, visuality encompasses physiologic acts, and it is also acts of multi-layered interpretation, wherein constructs of power within and external to the viewer inform meaning making of the visuals seen. The work in visuality/visual literacy in teacher education is somewhat limited (Roberts and Brugar, 2017; Brugar, 2018; Brugar and Whitlock, 2020). However, there are several studies which are significant to informing our research query. Damico and Panos (2016, 2018; 2020) explore the ways in which PST navigate digital resources; sources that are inherently multimodal.

Baker (2012) and Lundin (2008) note that in our "ubiquitous social media" environment, we are living in a sea of visual data of all types, communicating persuasive, entertaining and informational messages, and making visual literacy skills increasingly important for effective communication and critical thinking. While pictures, paintings and illustrations have long been integrated into textbooks and learning activities, the proliferation of digital devices, Wi-Fi interconnectivity and the rapidity of digital communication have contributed to an increasing reliance on visual literacy in learning. Device-based multimodality has increased students' and teachers' interactions with visual images such that comprehension of visuality (i.e. interpreting visual images) is a central facet of learning. Despite unprecedented exposure to visual media, research suggests consumption does not automatically translate to visual literacy competence. Schoen (2015) observed that exposure does not directly correlate to comprehension.

Cognizant of the power of visual texts in our classrooms, our research has focused on understanding how PST conceptualize decision-making about visual texts in their (future) classrooms, and the scope of their awareness about the power of visuals, especially when connected to, and potentially representative of, place. In this way, our work advocates for literacy studies that broadly conceptualize curricular materials to include running text, visuals, data visualizations and multimodal, multimedia. Climate literacy studies in particular are well situated to this work, as climate change, disaster and issues of environmental justice cannot be separated from place. It is in the places that the differential and disproportionate experiences of climate are felt. It is in places that we, as humans, decide to see as spaces separate from us, or as places we are a part of and in relation to. This work grows from place-based pedagogies research (Yemini *et al.*, 2025) which posits that learning within and about place builds connectivity (Gruenewald, 2003) and citizenry (Eppley, 2011)

more broadly and has the potential to support the development of "environmental citizens" (Schild, 2016). Within increasingly standardized literacy curricula, place-based pedagogies have been used to encourage youth agency and community-engaged learning (Smith, 2002) and to develop criticality, especially with regards to ecoliteracy (Gruenewald, 2003; Orr, 1994).

Visual texts offer distinct additions to identify opportunities for deep exploration into the complexity of knowledge, perspectives and experiences associated with environmental justice (Mirzoeff, 2013), especially when coupled with intentional instruction. Heuristics like the CLICK Framework (Oziewicz, 2023) ask us to investigate interconnected domains of care to understand how our contemporary and historic actions create climate effects disproportionally affecting historically marginalized and underserved communities (Bullard, 2019; Shepard and Corbin-Mark, 2009), which can be applied to children's literature (Kershen, 2025; Oziewicz and Kleese, 2025) as well as visual texts. Similarly, Woodard and Schutz (2024) advocate for four entry points for "starting small" to teach into the complexities of climate change and its effects. Textual entry points (p. 33) "support discussion of and engagement with environmental sustainability or climate change" (p. 33). Coupled with visual/multimodal texts, teachers can create a "literacy-based climate pedagogy" (p. 33) that centers place as an entrance into and connection to classroom inquiry, knowledge and skills development, and collaborative critique. The investigation described in this paper focuses on visual/multimodal texts specifically selected as invocations of place-based pedagogies with PST, so as to better understand how they perceive the potential for such inclusion into their future classes.

In this way, our study operationalized the finding from Damico and Panos's (2016) investigation into multimodal web sources that PST benefit from group conversation about climate change issues. They found that group discussion created space for participants to "not only engage and understand different perspectives but also, ultimately, deliberate and decide on best courses of action" (p. 284). Our use of focus group methods crafted an interactive conversational space centered around a visual array of photographs. In additional research into web page evaluation with PST, Damico and Panos (2018) describe their decision not to discuss "climate change profiles" among discussion participants. Similarly, while our findings will describe personal connections and beliefs connected to places and environmental disasters, our study focused on investigating the visual texts as potential instructional materials, thus centering the conversation in professional, rather than personal contexts.

Methods

Study design and data collection

This work is situated in a larger study investigating visual literacy pedagogies and multimodal text selection with preservice candidates ($n = 27$). We collected data which included open-ended surveys and transcripts derived from audio- and video-recorded conversations. The focus of this article is on an inductive, thematic analysis (Naeem *et al.*, 2023) of a focus group conversation with undergraduate PST ($n = 5$) enrolled in English language arts and Social Studies certification programs. The interdisciplinary focus group was designed to elicit richer engagement with the content and pedagogies under discussion, including as a means of emphasizing the "socioscientific" condition of climate change (Panos and Damico, 2021). We used purposive sampling (Maxwell, 1992) and snowball recruiting methods (Goodman, 1961) to recruit PST candidates finishing their final semester of undergraduate studies.

The findings respond to the research question: How do PST tell/understand the stories of climate disaster? We sought to closely inquire about the discursive moves that reveal participants' stories of climate understanding. We selected one focus group conversation for in-depth, inductive analysis. The multimodal transcripts under examination consist of text, audio, and video. Curated image arrays on human-climate experience served as focalizing artifacts within the focus group conversation. These artifacts comprise a curated set of visual image arrays: six, public domain environmental/climate conflict related photographs. This array was composed of three black and white photographs depicting the Dust Bowl crisis of the 1930s and three, color photographs of the 2005 New Orleans, Louisiana community after Hurricane Katrina.

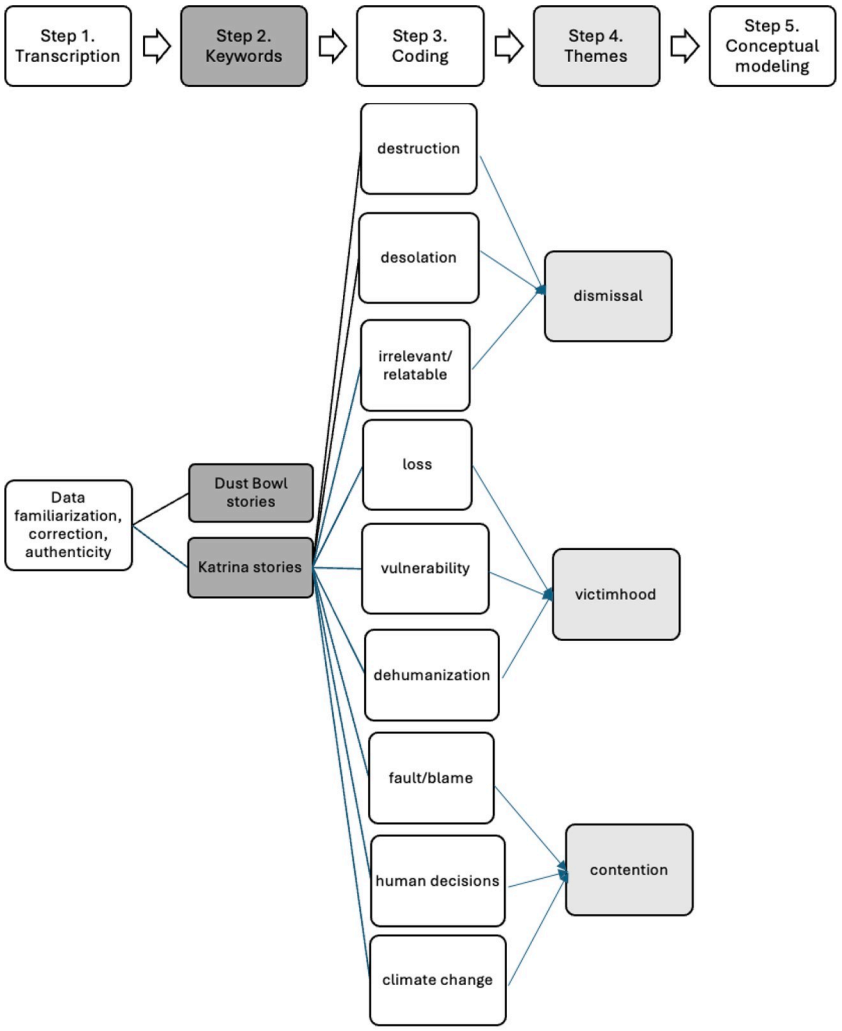
Data analysis

The multistep thematic analysis focused on identifying participants' stories of, within and around the visual text artifacts (i.e. the photos). Researchers applied thematic analysis methods (Braun and Clarke, 2006; Naeem *et al.*, 2023), beginning with interactive transcription. Due to the multimodal nature of the data, the transcription process required moving between the generation of written texts while listening to audio recordings and viewing videos. Focus group conversations present unique transcription challenges due to overlapping talk, stops and starts, rapid shifts in speaker and embodied-rhetorical moves (e.g. shifts in sitting/standing, facial expressions and gestures) used by participants to convey meaning. To provide consistency in analysis, author 1 engaged in primary analysis of the data. At each stage, preliminary keywords, codes and themes, and findings were shared with author 2 for discussion and interrogation. This process allowed for an informal indication of interrater reliability, for example, codes and themes were collectively revised after review by author 2. After transcription and the selection of guiding keywords (e.g. Dust Bowl stories, Katrina stories), inductive, in vivo codes were developed based on participants' words (see Figure 1). Keywords were used to chunk the transcript into focused sections, influenced by our stance as constructivist researchers, seeking to identify rhetorical exchanges exemplifying participants' subjective meaning-making and interactions with the visual texts and one another. Coding assisted in data reduction and the development of three thematic, interpretive findings. The themes presented represent iterative analysis between both text and video data sets centering the stories participants tell about what is occurring within the visual texts, as well as what those texts represent in terms of pedagogic potential and democratic inquiry into teaching climate in secondary humanities classrooms.

It is also important to contextualize the data generated by PST in this focus group, by our larger context. This study takes place in a conservative, Great Plains state historically connected to extreme weather events, including those whose voracity is now attributed to human-caused climatic change. On the day of this focus group (a morning in May 2024), local weather forecasts included severe weather (e.g. severe storms, flooding, and tornados) for the afternoon and evening. While these events are common to the region in which this study took place, it was notable in our analysis of the transcripts that participants mentioned the day's forecast in connection with climate images. We interpreted these mentions as serving to both heighten participants' meaning making of the images, as well as creating shared experiences and emotional solidarity.

Findings

This study advances the understanding that, broadly, visual texts require pedagogical preparation and discussion with PST. For PST to develop confidence, competency and criticality when selecting and using multimodal texts in learning interactions, we argue that



Findings

Figure 1. Analytic process

their storying of images merits interrogation by teacher education researchers. In particular, we found that with regards to visual texts of climate and environmental disaster, this group of PST shared and negotiated stories cohering around three themes: stories of contention, stories of victimhood and stories of dismissal.

When presented with images of the environment, the stories told are challenging and challenged. Our PSTs demonstrated varying degrees of historical understanding about the focalizing images. Universally, they recognized images associated with the Dust Bowl and Hurricane Katrina yet lacked some historical context which revealed positions of emotional

and temporal distance from the larger events and the people, animals and communities depicted. Our paper describes positions of dismissal, victimhood and contention. Associated with these positions we interpret the PST stories-we-live-by.

Theme 1: Stories of contention

We begin with the theme of contention as expressed by our participants. Contention took two forms, contention suggesting fault or blame for the destruction presented in the visual texts, and contention about the assertion that climate change may be involved in the events portrayed within the photos. These notions of contention were expressed with some discomfort by our participants, who we understood to be actively constructing, revealing and reconstructing the stories that they believe and value within the images under discussion. Participants noted fault and placed blame as they grappled with the images presented and the social and political stories they told.

Laura first inserted contention into the conversation. As PST shared their wonderings, Laura looked across the six photos and shared, "I'm thinking of who's at fault, which sounds crazy because they're natural disasters." Her comment reveals her position of questioning the central narrative of acceptance of the images as facts or time-stamped, declarations presented by others. She immediately weakened her statement with the caveat that her question "sounds crazy" because the normative stories of the Dust Bowl and Hurricane Katrina are those of "natural disaster;" in other words, stories in which weather and climates happen to people. And yet, Laura, then renegotiates her thinking, stating, "but the Dust Bowl was caused by overfarming [referring to Plates A5 and A6]. And the Hurricane Katrina images, remind me of environmental racism." Laura ends her metacognitive thinking with, "it [the events of Katrina] didn't have to be like this."

Inez takes up Laura's invocation, stating, "the lack of infrastructure also [in New Orleans]. And climate change making storms worse and more often." Notably, at this point Inez and Laura make eye content and engage one another in an intimate exchange within the larger conversation. Laura looked to Inez, following her climate change assertion, "Yeah. It'll be fun tonight." To which Inez sighed, "Yeah." Within this exchange, Inez and Laura were directed toward one another, communicating referentially to the day's weather forecast for severe storms and damaging tornadoes. This recognition of their own precarity and resignation were palpable while looking at images of others whose lives had been irrevocably upended by environmental disasters.

Noah also presented a contentious position of blame, as he grappled with his discomfort around articulating the presentation of Black American citizens in the Katrina images. Noah's contention also contained hesitation, like Laura's contained self-correction, but was much more oblique with his statement, "I don't know how to put it into words." His face and voice conveyed his conflict about identifying the problem. His words seemed to skirt the conflict, almost sanitizing his response. Noah struggled to speak directly to the racism he interpreted in the images. Noah's contention is described in more detail within theme two.

Theme 2: Stories of victimhood

Participants Jason, Noah and Christine all centered their interpretations around the theme of victimhood. This theme included the connotation that the people presented within the visual texts were vulnerable as pictured, and their vulnerability was exacerbated by the immutability of having their experience captured for posterity as photographic images. Dehumanization was expressed by Noah, Jason and Christine as a facet of victimhood. PST discussed how within an image, Dust Bowl children [see Plate A4] were "unrecognizable kids because their faces are obscured" by masks. In contrast, the Katrina photo of two young

adults on a roof [see Plate A1] was troubling because their faces *were* recognizable. Noah raised this distinction, connecting his understanding of victimhood to racism:

> So, we have unrecognizable kids because their faces are obscured. You can't tell in this photo who these kids are. But here [pointing to a Katrina Plate A1] you very clearly can. I'm sure they could recognize themselves in their photo. I'm sure their friends could. And I think that ties back to the racism aspect of it, because there's just so much dehumanization of African American people. So, we are able to see these images, and I have so much to say, but I don't know how to put it into words […] There's a lot of – there's this level of tragedy.

In this passage, Noah introduces the ethical conundrum of consent within the images. Have the people within the images consented to being photographed? How does one collect or give consent in the midst of a crisis? When documenting a crisis of the magnitude of the Dust Bowl or Hurricane Katrina, what role should consent play? The effects of both the Dust Bowl and Katrina extended over years, drastically transforming communities. The world needs to learn from these events, and photographs serve as valuable primary source texts. Noah's invitation makes space for Jason and Christine to interrogate consent further. Jason shared, "that's one of the first things I thought […] they [the photographers] go right up in the children's faces, they go right up in people's faces. And so that's a good point […] whether or not, the pictures themselves, what it does to the actual people. Beyond, just, 'oh, here's our image of what happened,' because […] that's people at their lowest that you're taking pictures of."

Similar to the active, metacognitive construction of belief and story that we observed Laura engage in, Jason continued to make sense of his position as he spoke. After stating that "that's people at their lowest," he paused then continued forward highlighting the Dust Bowl images (e.g. Plates A4 and A6) and stating, "You look at it [the photo] and go, that's a great picture, but then you think, Is it great for her? Is it great for those kids? [referring to Plate A4]. Is it great for the people in the camps that they took pictures of? Because they're, you know, actual people." Here Noah and Jason have raised potent ethical concerns about the people in the images and their consent to be photographed (or not) and the effects of vulnerability caught in perpetuity as a defining image of a person. Christine crystalizes this concept in her storying:

> Another thing I'd also point out is just the human toll happening in these images. I know out of all six images, I find this one to be the most distressing [Katrina, Plate A1]. I don't know if they're adult women. I don't know if they're young girls, but just looking at this image, I see a pair of children who look incredibly distressed, look very scared, very lost. They don't know what they're doing. They don't know what's going to happen. And I look at this image, and I say, if I am in this moment of vulnerability, am I okay having this forever documented, for the tragedy of this event? Because I'm hoping and assuming that these people were saved, and they are living safely somewhere now. And so now they are living with this knowledge that they are going to be forever tied in this photograph and to this event.

While these statements by Noah, Jason and Christine are strong and definitive – they are speaking out to their own experiences in schools and to what they observe both in the images and in larger culture, we believe the interpretation of victimhood is more complex than presented. We challenge the victimhood narrative not because we perceive it to be wrong, but because it is singular and narrowing. None of the people in the six photos used in the climate array are simply victims. They are survivors. They represent heroism, resistance and fortitude, just as they also represent fear, vulnerability and helplessness. To provide depth to our complicating of this storying, we highlight the visual text Plate A4, which depicts three children on their porch preparing to go to the first day of school. In contrast to a scene of

vulnerability, this visual text can, and should, be read as a story of excitement, bravery and resilience. The three children are being photographed in a celebratory manner: it is the first day of a new school year! While they are victims to the poor human decisions that resulted in the climate catastrophe of the Dust Bowl, their lives are not defined by victimhood.

The Katrina photos must also be troubled away from the victim narratives. While issues of consent are not to be elided, we find it concerning that these PST saw racism in the photos as documents of Black Americans' experiences, but not racism in their absent interpretations of Black Americans as resilient, leaders, and survivors. Only one member of the focus group brought forward this complexity. Laura challenged the group, "I think, especially with this image [Plate A1], there's a responsibility to think about systems and how these people are framed as survivors versus victims […] This is obviously a tragedy, but to be sure we're not blaming them […] not kind of tak[ing] away their dignity and autonomy." Here Laura works in real time to articulate her discomfort with the victim positioning of those pictured. She again raises the issue of systems thinking, which is an integral cognitive shift within climate literacy and ecological awareness. Laura also, perhaps without articulating the connections clearly, conveys that victimhood, when a singular story, can rob someone of their dignity and autonomy. Thus, while Noah raises the potential of racism in the portraying Black Americans suffering during Katrina [see Plates A2 and A3], Laura complicates this interpretation by asserting the issues of environmental racism and environmental justice, which provide space for people to make visible the systemic challenges and systematic racism of neighborhood segregation and poor infrastructure that left many African Americans in New Orleans unable to evacuate before Katrina and their communities vulnerable to flooding (e.g. Plates A2 and A3).

Theme 3: Stories of dismissal

All of our participants struggled with the depth of the climate images. The images themselves can be challenging to contemplate as the questions and concepts they evoke are equally difficult. The third theme we identified in participants' stories was that of dismissal. Our PST shared a willingness to dismiss the potency and potential of some of the visual texts. This section describes that sentiment as connected to simplification.

Christine engaged dimensions of geographic and temporal characteristics, to herself and the other PST, the definition of which allowed her to rhetorically separate herself from the Dust Bowl images. In this way, her distancing communicated dismissal. Christina recognized this contradiction, referring to it as, "our own desensitization." She went on:

> On one hand, Hurricane Katrina, all of us in the room were alive for Hurricane Katrina. I mean, our memories of it probably vary significantly. I know I was very young when this happened. But I still remember seeing it on TV and thinking about how horrifying and devastating it was. It was very clear that something bad was happening and people were being hurt. Whereas with the Dust Bowl, you know, we've always been raised with these images. They have followed us since childhood. They have not changed. So, you look at this, and it's very impersonal. You look at it, you go, that's just [Great Plains] at that time. That is not, you know, anything to be considered deeper because we have seen it so much, so many times. This [Katrina photo] is recent, whereas this [Dust Bowl photo] we look at and go, that's always what it's been.

It stands out to us that Christine dismisses the Dust Bowl images both because they are in the distant past and because they have been ubiquitous in her schooling. The more recent Katrina photos are more evocative for her. And yet both she summarizes as, "wet [Katrina] and dry [Dust Bowl] destruction." Jason follows up in agreement, stating, "I was thinking desolation is in the first images. Also, just like the emptiness of it […] attacked by the environment." Inez stories the images as reflecting "some type of loss." She told the group, "Here it says,

like they're unable to provide for their families [referring to the caption on Figure A4]. It looks almost empty, and here with Hurricane Katrina, you don't even see streets anymore, with the loss of all of these structures, loss of homes, loss of people, loss in every sense of the word."

The storying of destruction and desolation allowed some participants to distance themselves from the images and contending with the larger issues of environmental disaster. As described in themes one and two, PST also focused on the people depicted in the images rather than who was not depicted and the larger issues of human action and climate reflected in the images. These simplistic stories, while accurate (e.g. hurricanes are wet, and the Dust Bowl was dry) surprised us. We expected PST to engage with the photos more readily as opportunities to teach into defining historical events, human culpability and governance, and how policy, culture and literature changed in response to these catastrophes. It may be that these reductions of the images represent the ways these PST protected themselves from the whole power of these images – to think, to feel, to know and pass along to others.

Limitations

Thematic analysis is well-suited to focus group data; however, these findings should not be generalized to larger populations of PST candidates. Instead, we assert that the three themes offer important opportunities for teacher educators in the humanities to consider how PST are prepared to teach with visual and multimodal texts, and in particular, make sense of, reconcile and reimagine texts normatively understood as representing natural disasters as opportunities to teach into issues of environmental disaster and environmental justice. The stories and conceptualizations PST take up, individually and collectively, inform how they select visual texts for classroom use in secondary settings, as well as the learning objectives and classroom interactions/activities that PST engage in with youth. Finally, in this study, we were attentive to classroom consumption/use of visual texts, not the production of such materials. Ample research indicates that students benefit from production of multimodal texts in conjunction with climate learning (Castek and Dwyer, 2018; Gambino, 2025; Golden and Avila, 2025), which afford rich opportunities for teachers and students to grapple with and demonstrate what they understand about the world around them. This is an opportunity for future study.

Discussion

As we consider these findings, both the methods (focus groups) and themes identified offer important catalysts as discussion and implications for teacher education and connection to the growing body of climate-focused research with youth. From a methods perspective, the focus group was made up of individuals who knew one another personally and professionally, which allowed for in-the-moment re-evaluation of narratives in reference to their experiences, individually and collectively, as well as their understandings of larger societal concepts (environmental disaster, justice, systems) related to place. Participants' storying around the images revealed stories-we-live-by, "which are deep cultural assumptions we hold about the world, including notions of progress, freedom, nature, our relationships to each other and to the natural world" (Stibbe, 2015, as cited in Damico *et al.*, 2020, p. 259). The larger cultural narratives revealed by our participants were stories of dismissal, victimhood and contention. Stories-we-live-by are larger cultural narratives that shape our everyday thoughts and experiences and "influence our behavior often without our conscious awareness" (Damico *et al.*, 2020, p. 259). In our view, the method of eliciting conversations amongst colleagues seemed to provision increased levels of honest engagement as well as trust in the safety of sharing stories and interpretations that created

space for PST to reveal deeper beliefs about our world. PST revealed complex and conflicting stories about climate as they engaged in collective negotiation and meaning making. The complexity of their stories, especially as they highlight larger and often unspoken beliefs, emphasizes the need for and appropriateness of making space for this work in schools and within teacher education.

Our PST experiences and awareness were also rooted in place. These place-based connections guide early career teachers to reconsider the *spaces* we live within as *places* that hold ideological, social, cultural, perceptual, political and ecological meanings (Gruenewald, 2003; Kershen, 2025). By fostering connections to the world around us, place-consciousness positions us to reflect on and investigate the stories-we-live-by (Stibbe, 2015) as the "larger narratives that guide individual and collective sense-making, especially about the relationship between humans and the environment" (Damico *et al.*, 2020, p. 683). Findings from this study demonstrate the importance of connecting learning experiences to the local communities, cultures and environments in which we are situated, which may help to develop empathy and deepen inquiry. The visual texts also brought to the surface reductionist beliefs, such as dismissal, that because an event is familiar to you it isn't worthy of deeper investigation. Hearing some of our PST dismiss Dust Bowl images outright was concerning to us.

There were additional simplistic assumptions about relatability and personal connections shared by participants that undercut the complexity of reading and interpreting the visual texts. Just because an image depicts teenagers, such as within the Katrina images, does not mean that other teens will find the picture engaging or relatable. Likewise, assuming that a photo will be "relatable," and thus induce empathy by drawing forward understanding in the viewer can impair the viewer's ability to critically examine dynamic aspects of visual texts. For example, Plate A1, discussed by Jason and Inez, was highlighted as relatable and thus likely to be effective in the classroom because of the depictions of youth and the place-based experiences of viewers who shared experiences with extreme weather events (hurricanes and tornadoes). However, left unasked, the personal connections elicited might elide critical interpretation of the image necessary to deeply comprehend the situation it depicts. It is not enough for students to engage with Hurricane Katrina texts and feel a sense of connection (Falter, 2022). Students should be asked to consider the larger context of the disaster: issues of environmental justice and racism, flawed and underfunded infrastructure, and systemic failures to prepare for and respond to the storm and flooding in equitable ways. In addition, reading Plate A1 as a text of victimhood obscures stories of heroism and survival that also define the Katrina experience. Simplistic readings can reinforce single stories and dominant narratives, reifying racist and classist interpretations in which depicted peoples are understood to have less control, and perhaps deserve less control, over their own lives. This tension between simplistic interpretations and criticality was illustrated in Laura's contention as she shared her feelings of "fault;" that human decision-making exacerbated the environmental disaster of Hurricane Katrina. Laura's complexifying pushed her colleagues to think more deeply about systemic inequities, which she named "environmental racism," and Inez connected to climate change as caused by humans.

Throughout the focus group, Christine, Noah and Jason positioned themselves as authorities, as they evaluated and selected visual images for their future classrooms. This confidence to use or not use resources informs teacher education practice. We see opportunities within teacher education to surface and illuminate latent, opaque beliefs about content and offer rehearsal opportunities for PST to finetune and restory, so that they are both better textual interpreters and better materials curators. Such rehearsals in teacher education

can support early career teachers to be confident and pedagogically better-equipped to work justly alongside youth in community in their future schools. This kind of practice also prepares teachers to navigate the complexity of environmental justice perspectives and support students to question differential distributions of climate effects.

Napawan *et al.* (2017) highlight the need for youth to be included in community conversations around local climate vulnerability and resilience, noting youth "are more often limited in their opportunity to participate in political discourses on mitigation or adaptation planning," but often have "the most to lose" (p. 52). Connected to our study, we note the distance between the preparedness of the PST and what it would take to confidently engage youth in climate action discussions. Our investigation highlighted the stories of victimhood told by our participants as they interpreted the visual images. This interpretation implies a lack of readiness and still developing notions of both the inequitable distribution and effects of climate disasters as well as the historical and systemic construction of environmental injustice. Although Laura stated, "there's a responsibility to think about systems" as she challenged her classmates to resist victimhood storying, others narrowed their perceptions to described people in the Katrina and Dust Bowl photos as "distressed," "scared" and "lost." While these descriptions may be born of empathy, we interpret the need to better prepare teachers to shift to critical empathy (Falter, 2022) such that they push classroom conversations toward action and students toward agency.

It is important to note that teachers may experience feelings of precarity when teaching toward student engagement with local, state, regional and inter/national manifestations of climate challenge. Because human-caused climate change remains a contentious issue within many contexts, teachers may censor themselves (and subsequently limit their students' opportunities) for fear of political or social reprisal. It may be that climate literacy education can bridge polarized perspectives by framing classroom learning through an inquiry-based, project-focused lens in which students generate their own questions and lines of inquiry. In many ways, our effort to build the pedagogical skills of our PST around intentional incorporation and teaching into multimodal, primary source texts represents an effort to bridge this gap.

Recommendations

We advocate for explicit instruction of visual literacy as part of teacher preparation (Damico and Panos, 2016). Visual literacy should be introduced and reinforced throughout a teacher's preparation in similar ways to other literacies, classroom management and the use of technology. Methods instructors can identify and define visual literacy and reinforce the discreet skills Yenawine (1997) notes in his definition "interpret, recognize, appreciate, and understand" using content specific examples. For example, using the climate-oriented photographs which were part of this study, a methods instructor might display one of the images and engage PST in a visual thinking (Housen and Yenawine, 1997) exercise by asking them "what do you see in this photograph [identification, recognition]?" Followed by, "what do you think is going on in this photograph? [interpret] What makes you say that [using evidence to make a claim, understand]?" Finally, and with attention to PST, methods instructors might inquire, "how might you use this photograph, or one like it, with your future students [apply, appreciate]?"

Furthermore, we advocate that PST be asked to explore secondary student materials on climate disaster from instructional collections like Newsela or National Geographic. Such explorations affirm visual literacy as an interdisciplinary and embedded skillset, advantaging PST knowledge of instructional materials readily available to them as they move into their

own classrooms. The opportunity to engage with content-specific instructional materials also extends PST learning of essential content that may or may not have been included in their university content courses.

PST also need opportunities to consider the influence place has on their professional disposition, as well as confidence in their content and pedagogical knowledge to support place-based studies with students. Werthwine and Panos (2025) write, "a critical place-focused educational approach can motivate students by honoring their experiences and positioning them as experts on their lives and the world around them" (p. 131). By incorporating place-based considerations in our study, we were able to use the focus group as a teaching space as well as a research opportunity. Through a place-based lens (Beach, 2015; Gruenewald, 2003), Werthwine's students repositioned themselves as experts of their community and the climate challenges within it. Our PST were similarly positioned as they investigated the Dust Bowl images, which served to reveal negative storying of dismissal (e.g. "it's very impersonal") and an inclination to rely more on personal experience connections than the opportunity to teach into Dust Bowl texts through a climate lens.

Beach (2023) writes about the importance of introducing youth to systems thinking as a means of disrupting dominant narratives of capitalist expansion, ever increasing consumption and accrual, and the need to distance human experience from nature so as to normalize an extractive relationship. In our work, consideration of a systems approach contributes to interpretation of PST comments about teaching Dust Bowl images both ahistorically and passively. These positions fail to emphasize the human role in worsening the drought conditions experienced during the 1930s. Seen through a systems approach, our PST would benefit from pedagogical opportunities to examine Dusts Bowl texts (running text, primary source artifacts and oral histories) such that they recenter human culpability. Rather than teaching the Dust Bowl as something that happened to people, with systems inquiry support, PST would be prepared to reimagine conversations and curriculum to interrogate how people happened to the Dust Bowl. Students and their teachers could examine how the operationalization of systems perpetuated capitalist economies as part of the Westward Expansion.

Finally, in addition to connecting multimodal, primary sources with singular texts, we advocate that situating these texts within larger multimodal texts sets can mediate flawed readings of climate conflict visual texts. For example, Hurricane Katrina images can be embedded with shared reading of novels, such as Rhodes (2010) for younger middle grades student, and nonfiction, like *Drowned City* (Brown, 2015) or the memoir *The Wind in the Reeds* (Pierce, 2016) for high school students. The Dust Bowl visual texts, all selected from the Library of Congress archives, can be combined with such widely read young adult texts as *Out of the Dust* (Hesse, 1997), *The Great American Dust Bowl* (Brown, 2017) and *The Grapes of Wrath* (Steinbeck, 1939).

Conclusion

The stories teachers tell are shaped through personal narrative, collective memory, and shared storytelling. Personal narratives provide a first-person telling of experiences, often including a lesson learned. Collective memory of widely shared events, often rooted in place, such as the environmental disasters of the Dust Bowl (1930s) and the historic destruction of Hurricane Katrina along the American Gulf Coast (2005) creates group identity and at the same time provides a counterpoint for individuals to carve out their own stories within affected communities. Visual texts are particularly salient invitations to make meaning of places, as well as dynamic conveyances of dominant place and climate narratives. Today's

youth are inundated with climate-centric visual messaging (Warren, 2019), often conflicting, at once telling them they must agitate for climate awareness (Sanson and Bellemo, 2021) while also engage in citizenship through acts of consumption and acquisition (Damico *et al.*, 2020). Classroom opportunities to engage in collective interrogation of visual texts, as vehicles to inquire into eco-identities, climate literacy, climate change and environmental justice are few as federal and state policies influence teachers to steer clear of contentious topics. While acknowledging the challenge, we advocate for educational opportunities in which teachers and students examine stories of climate citizenship within visual texts as connected to place-based pedagogies.

Ethics statement

This research was approved by University IRB and meets ethical considerations for human subject research.

References

Baker, E.A. (2012), *The New Literacies: Multiple Perspectives on Research and Practice*, Guilford Press.

Bassuan, D. (2015), "When you can't go home: the Gulf Coast 10 years after Katrina", The Center for American Progress, available at: www.americanprogress.org/article/when-you-cant-go-home/

Beach, R. (2015), "Imagining a future for the planet through literature, writing, images, and drama", *Journal of Adolescent and Adult Literacy*, Vol. 59 No. 1, pp. 7-13.

Beach, R. (2023), "Literacy research, systems thinking, and climate change", *Research in the Teaching of English*, Vol. 58 No. 1, pp. 105-122.

Braun, V. and Clarke, V. (2006), "Using thematic analysis in psychology", *Qualitative Research in Psychology*, Vol. 3 No. 2, pp. 77-101.

Brown, D. (2015), *Drowned City*, Clarion Books.

Brown, D. (2017), *The Great American Dust Bowl: A Graphic Novel*, Clarion Books.

Brugar, K.A. (2018), "We don't have students color maps anymore … a survey of social studies teachers use of visual materials", *Journal of Visual Literacy*, doi: 10.1080/1051144X.2017.1397380.

Brugar, K.A. and Whitlock, A.M. (2020), "Explicit and implicit social studies: exploring the integration of social studies experiences in two elementary classrooms", *Canadian Social Studies*, Vol. 51 No. 2, pp. 2-21.

Bullard, R.D. (2019), "Addressing environmental racism", *Journal of International Affairs*, Vol. 73 No. 1, pp. 237-242.

Castek, J. and Dwyer, B. (2018), "Think globally, act locally: teaching climate change through digital inquiry", *The Reading Teacher*, Vol. 71 No. 6, pp. 755-761.

Damico, J.S. and Panos, A. (2016), "Reading for reliability: preservice teachers evaluate web sources about climate change", *Journal of Adolescent and Adult Literacy*, Vol. 60 No. 3, pp. 275-285.

Damico, J.S. and Panos, A. (2018), "Civic literacy as 21st century source work: future social studies teachers examine web sources about climate change", *The Journal of Social Studies Research*, Vol. 42 No. 4, pp. 345-359.

Damico, J.S., Baildon, M. and Panos, A. (2020), "Climate justice literacy: stories-we-live-by, ecolinguistics, and classroom practice", *Journal of Adolescent and Adult Literacy*, Vol. 63 No. 6, pp. 683-691.

Eppley, K. (2011), "Teaching rural place: pre-service language and literacy students consider place-conscious literacy", *Pedagogies: An International Journal*, Vol. 6 No. 2, pp. 87-103, doi: 10.1080/1554480X.2011.563495.

Falter, M.M. (2022), "When the shoes don't fit: a critical empathy framework for (young adult) literature instruction", *The ALAN Review*, Vol. 50 No. 1, pp. 18-32.

Fischer, S. (2020), "Placemaking and the child reader: toward a place-conscious framework for reader response research and pedagogy", *Journal of Language and Literacy Education*, Vol. 16 No. 1, p. n1.

Foster, H. (Ed.) (1988), *Vision and Visuality*, Bay Press.

Gambino, A. (2025), "Challenging climate disinformation through critical media literacy and ecowriting", In Webb, A., Beach, R. and Share, J. (Eds), *Empowering Youth to Confront the Climate Crisis in English Language Arts*, Teachers College Press, pp. 106-112.

Golden, N.A. and Avila, K. (2025), "Local ecologies and critical media production", In Webb, A., Beach, R. and Share, J. (Eds), *Empowering Youth to Confront the Climate Crisis in English Language Arts*, Teachers College Press, pp. 113-122.

Goodman, L.A. (1961), "Snowball sampling", *The Annals of Mathematical Statistics*, Vol. 32 No. 1, pp. 148-170.

Gruenewald, D.A. (2003), "The best of both worlds: a critical pedagogy of place", *Educational Researcher*, Vol. 32 No. 4, pp. 3-11.

Guo, D., Wright, K.L. and McTigue, E.M. (2018), "A content analysis of visuals in elementary school textbooks", *The Elementary School Journal*, Vol. 119 No. 2, pp. 244-269.

Hesse, K. (1997), *Out of the Dust*, Scholastic.

Housen, A. and Yenawine, P. (1997), *VTS Curriculum*, Visual understanding in education, New York, NY.

Kershen, J.E. (2025), "Climate literacy and care through global perspectives: reading international YA short stories through the CLICK framework", *The ALAN Review*, Vol. 53 No. 1.

Levin, J.R., Anglin, G.J. and Carney, R.N. (1987), "On empirically validating functions of pictures in prose", *Psychology of Illustration*, Vol. 1, pp. 51-85.

Lewis, P. (1979), "Axioms for reading the landscape: some guides to the American scene", In Meinig, D. (Ed.), *The Interpretation of Ordinary Landscape: Geographical Essays*, Oxford University Press, pp. 11-32.

Lundin, R.W. (2008), "Teaching with wikis: toward a networked pedagogy", *Computers and Composition*, Vol. 25 No. 4, pp. 432-448.

Maxwell, J.A. (1992), "Understanding and validity in qualitative research", *Harvard Educational Review*, Vol. 62 No. 3, pp. 279-300.

Mikhaylova, T. (2025), "The pictorial turn that wasn't (yet?): visuals and the study of education policy and governance", *Journal of Education Policy*, pp. 1-19.

Mirzoeff, N. (2011), *The Right to Look: A Counterhistory of Visuality*, Duke University Press.

Mirzoeff, N. (2013), "Biopower and visuality from slavery to Katrina", In N. Mirzoeff (Ed.), *The Visual Culture Reader*, Routledge, pp. 133-152.

Mirzoeff, N. (2025), *To See in the Dark: Palestine and Visual Activism since October 7*, Pluto Press.

Mitchell, D. (2008), "New axioms for reading the landscape: paying attention to political economy and social justice", In Westcoat, J.L. and Johnston, D.M. (Eds), *Political Economies of Landscape Change: Places of Integrative Power*, Springer, pp. 29-50.

Naeem, M., Ozuem, W., Howell, K. and Ranfagni, S. (2023), "A step-by-step process of thematic analysis to develop a conceptual model in qualitative research", *International Journal of Qualitative Methods*, Vol. 22, pp. 1-18.

Napawan, N.C., Simpson, S.-A. and Snyder, B. (2017), "Engaging youth in climate resilience planning with social media: lessons from #OurChangingClimate", *Urban Planning*, Vol. 2 No. 4, pp. 51-63.

Orr, D. (1994), *Earth in Mind: On Outdoor Education, Environment and the Human Prospect*, Island Press.

Oziewicz, M. (2023), "The CLICK framework: a care-centric conceptual map for organizing climate literacy pedagogy", *Climate Literacy in Education*, Vol. 1 No. 2, pp. 44-50.

Oziewicz, M. and Kleese, N. (2025), "Teaching with climate literacy capabilities and knowledges", In Webb, A., Beach, R. and Share, J. (Eds), *Empowering Youth to Confront the Climate Crisis in English Language Arts*, Teachers College Press, pp. 15-22.

Panos, A. and Damico, J. (2021), "Less than one percent is not enough: how leading literacy organizations engaged with climate change from 2008 to 2019", *Journal of Language and Literacy Education*, Vol. 17 No. 1, pp. 2-21.

Pierce, W. (2016), *The Wind in the Reeds: A Storm, a Play, and the City That Would Not be Broken*, Penguin Books.

Rhodes, J.P. (2010), *Ninth Ward. Little*, Brown Books.

Roberts, K.L. and Brugar, K.A. (2014), "Navigating maps to support comprehension: when textbooks don't have GPS", *The Geography Teacher*, Vol. 11 No. 4, pp. 149-163.

Roberts, K.L. and Brugar, K.A. (2017), "The view from here: development of visual literacy in the social studies", *Reading Psychology*, Vol. 38 No. 8, pp. 733-777.

Roberts, K.L., Brugar, K.A. and Norman, R.N. (2014), "Evaluating graphical devices for literacy instruction: the graphical rating tool", *The Reading Teacher*, Vol. 68 No. 4, pp. 312-318.

Sanson, A. and Bellemo, M. (2021), "Children and youth in the climate crisis", *BJPsych Bulletin*, Vol. 45 No. 4, pp. 205-209.

Schild, R. (2016), "Environmental citizenship: what can political theory contribute to environmental education practice?", *The Journal of Environmental Education*, Vol. 47 No. 1, pp. 19-34, doi: 10.1080/00958964.2015.1092417.

Schoen, D. (2015), "Visual literacy and student engagement in the college classroom", *Teaching and Learning Inquiry*, Vol. 3 No. 2, pp. 45-60.

Shepard, P.M. and Corbin-Mark, C. (2009), "Climate justice", *Environmental Justice*, Vol. 2 No. 4, pp. 163-166, doi: 10.1089/env.2009.2402.

Smith, G. (2002), "Place-based education: learning to be where we are", *Phi Delta Kappan*, Vol. 83 No. 8, pp. 584-594.

Steinbeck, J. (1939), *The Grapes of Wrath*, The Viking Press.

Stibbe, A. (2015), *Ecolinguistics: Language, Ecology and the Stories We Live by*, Routledge.

Warren, M. (2019), "Thousands of scientists are backing the kids striking for climate change", *Nature*, Vol. 567 No. 7748, pp. 291-292, doi: 10.1038/d41586-019-00861-z.

Werthwine, K. and Panos, A. (2025), "Place-based inquires into local climate impacts in Florida", In Webb, A., Beach, R. and Share, J. (Eds), *Empowering Youth to Confront the Climate Crisis in English Language Arts*, Teachers College Press, pp. 130-136.

Woodard, R. and Schutz, K.M. (2024), *Teaching Climate Change to Children*, Teachers College Press.

Yemini, M., Engel, L. and Ben Simon, A. (2025), "Place-based education – a systematic review of literature", *Educational Review*, Vol. 77 No. 2, pp. 640-660, doi: 10.1080/00131911.2023.2177260.

Yenawine, P. (1997), "Thoughts on visual literacy", In Flood, J., Heath, S.B. and Lapp, D. (Eds), *Handbook of Research on Teaching Literacy through the Communicative and Visual Arts*, Macmillan, pp. 845-846.

Further reading

Kershen, J.E. (2024), " Climate literacy opportunities and critique in paradise on fire by Jewell Parker Rhodes", *Children's Literature in Education*, doi: 10.1007/s10583-024-09597-5.

Avgerinou, M.D. (2009), "Re-viewing visual literacy in the "bain d'images" era", *TechTrends*, Vol. 53 No. 2, pp. 28-34.

Kellner, D. and Share, J. (2007), "Critical media literacy, democracy, and the reconstruction of education", In Macedo, D. and Steinberg S.R. (Eds), *Media Literacy: A Reader*, Peter Lang, pp. 3-23.

Kress, G. and van Leeuwen, T. (2006), *Reading Images: The Grammar of Visual Design* (2nd ed.), Routledge.

Marshall, J. (2007), "Image as insight: visual images in practice-based research", *Studies in Art Education*, Vol. 49 No. 1, pp. 23-41.

Appendix

Visual texts used in study

Participants in the focus group were invited to personally review and annotate six visual texts, then comment on and discuss collectively.

Plate A1. People on roof of a flooded home in New Orleans, after Hurricane Katrina
Source: Getty Images Open Access

Plate A2. Photo of Superdome, New Orleans
Source: Getty Images Open Access

Plate A3. Aerial photo of flooding in the lower Ninth Ward
Source: Getty Images Open Access

Plate A4. Dust Bowl children on porch
Source: Library of Congress, Public Domain

Plate A5. Dust Bowl ranch scene
Source: Library of Congress, Public Domain

Plate A6. Dust Bowl migrants
Source: Library of Congress, Public Domain

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