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Utilizing Digital, Multimodal Practices in Composing Apocalyptic/Post-apocalyptic Stories:
A Case Study of Southwestern College Students in a Written and Visual Media Course

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Abstract

In the writing classroom, presenting a curriculum where students write apocalyptic/ post-apocalyptic fiction to connect with the literature and share their futuristic concerns is a pedagogical strategy that has grown in popularity, with teachers asking students to compose in more diverse genres. As assignment outcomes, students can fashion a digital, multimodal storybook about an apocalyptic/post-apocalyptic event in order to think more critically; explore and research their personal and larger concerns; show creativity; promote a digital, critical multimodal literacy and digital multimodal prowess; gain dexterity in drafting, composing, and revising a narrative for an audience's entertainment; and increase their ability to reflect upon their work, as well as identify with apocalyptic/post-apocalyptic subjects. This article, involving 80 student participants, discusses a three-year case study at a Southwestern university of a digital storybook assignment. Students, engaging with apocalyptic/post-apocalyptic novels in a Written and Visual Media course, composed a genre-conforming, digitalized story with written, alphabetic textual; pictorial; and aural elements, as well as a corresponding reflective essay. The assignment's assessment criteria are presented, with raters measuring students' outcomes, and students self-reporting on their engagement with the task. The study's results have implications for implementing a multimodal writing curriculum supporting students' critical multimodal literacy and the composition of digital stories in which students can connect apocalyptic/post-apocalyptic fiction's themes to their individual and greater stressors, especially following the COVID-19 outbreak.

Keywords: Digital; Multimodal Composition; Digital Storytelling; Apocalyptic/Post-apocalyptic Fiction; Critical Multimodal Literacy; Rhetorical Construction of Identity

Introduction
Apocalyptic/post-apocalyptic fiction portrays the worries of a fractured world dealing with new technologies post-World War II, with the potential for social, political, biological, and ecological systems to go awry. Apocalyptic/post-apocalyptic or speculative fiction is a subgenre of Science Fiction, Science Fantasy, or Horror where the Earth's technological capacities are failing or have

collapsed, and it bears similarities to Utopic/Dystopic fiction in employing alternate universes (Lucas, 2011). Apocalyptic events can be climatic, manmade, medical, eschatological, or imaginative in nature (Zimbaro, 1996). In definition, "genre fiction" is supposedly formulaic in presenting its topics, characters, and settings (McHale, 2005), yet good apocalyptic/post-apocalyptic fiction subsumes these categorical limitations through offering originality, innovation, and the function of transcendence (Lucas, 2011). Likewise, the range of apocalyptic/post-apocalyptic fiction writers and their choice of topics have grown more diverse, with the field portraying not only male, Caucasian, superhero types but also a range of "everyday" people from racial/ethnic, gender, ability, age, and socioeconomic categories representative of a larger population.

Today, more people are reading apocalyptic/post-apocalyptic literature than ever (Cohen & Pielak, 2016), with the public displaying an ongoing interest in the genre since the appearance of the COVID-19 outbreak (Kirsner, 2020). Coinciding with this popular reading movement, some university composition faculty are integrating apocalyptic/post-apocalyptic fictional themes into their classrooms (Shimkus, 2012). Yet, reading and writing apocalyptic/post-apocalyptic fiction provide students with more than just a sense of escapism. The genre allows readers to explore topics they might not encounter otherwise and to think critically in envisioning how a text's imagined realities and disasters could be similar to ones that they themselves have experienced or might face (see Grossman, 2012). In college, students must learn to envision their personal backgrounds as fitting within their wider locale (Weis, Benmayor, O'Leary, & Eynon, 2002). In turn, writing teachers selecting apocalyptic/post-apocalyptic stories as focal texts for reading and writing assignments can assist students in investigating and sharing their individual, family, social, and career aspirations, as well as any fears they hold about their future well-being.

Most faculty of reading- and writing-related courses forgo the option of giving their students assignments related to the apocalyptic/post-apocalyptic genre. Comparably, many instructors avoid utilizing storytelling, including digital storytelling, in the classroom despite its similar value (Holtzblatt & Tschakert, 2011; Pyne & Means, 2013). Responding to these contexts, as a teacher implementing digital, multimodal, writing course design in an upper-level, "Written and Visual Media" class, I considered the potential worth in asking students, who are English majors, to read apocalyptic/post-apocalyptic fiction and fashion their own genre-affiliated, digital, multimodal storybook via PowerPoint's software. Aligned with the trend toward teachers' and students' examination of the growing corpus of apocalyptic/post-apocalyptic fiction, practicing digital storytelling is another newly lauded method of teaching students to read, think (Robin & McNeil, 2012), research a topic (Robin, 2008), and compose work, including writing creatively (Reyes & Clark, 2013). As a student-centered approach, storytelling can be applied to promote students' deep learning and meaning-making (McLean, 2005) while meeting the needs of those with diverse learning styles (Kortegast & Davis, 2017). Similar to featuring apocalyptic/ post-apocalyptic fictional texts in the classroom, pursuing digital storytelling also encourages students to contemplate, critique, and act upon cultural norms (Porfilio, Gorlewski, & Gorlewski, 2017), as well as grappling with their own and others' identities (Coscarelli & Ribeiro, 2018). Indeed, because of an emphasis on representing worldview, students engaged in digital

storytelling may demonstrate more interest in a class's subject matter than otherwise (Suwardy, Pan, & Seow, 2013).

Through digital storytelling, students can learn digital technology and participate in multimodal writing by merging oral storytelling, print writing, and technical applications. Also valuable to the digital, multimodal composition classroom's goals, students can construct digital texts as a creative replacement for some "traditional" writing assignments prioritizing an alphabetic text (Comer, 2015), a scenario promoting their discovery of the literate performances attached to a range of multimodal texts (Jacobs, 2013). With digital storytelling, students can practice process writing by choosing a topic and conducting research; composing an alphabetic textual narrative; and developing its corresponding pictorial and audial components (Sheafer, 2016), including images and graphics, a recording of the author reading the alphabetic text, and music and other sound effects. Moreover, students employing digital storytelling can implement differing modes in arranging, synthesizing, and presenting their information (Kortegast & Davis, 2017; Wang & Zhan, 2010) in order to generate important tales for themselves, define their content (McGee, 2014), reflect upon their work (Yang & Wu, 2012), and share it with the public to garner a greater audience (Robin & McNeil, 2012).

For the study's "Written and Visual Media" class, students read apocalyptic/post-apocalyptic novels, including graphic novels, and generated a digital storybook based upon an apocalyptic/post-apocalyptic event for one unit. The course's texts included Jose Saramago's novel, *Blindness* (1998); Jean Hegeland's *Into the Forest* (1996); Cormac McCarthy's *The Road* (2006); Margaret Atwood's *Oryx and Crake* (2003); and Robert Kirkman's and Tony Moore's graphic novel episode, *The Walking Dead: Volume 1* (2013). Students also watched films associated with some books and discussed genre conventions for apocalyptic/post-apocalyptic works (see Rubens, 2012). In composing the storybook, students utilized PowerPoint, a user-friendly program familiar to most students through which they implemented written, alphabetic textual; pictorial; and audial elements in crafting a digital, apocalyptic/post-apocalyptic narrative based on an event they believed could occur in the future (see Mackey, 2008). As the assignment's learning objectives, students were to 1) think critically; 2) explore and research their personal and social concerns (see Coscarelli & Ribeiro, 2018; Porfilio, Gorlewski, & Gorlewski, 2017); 3) display creativity; 4) demonstrate a digital, critical multimodal literacy and digital multimodal prowess in composing alphabetic text and mixing it with visual and aural elements in order to participate in the larger, social power structures at play within digital multimodal texts (see Comber & Nixon, 2014); 5) show dexterity in applying "process writing" or drafting, composing, and revising a narrative for an audience (see Bahl, 2015); and 6) reflect on their work.

The storybook unit contained assignments asking students to both study samples of digital storybooks and produce their own. Before beginning the storybook, students viewed examples on YouTube, many of which came from my previous classes, as a guide to envisioning their tale. Then, to foster critical thinking skills and conjure a storyline for their book, students brainstormed for topics both connected to their identity and imminent concerns, including those linked to their family, friends, disciplinary focus, and home. Once students decided upon

a storyline, they storyboarded their narrative by sketching scenes on paper, jotting plot points, and noting key dialogue. In imagining their storybook, students also opted for their tale to be serious or humorous, realistic or fantastical, and present-day or futuristic. After composing their narrative's text in a Microsoft Word document, students decided likewise how much text would appear on each PowerPoint book page, in some cases using only pull quotes. Separately, students recorded themselves reading their story and inserted an audio clip per page to match the corresponding chunk of written text, as presenting a narrating voice is an important component adding a sense of reality to a digital tale (see Alonso, Molina, & Porto, 2013). Moreover, some students included music as aural background. Finally, students selected photos and/or images of their characters, settings, and props for their book's pages. At the semester's end, I built a class website to showcase students' storybooks for public view (see Brown & Begoray, 2017), and some submitted their work to the undergraduate literary journal. Besides producing a digital story for the unit, students wrote a reflective essay discussing how they generated their tale, for whom, and why, as well as contemplating its design and focus. Additionally, students commented on exploring and researching their personal and greater concerns as a background for their tale and speculated on whether the apprehensions they raised could be "solved" socially (see Cohen & Pielak, 2016; Shimkus, 2012). (See Appendix I for assignment questions). This article, involving a three-year case study, explores and assesses a digital, multimodal, storybook assignment conforming with the apocalyptic/post-apocalyptic genre, as well as a reflective essay based upon the former's composition.

Literature Review
Reading and Writing Apocalyptic/Post-Apocalyptic Fiction
In exploring college teachers' employment of apocalyptic/post-apocalyptic literature in the writing classroom, a small number of research designs exist. These studies, where students read and/or compose work related to apocalyptic/post-apocalyptic literature, point to valuable outcomes, with students utilizing their critical thinking skills and imagination, and investigating and researching their personal and social concerns connected to the genre. In the first-year composition (FYC) classroom, Katherine Hiser (2010) utilized post-apocalyptic novels, so her students could discuss the individual, cultural, and environmental issues raised. Comparatively, Jay Shimkus (2012), teaching FYC, assigned speculative fiction, including dystopian novels, to engender dialogues about current happenings, as well as the potential horrors that a society could impose individually and collectively. In imagining how the world might end, Shimkus's students identified who and where they were in the present time and how their actions and ideologies might either forestall or precipitate an apocalyptic occurrence. Meanwhile, Mary Mackie (2008), also teaching FYC, employed post-apocalyptic texts, including McCarthy's *The Road*, to assist students in critically and creatively envisioning futuristic events similarly. A last study involving Amy Rubens (2012), who asked FYC students to read apocalyptic/post-apocalyptic literature and write genre-affiliated stories, is especially relevant. By both reading and authoring apocalyptic/ post-apocalyptic fiction, Ruben's students familiarized themselves with its elements, leading them to understand storytelling's purposes more generally.

Engaging in Digital Storytelling

A small number of studies describing the inclusion of apocalyptic/post-apocalyptic literature in the college writing classroom exist. Likewise, the same is true of those detailing college students' engagement in storytelling, including digital storytelling, which point to important and often overlapping outcomes with students implementing critical thinking skills, utilizing their imagination, and investigating their individual and cultural ideals. Current curricular designs for storytelling, including digital storytelling, describe students enrolled in a basic writing (BW) class who engaged in the practice. In implementing a storytelling format, Andrea Parmegiani (2014), a BW teacher, found that it facilitated her students' entrance into academic discourse systems, a process necessitating their critical thinking skills. Similarly, Soba Bandi-Rao and Mary Sepp (2014), teaching BW, determined that participating in digital storytelling presented their students with self-directed learning opportunities, prompting them to examine their personal and social concerns. Moreover, through digital storytelling, as Bandi-Rao and Sepp concluded, basic writers can compose a story and shape it into a digital, multimodal, and multidimensional experience, encouraging their sense of creativity and a digital multimodal prowess. Finally, for Rebecca Mlynarczyk (2014), storytelling assists basic writers in undertaking various academic writing processes in order to gain a greater dexterity in drafting, composing, revising a text for an audience's viewing, and reflecting upon their work.

Employing a Digital, Critical Multimodal Literacy by Composing Digital Storybooks

For college students, the relevance of reading, reacting to, and writing apocalyptic/post-apocalyptic stories, as well as that of composing digital tales, has been established. However, despite what is known, more can be stated about the value of students' investigation and generation of multimodal texts themselves as an important educational design, with the National Council for Teachers of English ([NCTE] 2005) calling upon teachers and students to study and fashion multimodal texts. Enacting multimodality involves embedding diverse elements within a composition that provide unique ways for students to read and formulate texts (Kress, Jewitt, Bourne, Franks, Hardcastle, Jones, & Reid, 2005). Likewise, applying a critical literacy lens to a work involves not only detailing its design choices but also analyzing its racial, gender, and/or cultural structures as power frameworks (Rankine & Callow, 2017). Indeed, through multimodal composition, students can understand how the traditional defining of author, audience, genre, and linear sequence can be broadened (Lim, O'Halloran, Tan, & K. L. E., 2015). One way related to the current study in which students can achieve a greater critical literacy in analyzing others' works is by formulating their own story's characters and narrative structures (Comber & Nixon, 2014; Exley, Woods, & Dooley, 2014). Additionally, generating multimodal texts assists students in thinking critically and self-directedly in employing differing modes for their particular communicative rationales, showcasing their artistic and creative sensibilities (NCTE, 2005), and affirming and documenting their individual and cultural backgrounds (Ajayi, 2015). Meanwhile, students who construct multimodal texts with digital features, such as digital stories, can include videos, sounds, graphics, images, and colors in their work (see Coscarelli & Ribeiro, 2018) in order to increase their digital multimodal prowess, as well as achieve a greater dexterity in drafting, composing, and revising a narrative.

In the literature reviewed, some students read and/or wrote apocalyptic/post-apocalyptic fiction, while others composed stories, with a few implementing digital and/or multimodal elements. Such examples contribute to discussions of students' requisite for interacting with diverse genre and modal forms (see Coscarelli & Ribeiro, 2018). Nonetheless, a gap in the research remains concerning the question of how the curricular practices of reading, responding to, and writing apocalyptic/post-apocalyptic stories, as well as composing digital tales, could be combined into a singular assignment, the digital storybook, and with what success. Indeed, the literature outlining college students' engagement with reading and writing apocalyptic/post-apocalyptic fiction and producing stories more generally tends to be largely theoretical (i.e., Ajayi, 2015) or anecdotal (i.e., Mlynarczyk, 2014), lacking many or all of these features: a detailed description of students' assignments and how they were enacted; a substantial enough sample of student participants from which to draw results (i.e., Bandi-Rao & Sepp, 2014); a categorical delineation of how many students improved their compositional practices, which ones, and to what degree; and a digital and/or multimodal component (i.e., Rubens, 2012). Additionally, the studies reviewed did not employ an exploratory model framework or utilize a greater number of instruments from which to benefit.

Thus, this article explores and assesses a major assignment, a digital, multimodal storybook conforming with the apocalyptic/post-apocalyptic genre, as well a reflective essay based upon the former's rendering. For the study, I asked these research questions: How does foregrounding digital, multimodal writing assignments, such as a PowerPoint storybook, affect students' 1) critical thinking skills; 2) exploration and research of their personal and social concerns; 3) creativity; 4) digital, critical multimodal literacy and digital multimodal prowess; 5) dexterity in drafting, composing, and revising a narrative for an audience's entertainment; and 6) ability to reflect upon their work, as well as identify with the apocalyptic/post-apocalyptic genre's subject matter?

Method

Research Site

From 2017 through 2020, the study was conducted at a rural Oklahoma university serving the state's lowest income county. The town where the university resides is in the Choctaw Nation tribe's capital, but the college itself lays outside of tribal nation jurisdiction. Many undergraduates have low-income backgrounds, 57% are first-generation students, and 30% are Native Americans, mostly Choctaw and Chickasaw. Academically, only a little over 11% of students graduate within five years, and 28% finish at all, even though, according to prospects at similar institutions, students should be graduating at a rate of over 39% (Deidentified University "Factbook," 2019). Thus, at the study's university, like elsewhere, some students, including rurally located and racial minorities, face persistence issues as marginalized groups. Regionally, high-speed, internet service also remains sometimes unavailable (for the area's "digital divide," see Hembrough, Madewell, & Dunn, 2018). Consequently, upon enrolling at the university, most students possess little experience with composing digitally and do not own household computers. Before the COVID-19 outbreak, many students also drove to campus to

utilize computer labs but then found other means of completing their work, such as sitting in a fast-food restaurant's parking lot and utilizing their phone to address their assignments.

Research Methods

Having Institutional Review Board approval, I designed an exploratory case study offering an "opportunity to learn" (Stake, 1995, p. 6). In conjunction with the study's aims and a knowledge of the existing literature, I explored how students' fashioning of a digital storybook about a possible cataclysmic event would impact their ability to implement multimodal composition practices, as well as portray their personal and greater social worries. Additionally, I investigated how the storybook assignment might be assessed to measure students' writing outcomes. I utilized diverse forms of data to produce results, including a post-assignment survey with Likert-style and open-ended questions, students' prewriting activities and reflective essays, and classroom observations, all of which revealed aspects of students' engagement with multimodal reading and writing practices, critical thinking, research, and reflection. Furthermore, acting as raters, another researcher and I evaluated students' prewriting work, storybook, and reflective essay for themes and indicators related to students' identity, as well as their writing processes. Finally, I created a rubric to measure students' results for the storybook. I selected this assignment for assessment because in producing it, students discussed their identity, and the unit also reflected a measure of their interaction with multimodal discourses. As raters, we also compared students' storybooks for academic outcomes. On a five-point scale, we rated each storybook's organization; development and clarification of ideas; diction, style, and voice; audience and genre features; artwork; and synthesis of information and cohesion.

Sample Demographics

The 80 participants ranged in age from 19 to 48, with the majority in their early twenties. Men represented 42% (*n* = 34), and women were 58% (*n* = 46). Caucasian students were the majority, with Native Americans, Choctaw and Chickasaw, ranking second. More than half of students (*n* = 41) had a combined household income of below $30,000, thus living at the poverty level, and most came from rural backgrounds. Additionally, as elsewhere nationally, students in the study's final year were affected by the COVID-19 pandemic. Refer to Table 1 for group demographics.

Findings
Students' Engagement in Digital Storytelling and Their Composition-related Outcomes for the Storybook

At the unit's beginning, some students, who asked to compose storybooks about a cataclysmic event that might reflect their personal anxieties and/or society's greater worries, seemed hesitant to do so. Nonetheless, once they began to explore their qualms about the future,

Table 1. Students' Demographic Characteristics

Race	Caucasian 52% (42)	Native American 39% (31)	Hispanic/Latino 4% (3)	African-American 3% (2)	Asian/Pacific Islander 2% (2)
Age	18-21 52% (42)	22-25 43% (34)	26-29 1% (1)	35-39 1% (1)	45-49 2% (2)
Annual Household Income	$0-15,000 24% (19)	$16,000-30,000 27% (22)	$31,000-45,000 12% (10)	$46,000-60,000 15% (12)	> $60,000 22% (18)
Permanent Residence	Oklahoma 81% (65)	Texas 19% (15)	NA		
Town Size	Under 5,000 43% (34)	5,000-10,000 23% (18)	11,000-20,000 21% (17)	30,000-50,000 11% (9)	60,000 + 2% (2)

***N* = 80**

Note: The number of students per category has been rounded to the nearest whole number.

contemplate their personal and larger identities, and decide upon a storyline for an apocalyptic event, they were eager to produce their storybooks, which, like comics, distilled an idea into a limited number of frames or pages while offering an entertaining premise (see Appling, Weaver, & Lay, 2009). As findings, in composing a digital storybook, a majority of students fulfilled these assignment criteria to an average or better degree: 1) employed critical thinking; 42) explored and researched personal and social concerns; 3) showed creativity; 4) demonstrated a digital, critical multimodal literacy and digital multimodal prowess; 5) exhibited a dexterity in drafting, composing, and revising a narrative for an audience's entertainment; and 6) displayed an ability to reflect upon their work, as well as identify with apocalyptic/post-apocalyptic genre subjects.

Students addressed these outcomes in specific ways. They practiced critical thinking and creativity in completing prewriting tasks, namely listing their individual and communal apprehensions and brainstorming for storybook ideas. Additionally, students explored and researched their concerns by utilizing internet searches to gather information about apocalyptic-related topics in which they were interested. Moreover, students employed a digital, critical multimodal literacy by deciding independently how to proceed with their work, as well as demonstrating a digital multimodal prowess in composing alphabetic text and mixing it with visual and audial elements in utilizing PowerPoint to compile their story's written text, pictures and/or graphics, and an edited recording of themselves reading their tale. Interestingly, as a side note, in addressing PowerPoint, students also showed more collaboration and unity of intention in their interactions than usual (see Appling, Weaver, & Lay, 2009; Hembrough, 2019). Next, students applied process writing in beginning their storybook with prewriting, composing and peer reviewing the rough draft, receiving input from me, and

revising and producing a final version, thus effecting a dexterity in drafting, composing, and revising a narrative for an audience's entertainment. Finally, students wrote a reflective essay propelling them to contemplate their reactions to apocalyptic/post-apocalyptic literature, digital storytelling, and multimodality; ponder the concepts and choices behind their tale, including its strengths and weaknesses; and assess their learning outcomes.

Upon interacting with the storybook assignment, only two students, in the reflective essay, reported their dislike of tackling it: One called digital storybooks "juvenile," and the other commented on how she had to rerecord audio clips of her reading her story because of interruptions, including her cat knocking over items, rendering background noise. However, as elements impacting students' unit involvement, their past reading, viewing, and writing experiences and familiarity with apocalyptic/post-apocalyptic, as well as digital texts, influenced their perception of the storybook assignment (see Jacobs, 2013; Rubens, 2012). Some students, who indicated, at the outset, that they "did not know how" to formulate a futuristic digital storybook had reported possessing limited experience with writing fiction and/or composing multimodally. Others admitted to feeling "nervous" about addressing the project's visual and audio aspects. Yet, because the assignment's emphasis on depicting students' backgrounds and outlooks remained open to their preferences, they found that they could portray many current or looming anxieties within their texts. Additionally, as many were familiar with apocalyptic/post-apocalyptic films, students also utilized these as models about which to think critically and envision their own projects (see Rubens, 2012) while retaining their self-purpose and sense of creativity.

As the unit progressed, students discussed the apocalyptic/post-apocalyptic texts, including the digital and the graphic, and thus multimodal, novels, we were reading in an increasingly complex manner, thus enacting a critical digital literacy. However, not everyone liked the reading list's selections, as it became apparent. During an early class discussion, one older student dubbed the texts we were covering as "low work," "popular," and "trash fiction." Indeed, as it became clear to me, stereotypes about apocalyptic/post-apocalyptic texts and graphic novels as being unsuited for advanced readers desiring to investigate complicated topics still exist (see Richardson, 2017). Likewise, other students expressed their continued preference for "traditional" print instead of graphic novels, since they enjoyed mentally formulating the plot while utilizing the author's language for the backdrop (see Frey & Fisher, 2007). Nonetheless, as I affirmed for students, apocalyptic/post-apocalyptic and graphic novels as genres can play a lifelong role in students' reading practices (see Crawford, 2004) as they possess an established literary and cultural merit and provide concepts and patterns that one might not encounter elsewhere (Gravett, 2005).

In the survey and reflective essay, students identified achieving various outcomes in composing the storybook, including 1) implementing critical thinking; 2) exploring and researching personal and social concerns; 3) expressing creativity; 4) demonstrating a digital, critical multimodal literacy and digital multimodal prowess; 5) showing a dexterity in drafting, composing, and revising a narrative for an audience's entertainment; and 6) displaying an ability to reflect upon their work, as well as identify with apocalyptic/post-apocalyptic genre ideals. Notably, three

quarters or more of students reacted positively to nearly all of the associated survey items tabulated below, thus demonstrating their interest in apocalyptic/post-apocalyptic fiction topics, as well as digital storytelling, with this calculation excluding only the last two items listed concerning whether students would consider generating future digital storybooks and/or revising their digital storybook as a capstone project. (See Table 2 for students' self-reported survey outcomes upon completing the storybook.)

Proceeding, according to the survey and themes generated from students' reflective essays, most believed that the storybook assignment strengthened their critical thinking, exploration and research of personal and social concerns, and creativity, as well as promoting their educational interests. Specifically, as some racial minority students relayed in the reflective essay, in formulating a storybook, they had enjoyed the process of describing and researching their concerns as a means of constructing their identity and perceived path. One Choctaw woman commented, "When I sleep, I have dreams about how the future might be. By writing a story, I used my reoccurring ideas about how the end of the world might take place, along with a new beginning." Likewise, an African-American student provided an insight about how the assignment required her to exert a "higher creativity level" than usual: "Before, I thought digital

Table 2. Survey of Students' Self-reported Outcomes upon Finishing the Storybook

Academic Outcomes for Digital Storybook Assignment	
Strengthened critical thinking skills	95% (76)
Strengthened exploration and research of personal and greater social concerns	92% (74)
Strengthened creativity	85% (68)
Strengthened critical, reading skills, including reading digital multimodal texts	97% (78)
Proved useful in learning more about digital storybooks as a multimodal genre	86% (69)
Strengthened digital, multimodal writing skills	98% (78)
Strengthened drafting, composing, and revising skills in writing a narrative	90% (72)
Strengthened ability to write for a said purpose, specifically for an audience's entertainment	86% (69)
Strengthened reflective skills	94% (75)
Strengthened ability to identify with the apocalyptic/ post-apocalyptic genre's topics	95% (76)
Promoted or reinforced educational interests	74% (59)
Prompted student to consider making future digital storybooks	53% (42)
Motivated student to consider lengthening and revising the current digital storybook as a capstone senior project	22% (18)

N = 80 students

storytelling was for children. However, I see how placing pictures in the book and including my voice in narrating the story added further layers." Separately, many Teacher Education majors claimed that the assignment reinforced their educational interests because they planned to assign future students to read apocalyptic/post-apocalyptic novels, as well as author digital storybooks, in their own classrooms. Incidentally, in the reflective essay, students who discussed composing their storybook more positively also performed better on the unit assignment.

According to the survey and reflective essays, the storybook also promoted students' reading and writing processes, including a digital, critical multimodal literacy and digital multimodal prowess; dexterity in drafting, composing, and revising a narrative for an audience's entertainment; and ability to reflect upon one's work, as well as identify with apocalyptic/post-apocalyptic genre topics. At least 97% of students (n = 78) surveyed reported that the storybook assignment facilitated advancements in their reading and writing skills, including those addressing digital, multimodal texts. Additionally, almost all students surveyed agreed that completing the storybook improved their understanding of composing digital multimodal texts more largely. As a further outcome, in writing the reflective essay, half of students (n = 40) also commented that generating the storybook strengthened their comprehension of and/or interaction with general academic writing procedures in some significant way, including their recognizing the requirement for process writing and revision. One Caucasian student remarked in her essay, "I never thought about the need to draft a story instead of writing it all at once and being done. Also, I had never considered the need to keep a story moving in order to maintain audience interest. In writing my plot, I had to get rid of digressions. Interestingly, the same situations apply when I write an academic essay." Additionally, for 95% of students (n = 76) surveyed, reading the unit's fictional works heightened their ability to connect with apocalyptic/post-apocalyptic genre subjects and, by association, to contemplate and reflect upon their own storybook's themes.

Besides accounting for students' self-reported results, another rater and I assessed their storybook outcomes. We ascertained that students performed highest in the areas of "synthesis of information and cohesion" and "development and clarity," with at least 87% (n = 70) fulfilling these objectives. Findings suggest that the assignment's multimodal focus also aided most in satisfying the storybook's other components, with at least 82% (n = 66) meeting "diction, style, and voice" and "audience and genre" requirements. Overall, at least 60% of students (n = 48) fulfilled all storybook goals, with the category of "artwork" ranking lowest. See Table 3 for raters' assessment of students' academic outcomes for the storybook.

Students' Examination of Personal Worries and Societal Concerns and Their Development of Character Conflicts in Composing the Storybook

The study's overall findings have been delineated, but additional attention can be paid to how the storybook assignment led students to explore their personal and social concerns and connect with apocalyptic/post-apocalyptic genre topics by linking their worries to those of a

Table 3. Raters' Assessment of Students' Academic Outcomes for the Storybook

Writing Outcomes for the Digital Storybook	Percentage of Assignments Associated with Each Outcome, with "1" Being the Lowest and "5" the Highest				
	Fails to Meet Requirements 1	Fair 2	Meets Requirements 3	Good 4	Excellent 5
Synthesis of Information and Cohesion	6% $n = 5$	7% $n = 6$	23% $n = 18$	52% $n = 42$	12% $n = 12$
Development and Clarity	6% $n = 5$	6% $n = 5$	24% $n = 19$	36% $n = 29$	28% $n = 22$
Diction, Style, and Voice	11% $n = 9$	7% $n = 6$	37% $n = 30$	34% $n = 27$	11% $n = 9$
Audience and Genre Requirements	6% $n = 5$	11% $n = 9$	27% $n = 22$	24% $n = 19$	32% $n = 26$
Artwork/Images	7% $n = 6$	33% $n = 26$	39% $n = 31$	9% $n = 7$	12% $n = 10$

N = 80 students

main character created for the storybook. Indeed, one prewriting assignment allowed students to pinpoint their stressors and potentially link them to one(s) that their main character navigating a futuristic setting might also face. Offered near the unit's beginning, the task, having five parts, promoted critical thinking, creativity, and process writing. First, students listed personal and cultural stressors that college students collectively could face currently or might have faced in the past six months, with these being listed on the board. Second, students wrote down personal and cultural stressors that they themselves had felt within this period, as well as their degree of strength from "strongly" to "very strongly." Third, all class members voluntarily discussed at least one of their individually reported stressors. Fourth, students generated sketches for their proposed story's characters and plot and noted the difficulties that their protagonist might undergo. Fifth, students shared aloud their second brainstorming session's contents, with many mentioning that they held their main character's stressor(s) similarly.

Stemming from this exercise, a calculation of students' self-reported stressors is presented in Table 4. Concerning students' individual stress rates, nearly a third or more reported feeling anxiety about personal, family, housing, and job issues, with the following factors ranking highest: an existential issue ($n = 38$), having responsibility for a partner and/or a child ($n = 38$), a family member's major injury/illness ($n = 36$), a psychological condition ($n = 28$), substance abuse ($n = 28$), a problem at work ($n = 27$), roommate difficulty ($n = 25$), and housing issues ($n = 25$). More greatly and socially, students felt stressed by national economic issues ($n = 54$), a potential or actual pandemic ($n = 51$), and political conflicts ($n = 51$). Meanwhile, during the

Table 4. Students' Stressors

Personal Stressors	Strongly	Very strongly
A family member's injury/illness	16	20
An existential issue or a question about the "bigger picture"	13	25
Caring for a partner and/or child	12	26
A conflict with a roommate	11	14
A conflict at one's job	10	17
A psychological condition, such as depression or anxiety	9	19
Substance abuse issues	9	19
A reduction in income	9	13
Going out with friends more or less than usual	9	12
A conflict with a spouse/partner	8	20
Housing issues	8	17
A family member's/friend's demise	7	9
Transportation issues	6	10
Sleeping more or less than usual	5	4
An argument with a parent	4	10
A significant personal injury or illness	3	14
Issues with a teacher	3	5
Eating more or less than usual	3	3
Difficulty in choosing a future career	1	8
A legal issue	0	8
Being pregnant	0	5
A personal separation/divorce	0	2
Having sexual issues	0	2
Greater Social Stressors	Strongly	Very strongly
An act of God, including a tornado, hurricane, earthquake, etc.	7	28
National political issues, such as a presidential election	3	48
Country's national involvement in a war or conflict	3	18
Environmental sustainability issues	3	14
Homelessness	2	12
Immigration issues	2	4
Substance abuse issues	1	7
Economic issues, such as a recession	0	54
A pandemic	0	51
Threat of terrorist attacks	0	8

N = 80

study's final year, students' anxieties were affected by COVID-19 considerations, with an actual pandemic's appearance, related economic crisis, and approaching presidential election.

As delineated for the class prewriting activity, students outlined their set of stressors, as well as those of their potential main character, in order to seek direction and gain inspiration in composing their storybook. Afterwards, upon finishing the storybook, students viewed their prewriting material again to assist them in producing their reflective essay, a segment of which entailed gauging potential connections between themselves and their main character. Notably, for raters, as a reference point emblematic of both sets of writing, many students' personal and social concerns were associated with factors that David Lester outlined in his "Stressful Life Events Checklist" for college students (Lester, 2014). Nationally, students' worries about their college enrollment correlate with their long-term psychological well-being (Lee & Jeong, 2014), with today's university students of the traditional age experiencing higher stress levels and poorer psychological conditions than those of previous generations (Greene, Jewell, Fuentes, & Smith, 2019). Among their anxieties, students at large feel especially apprehensive about the status of their physiological and psychological health, family relationships and friendships (Lee & Jeong, 2014), college loan debt, and other financial problems (Heckman, Lim, & Montalto, 2014), a finding that the current study echoes concerning students' desire to foreground their personal and social concerns both within the class and their storybook. Additionally, first-generation and rural students feel less academically prepared for college than do their peers, as well as doubting their ability to graduate (Morton, Ramirez, Meece, Demetriou, & Panter, 2018) and do well academically (Lee & Jeong, 2014), further findings ringing true for the current study's mostly rural and first-generation student population, with many students worried about their relationships with instructors ($n = 8$) and capacity to do well in their classes ($n = 21$).

Besides identifying students' and their characters' stressors by evaluating their prewriting activity and reflective essay, raters viewed students' storybooks to generate themes concerning their rendering of character traits, plotlines, genre aspects, and secondary characters. (See Table 5). In an apocalyptic/post-apocalyptic story, one can envision the last days as a challenge, journey, battle between two forces, and/or an introduction of alien forces (Leigh, 2008). Correspondingly, students' characters dealt with such challenges as plot patterns.

In composing the storybook, students utilized critical thinking skills and creativity, as well as enacting a sense of critical literacy skills and comprehension of the apocalyptic/post-apocalyptic genre, in presenting the new worlds and troubles their characters faced for an audience. Additionally, most students acknowledged their personal and social concerns or stressors in formulating their main character's obstacles. Overall, many students held apprehensions related to their own physical and/or mental health, as well as possessing worries about family issues, and their characters struggled with these same problems if in larger numbers. For example, almost a fifth of students ($n = 17$) reported experiencing a major personal injury/illness, and over a quarter ($n = 28$) faced depression or anxiety. Similarly, around half of students' main characters displayed an injury/illness ($n = 39$) and/or felt depressed or anxious ($n = 54$). On another note, almost half of students felt concerned about being responsible for a partner and/or a child ($n = 38$) and/or handling a family member's major injury/illness ($n = 36$),

Table 5. Themes for Character Traits, Plotlines, Genre Aspects, and Secondary
Characters that Students Generated in the Storybook

Main Character's Traits
Character represents a superhero (0).
Character has a secret power/skill (0) or special prop, like a sword (0).
Character has a special or known flaw/weakness (6).
Character possesses a sense of fear (57), anxiety or depression (54), alienation (56), apathy (48), indecision (47), uncertainty (43), and/or anger (54).
Story Plotline Type and Conflicts
Story relies upon causal events, with a beginning and ending, and the story is a comedy (20) or tragedy (60).
Story is open-ended (68) or closed-ended (12).
Story involves an actual journey in time and space for the main character (57).
Story is about a traumatic event for the main character, including a family member's death (45); friend's death (11); major personal injury/illness (39); substance abuse (2); and/or mental health condition, such as depression (38) or anxiety (39).
Story is about the drug culture's negative effects (2) or an overreliance on technology (4).
Story is about a natural or man-made disaster/emergency, including a fire (7), tornado (1), earthquake (1), hurricane (11), bombing (14), war (28), and/or pandemic (26).
Story is about a change in political leadership (45), including through the arrival of alien forces (12).
Story includes negative events for the main character, including abandonment (56), physical fighting (42), rape (14), cannibalism (9), harsh elements (47), and/or slavery (21).
Story includes positive events for the main character, including marriage (11), the birth of a child (9), the act of applying new skills for survival (59), and/or the assumption of a leadership role (36).
Genre Aspects
Story involves a lesson or moral that the main character learns (61).
Story is realistic or plausible (51).
Secondary Characters
Story has a guide, including a parent, god figure, coach, etc. (38).

N **= 80 students**

while a key conflict within students' tales included a family member's death (*n* = 45). Other student worries included housing (*n* = 25), job (*n* = 27), and/or pregnancy issues (*n* = 5), whereas students' characters experienced the more dire, but potentially aligning events of abandonment (*n* = 56), living in harsh elements (*n* = 47), slavery (*n* = 21), and/or rape (*n* = 14). Besides being tied to students' personal conflicts, their tales called attention to larger cultural uncertainties. More than half of students were bothered by the status of political (*n* = 51) and economic matters (*n* = 54), along with the threat or actuality of a pandemic (*n* = 51), themes

portrayed in a quarter to nearly half of their tales. Comparably, approximately half of students (n = 35) were leery about a possibly impending act of God, while over a quarter (*n* = 21) felt nervous about a potential outbreak of war, with students' stories featuring disasters, including a war (*n* = 28), pandemic (*n* = 26), bombing (*n* = 14), hurricane (*n* = 11), fire (*n* = 7), tornado (*n* = 1), and/or earthquake (*n* = 1). (See Appendix II for students' digital storybook examples.)

In other ways, students' main characters and their circumstances also presented a parallel to students' lives themselves. For instance, no student conceived of a main character as a "superhero" or someone with a secret power/skill or special prop, like a magical sword. Instead, similar to the students, their main characters could be considered average people, with only six characters possessing a known, supernatural flaw/weakness by which they were defined. Most students also wrote realistic or feasible tales (*n* = 51), rendering the types of roadblocks with which their characters grappled as possibly similar to those that students themselves faced. Separately, just as many students desired advice from teachers about completing their assignments and/or beginning their careers as per their list of needs to be addressed, some of their stories also featured the role of guides or mentors (*n* = 38). Likewise, as a plot choice, most students' stories remained open-ended (*n* = 68), paralleling their existence at this point, open to diverging roads in terms of a profession, romantic relationship, and/or decision to start a family. Indeed, as students mused upon their careers, alliances, and settings, many stories involved a lesson or moral that the character learned (*n* = 61) and/or journey taken (*n* = 57).

Discussion

To navigate within various "systems of meaning making" (Jacobs, 2013), students must learn to read and compose work in multiple textual modes and genres, such as through practicing digital storytelling and writing apocalyptic/post-apocalyptic fiction. Within the study, regardless of the struggle on some students' part, producing a storybook led most to consider and expand upon their composing capabilities, especially concerning multimodality aspects. Likewise, in generating a storybook, all were willing to contemplate their individual and larger social concerns connected to identity factors of gender, race/ethnicity, background, major, family and career expectations, and location in some significant way, including by linking them to apocalyptic/post-apocalyptic fiction's leitmotifs. When the unit began, nearly all students possessed a limited experience with reading and/or writing both apocalyptic/post-apocalyptic literature (see Shimkus, 2012) and digital storybooks (see Bandi-Rao & Sepp, 2014). Still, most were able to grasp and enjoy the storybook assignment with its interdisciplinary focus and digital, multimodal elements. Many students, as English majors, reported their continued preference for writing alphabetic-based texts, yet nearly all were willing, especially the creative writers, to commit much time to digitally composing the storybook.

For the study, foregrounding digital, multimodal writing assignments, such as a PowerPoint storybook with alphabetic text, mixed with visual and audial elements, assisted students in addressing key composition-related processes, including 1) critical thinking; 2) an exploration and research of their personal and social concerns; 3) creativity; 4) a digital, critical multimodal literacy and digital multimodal prowess; 5) a dexterity in drafting, composing, and revising a

narrative for an audience's entertainment; and 6) an ability to reflect upon their work, as well as identify with apocalyptic/post-apocalyptic topics. Indeed, overall, at least 85% of students (*n* = 68) surveyed reported that the storybook assignment facilitated advancements in these categories for them. Arriving at a similar figure in utilizing comparable writing-outcome-based criteria, raters assessing the storybook assignment also found at least 82% of students (*n* = 66) were also able to synthesize information and create cohesion; develop their work and offer clarity; utilize the appropriate diction, style, and voice; and meet audience and genre requirements in undertaking this task. These self-reported and rater-assessed results, with a high degree of overlap, indicate that the storybook assignment benefited a good number of students in achieving various composition-oriented outcomes valuable to the larger course.

Largely, this study is significant in providing writing teachers with information about the benefits and obstacles involved in formulating a digital storybook with an apocalyptic/post-apocalyptic outlook for a multimodal composition course as an assignment hereto undescribed in the literature. Additionally, the study offers new knowledge concerning both students' self-reported and rater-assessed outlooks, patterns, and outcomes upon producing a digital storybook. Moreover, the study is unique in presenting a set of student stressors and a list of fictional literary devices and categories affiliated with character, plot, and setting types that students rendered in their storybook, with many students aligning their anxieties surrounding death; injury; disease; and the loss of family, friends, livelihoods, educational pursuits, and homes with those of their main character. Altogether, thus, the study fills specific gaps in the literature. A few studies discuss students' participation in storytelling (i.e., Mlynarczyk, 2014), including digital storytelling (i.e., Bandi-Rao & Sepp, 2014), while others portray their composition of apocalyptic/post-apocalyptic fiction (i.e., Rubens, 2012) or at least a response to the genre's themes (i.e., Hiser, 2010). However, the current study is unique in combining multiple genre elements in a single assignment. As a further factor separating past studies from the current one, the existing literature is limited to portraying students enrolled in basic writing and first-year composition classes, while the current study contributes to the spectrum in depicting a population of English majors enrolled in an upper-division, multimodal writing class. In other opposition to the current study, the prior literature available tends to be largely theoretical (i.e., Ajayi, 2015) or anecdotal (i.e., Mlynarczyk, 2014), lacking many or all of these features: a detailed description of the context and results of students' readings covered and assignments enacted; a substantial student sample from which to draw conclusive results (i.e., Bandi-Rao & Sepp, 2014); a categorical delineation of how many students improved their composition practices, which ones, and to what degree; and a digital or multimodal component tied to the task (i.e., Rubens, 2012). Also, the studies reviewed did not employ an exploratory model framework or implement a greater number of study instruments from which to benefit.

According to study findings, as the first assignment outcome, the storybook assisted students in building their critical thinking skills (see Coscarelli & Ribeiro, 2018), creativity, and comprehension and identification with apocalyptic/post-apocalyptic subjects. In composing apocalyptic/post-apocalyptic texts, writers can test the basic theories that people hold about themselves, including the concept of what it means to be "human" (Harold, 2011). Indeed, interacting with both apocalyptic/post-apocalyptic fictional texts and digital stories can provoke

students to contemplate, critique, and act upon cultural norms (see Porfilio, Gorlewski, & Gorlewski, 2017). Upholding and extending such axioms from previous research, the study's storybook assignment also prompted students to explore apocalyptic/post-apocalyptic themes, ones they might not encounter otherwise, and think critically in positing relationships amongst humans and their current and future world (see Grossman, 2012). Such contemplation proves important, as many people concentrate on present-day issues, with an inability to conceive of what could lie ahead. Similarly, for the study, the storybook assignment provided students with opportunities to showcase their creativity, as the task compelled them to choose from an unending array of characters, plots, settings, and styles in examining everyday premises and posing the question, "What if?" During the third year specifically, students' worries were affected by the advent of COVID-19, making their problems and circumstances seem apocalyptic in nature as never before, as some remarked. Good apocalyptic/post-apocalyptic fiction affords for originality, innovation, and transcendence (Lucas, 2011), and in the storybook, students, drawing upon their stressors, backgrounds, and experiences, utilized material generated from their prewriting exercises similarly in portraying memorable characters located in interesting situations, with existing social, political, biological, and/or ecological systems having gone amuck. Notably, a few students even formulated tales offering a fictional reaction to COVID-19 itself because, as they explained in their reflective essay, they wanted their work to be "relevant" to the present day in capturing their fears and desires.

As the second, related assignment outcome, the storybook aided students in exploring and researching their personal and greater cultural concerns (see Porfilio, Gorlewski, & Gorlewski, 2017). Within and outside of the classroom, students read and write to comprehend the universe around them and how they connect to it (Grossman, 2012). Likewise, in the study, the storybook assignment led students to embody this stricture by analyzing and researching their surroundings and pondering how they and their stressors were linked to the larger landscape. During the COVID-19 outbreak particularly, students became consumed with locating information about how they and their plans and dreams might be affected physically, socially, and economically by the virus, and they fashioned characters facing similar worries. As a student-centered approach, storytelling can be employed for stimulating deep learning and meaning-making (McLean, 2005), while students engaging in digital storytelling may show more interest in the subject matter being taught than otherwise (Suwardy, Pan, & Seow, 2013). Correspondingly, for the study, students also reported that the research they undertook was more "useful" to them than "usual," as they investigated phenomenon that they believed could possess some present or future personal impact. Moreover, having connected with the apocalyptic/post-apocalyptic genre and its painting of diverse heroes by race, gender, background, and economic condition, students constructed their characters as being ordinary yet complex people, who, like the students themselves, could become heroes in a new world, no matter their individual and group attributes (see Coscarelli & Ribeiro, 2018). Notably, by tackling a digital storybook emphasizing oral and visual communication patterns, some marginalized students, facing racial, educational, and economic inequities, also found a forum for their stories where they could express the natures of their histories, cultural traumas, practices, and communication styles and preferences (see Royal, 2010). Likewise, the storybook assignment, similar to a comic's rendering, permitted students to present their tales through

the use of metaphor or a fictional stance, allowing them to cover topics, such as pregnancy, suicidality, the death/injury of family members, and homelessness, that are difficult to present (see Eisner, 1996). In the reflective essay, one Choctaw student claimed, "In the apocalyptic genre, the future is open. That's good for me because most of the time, stories about Natives that people tell are closed, over, past tense, historical, end of the line. What about me? My story is just beginning, and only I can shut the book."

 The third assignment outcome with which the storybook aided students learning to navigate PowerPoint was in bolstering their digital, critical multimodal literacy and digital multimodal prowess in addressing the locale's digital divide (see NCTE, 2005). In constructing a digital tale as a creative replacement for other "traditional" writing assignments (see Comer, 2015), students may investigate the literate performances attached to diverse multimodal texts (see Jacobs, 2013). Indeed, within the study, students discovered that a textual message containing multimodal elements is different than one without them (see Coscarelli & Ribeiro, 2018). On this point, students discussed how implementing multimodal elements within their story, including sound, images, and color, added to its complexity as modes that viewers would have to consider as they read the alphabetic text. Notably, in the reflective essay, students reported that by inserting a voice recording of the story's alphabetic text, they could provide additional information about the narrator, while including pictures and images produced a more detailed configuration of the setting, and implementing background music presented a specific mood for the story. Storytelling can also be utilized to meet the needs of students with diverse learning styles (Kortegast & Davis, 2017). Comparatively, in the study, the storybook assignment promoted the strengths of a range of students, including those who preferred employing oral and/or visual elements over the written alphabetic text. As another valuable feature of digital storybooks that is also similar to that of comics, the former permit students to present their tales in a medium that might not hold readers' attention otherwise (see Eisner, 1996). In response, for the study, students were eager to share their storybook not only with one another but also with family, friends, and the larger public, with two students showcasing their work on Facebook. Overall, through digital multimodal composition, students can compose, formulate, and publish their work in a manner impossible before its advent (NCTE, 2005), with this context benefitting the study's students, who generated the storybook according to their chosen modal elements, purposes, and talents.

As the fourth outcome, the storybook promoted students' dexterity in drafting, composing, and revising a narrative for an audience's entertainment, as well as fostering their potential for reflection. Largely, through the assignment, students applied process writing by synthesizing their ideas (see Kortegast & Davis, 2017), presenting and arranging information (see Wang & Zhan, 2010), generating important tales and defining their content (see McGee, 2014), reflecting upon their work (see Yang & Wu, 2012), and sharing it with the public to capture a larger audience (see Robin & McNeil, 2012). Indeed, in fulfilling the assignment, as many students declared, they engaged in process writing if only because the assignment sequence prevented them from sitting down the night before the storybook was due, writing for a single period, and submitting their work. Instead, students had composed their storybook in segments that fit together in selecting a topic; conducting research; composing an alphabetic textual

narrative; and developing its corresponding pictorial and audial components (see Sheafer, 2016), including images and graphics, a recording of the author reading the alphabetic text, and/or music and other sound effects (see Wang & Zhan, 2010). Additionally, for purposes beyond the class, at least a dozen students planned to expand their storybook into a longer piece. One student revealed in his reflective essay, "I keep waking up at night and wondering what's going to happen next in my story. Most times, I get up and work on it. That never happened with any essay I wrote for a class. I used to struggle to find ideas, get interested in the topic, and make the word count. Now, I tell everybody I meet, 'Hey, I'm writing a story. It's about me, but not about me! Would you like to see it?' I didn't even mind writing the reflective essay because it helped me figure out my story and plan what to do next."

Study Limitations and Future Directions

This study has shown that foregrounding digital, multimodal writing assignments, such as a PowerPoint storybook, promoted students' various composition-based skills, including 1) critical thinking; 2) an exploration and research of their personal and social concerns; 3) creativity; 4) a digital, critical multimodal literacy and digital multimodal prowess; 5) a dexterity in drafting, composing, and revising a narrative for an audience's entertainment; and 6) an ability to reflect upon their work, as well as identify with the apocalyptic/post-apocalyptic genre's topics. As a limitation, the study did not apply a scale measuring students' compiled list of stressors, such as via implementing the field-recognized "Life Stressor Checklist Revised" (see U.S. Veteran Affairs, 2020), which provides information about an individual's psychologically defined stressors and range of degree, yet future studies could do so. Namely, this would provide further information about how students' stressors align with nationally defined categories. Moving forward, as an additional direction to pursue, researchers could focus on other outcomes of potential significance stemming from composing a digital storybook, such as how much the assignment propels students to collaborate with one another and whether this degree is noteworthy as a topic that the current study touches on in describing students' enaction of a digital, critical multimodal literacy and willingness to share their digital multimodal prowess with others in teaching them the assignment's PowerPoint technology. Finally, future studies might investigate the impact of composing digital storybooks for marginalized populations, such as Native American students, who are a large group represented in the current study but whose identity, background, and concerns were not assessed independently.

Conclusion

In the writing classroom, there is a new focus on possessing multiliteracies, including visual, audial, digital, and critical literacies with which one can interact with today's complicated and multimodal texts (Serafini, 2010), implement a particular text in a given rhetorical situation, and seek higher multimodal literacy levels by investigating diverse genres (Misemer, 2015), such as involve the study's students' composition of a digital storybook. In order to succeed in today's media-rich workplaces, students must be provided with opportunities to increase their digital technology skills connected to enacting a digital, visual, and information literacy (Niemi &

Multisilta, 2015). However, it is also important for students to present their stories, identities, backgrounds, and stressors in the writing classroom (see Parmegiani, 2014) because through culturally responsive storytelling, teachers can help students to face obstacles associated with obtaining an education in a global age (see Gay, 2010). Instead of viewing stories as a lesser discourse form unworthy of attention, one must also concede that the aptitude for constructing narratives is what differentiates humans from other species, as well as providing a comparison amongst individual storytellers as authors themselves. In the writing classroom itself, incorporating digital assignments into one's course design can be difficult, especially when faculty do not possess digital technology backgrounds (Selfe, 2004) and models demonstrating how computer-based assignments can be integrated (Sealey-Morris, 2015). Nevertheless, by utilizing digital storybooks as focal texts for writing assignments, teachers and students can address not only multimodal composition literacy requisites, but also prompt students to investigate their personal and larger cultural, identity-related conflicts, with students opting to compose digital storybooks as a creative replacement for some traditional, print-based writing assignments.

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Appendix I: Major Questions Students Addressed in the Reflective Essay

1. Discuss how you composed your storybook, with its strengths and weaknesses, and the effect on viewers you hoped to produce and why.

2. Did the Storybook assignment strengthen your critical thinking and research skills? If so, how?

3. Did the Storybook unit strengthen your multimodal reading skills? If so, how?

4. Did the Storybook assignment strengthen your multimodal writing skills? If so, how?

5. Did the Storybook assignment strengthen your reflective practices? If so, how?

6. Did the Storybook assignment strengthen your collaborative practices? If so, how?

7. Did the Storybook assignment promote your educational and personal interests? If so, how?

8. Did the Storybook assignment prompt you to consider continuing to compose stories in the future? If so, why?

9. Describe your Storybook's main character and his/her main motivation or goal.

10. Describe your Storybook's setting.

11. Describe your Storybook's secondary characters.

12. Describe your Storybook's lesson or moral, if there is one.

Appendix II: Examples of Students' Digital Storybooks

A. "Survival in a Dying World"
https://www.youtube.com/watch?time_continue=51&v=uYQjiokqhU0

In this storybook, a teenage girl named Catherine has changed her name to Blaze. She is writing her story in a journal and talking to the reader in a self-reflexive way as she imagines the reader finding and publishing her journal in the future. Alone now, Blaze lives in a small, unremarkable town and has lost her family and friends. Overall, Blaze is tired of her new existence. She is a frank and postmodern hero.

B. "The Appointed"
https://www.youtube.com/watch?v=zMwXv7h9Qhs&feature=youtu.be

Kia is a teenage girl who lives in a futuristic world that is crowded and smog-filled. When she is appointed to be part of a special community with a unique task, she and her family are excited at this honor. However, Kia does not understand until it is too late that she has been appointed to die in order to reduce the population problem.

C. "The Recording Machine"
https://www.youtube.com/watch?v=1SRVhc5myA8&feature=youtu.be

The narrator is part of a community formed to be a safe haven. However, the government has placed the occupants here in order to imprison and separate them from the greater society. On the recording machine, a man gives an account about this plan to others, but his warning is grasped too late.

D. "The Epidemic"
https://www.youtube.com/watch?v=NMEt1tZ_4wg&feature=youtu.be

A girl in third grade is writing an account in her diary. She sees that her classmates are beginning to be absent from school because of a form of the flu, which changes before a vaccine can be made. This strain of influenza wipes out most of the world's population, and the narrator sees many of her family and friends die.

E. "Scavenger"
https://www.youtube.com/watch?time_continue=12&v=DThh0Olzm8M

This story shows a lone boy, who is taken into safety by an older man, a sage. Together, they scavenge the landscape because there is no food, and little is alive. However, as it becomes apparent, when this duo meets another group, the former will have to deal with the prospect of cannibalism.