International Journal of Educational Research Open 2 (2021) 100067

Contents lists available at ScienceDirect

International Journal of Educational Research Open

journal homepage: www.elsevier.com/locate/ijedro

A multimodal model for analyzing middle school English language learners' digital stories

Deoksoon Kim*, Drina Kei Yatsu, Yan Li

Teaching, Curriculum and Society, Lynch School of Education & Human Development, Boston College, Campion 127, 140 Commonwealth Avenue, Chestnut Hill, MA 02467, United States

ARTICLE INFO

Keywords:
Digital stories
Multimodality
Analytical framework
Feelings
Emotions
English
Language learners

ABSTRACT

In response to the rapid development of digital literacies, this paper introduces a new multimodal framework for analyzing digital stories. Drawing on systemic functional linguistics, the four-part framework includes *representational, interpersonal, compositional,* and *sociocultural* dimensions.

Using the analytical framework, this qualitative case study illuminates how two middle school ELLs remixed multimodal semiotic resources to articulate their feelings, develop their identities, and reflect on their learning. Data include classroom observations, semi-structured interviews with students, and digital stories. All were analyzed inductively.

Findings demonstrate how articulating voice and communicating feelings often involved "remixing"—a process where ELLs use design thinking to combine new and existing artifacts, and produce new meaning through their digital stories. The analytical framework also illuminates ELLs' dynamic expressions of and reflection on their identities. The analysis shows how ELLs felt empowered by the opportunity to use digital stories as a platform for sharing their own cultural backgrounds and personal feelings.

The study shows how ELLs can benefit from the multimodal literacies afforded by digital storytelling. Our new multimodal analytical framework also demonstrates how a holistic analysis of digital stories can be achieved, and provides guidance on how to support the effective use of digital storytelling as a pedagogical tool for both ELLs and mainstream students.

1. Introduction

With technology at our fingertips, young people in particular are constantly plugged into a virtual world where multimedia and visual texts dominate. For many, screens have replaced books as the dominant medium of communication, bringing images to the foreground (Jewitt & Kress, 2003). In the era of the COVID-19 pandemic that we are navigating, schools abruptly shifted into remote formats (UNESCO, 2020), forcing teachers and students to rely on technology to support teaching and learning. This has led many schools to embrace multimodal literacy practices.

As new literacy practices emerged alongside the rise of technology, our understandings of literacy have expanded to encompass other modes beyond written text (Harste, 2010). "Multimodality" describes texts that include two or more semiotic systems or modes of communication, such as still images, moving images, writing, speech, sound, gestures, movement, layout, and spatial orientation (Kim, et al., 2020; Jewitt & Kress, 2003; Kress & van Leeuwen, 2006; The New London Group, 1996). The growing body of research on multimodality highlights its value in schooling, particularly its ability to bridge in- and out-of-school experiences, and the opportunities it provides for identity development Kim, et al. (2020). Videos can play a vital role in student learning and engagement, through formats such as video conferencing (Sidpra et al., 2020), teacher-created instructional videos (Gray, 2020), YouTube videos (Koto, 2020), and interactive videos (Leisner et al., 2020), as well as digital storytelling (Kim et al., 2020, 2020c).

Digital storytelling is a practice that promotes active learning for students ((Kim & Jia, 2020)). Its product, digital stories, are short videos of 2-5 minutes that incorporate traditional storytelling components using multimodal elements such as images, voiceover, audio, video and animations (Gregori-Signes, 2014). Storytelling in this medium gives students a platform to express their own voices and more deeply engage in learning (Nilsson, 2010). Due to the increased availability of technology in schools, many K-12 classrooms have successfully implemented digital storytelling in recent years, and this has often led to increased student motivation and engagement (Kingsley et al., 2019; Niemi and Multisilta, 2016). For English language learners (Kim (2019)), the creation of digital stories can facilitate language learning and the development of literacy skills, improving listening (Abidin et al., 2011) as well as oral and written proficiency (Hwang et al., 2016; Oskoz & Elola, 2016;

* Corresponding author.
E-mail addresses: deoksoon.kim@bc.edu (D. Kim), yatsu@bc.edu (D.K. Yatsu), libjv@bc.edu (Y. Li).

https://doi.org/10.1016/j.ijedro.2021.100067
Available online 9 August 2021

Rahimi & Yadollahi, 2017). For instance, through the use of remixing in digital stories, students can creatively combine new and existing artifacts to produce new meanings and express deep emotions that could not be communicated otherwise (Hafner, 2015).

Despite the growing body of research on multimodality and various known affordances of digital storytelling, this area of inquiry is relatively new. In classrooms, educators face a challenge recognizing, understanding, and appreciating the complexities of students' semiotic and creative choices in the video-making process (Chandler, 2017). DePalma and Alexander (2018) add that many educators lack training and expertise in multimodal composition, which brings instructional challenges in curriculum development and assessment. There is insufficient research on understanding and evaluating digital stories in the classroom. The current study offers an approach to guide effective instruction using this promising pedagogical tool.

Existing research has focused on the relationships between select semiotic resources, such as an exploration of image-text (Martinec & Salway, 2005) and audio-visual relations (Schuller et al., 2002). However, no comprehensive framework exists to analyze all the elements of digital stories as an ensemble. This study fills the gap by developing an analytical framework that examines student-created digital stories along multiple dimensions. The framework builds on systemic functional linguistics (Halliday, 1994) and frameworks of visual design that have been developed and adapted by prominent scholars (Jewitt & Kress, 2010; Kress & van Leeuwen, 2006; Martinec & Salway, 2005; Painter et al., 2013; Serafini, 2015; Unsworth, 2001). We use this framework to illuminate how students can use the multimodal character of digital stories to develop their understandings of the curriculum and to express their feelings and identities.

This qualitative study analyzes two digital stories created by middle school English language learners (ELLs) as the culminating assignment of a capstone project. Through a systematic analysis of these digital stories, we illustrate how ELLs can use digital storytelling as an avenue for both self-expression and reflection. We show how our new framework facilitates multimodal analysis of such stories. We address the following two research questions:

1 How do middle school English language learners remix across modes to articulate their own feelings and to reflect on their learning through digital storytelling?
2 How does the analytical framework illuminate English language learners' self-expression and reflection?

2. Literature Review

2.1. Digital Storytelling Pedagogy

Digital storytelling has become popular in classrooms due to its versatility and applicability across disciplines, including history (Kingsley et al., 2019), math , and psychology (Kim & Jia, 2020). It is also a pedagogical approach that appeals to the current generation of students, who spend much of their free time consuming and creating multimodal content on the Internet. For these students, the skills needed in the digital storytelling process (e.g., manipulation and assembly of multiple semiotic resources) are at least somewhat familiar.

These practices take place on social media applications popular among young learners, like Instagram and Snapchat, which have a "Stories" feature that allow students to produce digital stories about their daily experiences. These self-produced short videos typically include elements of narrative storytelling. The user-friendly applications allow video, text, emojis, filters, and doodles to be integrated easily (Amancio, 2017). The interest and skills that students have in these new literacies can be leveraged in classrooms to enhance students' engagement and success in learning academic subject matter, while also enhancing digital literacy.

In recent years, the successful implementation of digital stories in educational contexts has shown many benefits. Digital stories can increase student motivation by presenting a challenge, fostering curiosity, and giving students ownership of their learning (Jiang & Luk, 2016). Digital stories can also help students exercise cognitive skills (e.g., analyzing and organizing) and metacognitive skills (e.g., planning and monitoring), as they solve technical issues and engage in self-paced learning. These skills allow them to select and manipulate semiotic resources like images, music, transition effects, and narration (Hung et al., 2012). Digital stories have also been shown to enhance reflection and personal development, increase engagement, and foster deep learning (Jenkins & Lonsdale, 2007).

For English language learners, digital stories help develop second language literacy and digital literacy skills. Digital stories improve listening comprehension skills with respect to linguistic structure and vocabulary (Abidin et al., 2011; Verdugo & Belmonte, 2007). In addition, Ozkoz and Elola (2016) find improvements in second language learners' writing skills in context-based linguistic reorientations. Rahimi and Yadollahi (2017) show that producing digital stories promotes reading and writing skills for language learners, and this is positively correlated with the amount of time the students spent on the digital task. Hwang et al. (2016) find that creating digital stories facilitates speaking skills and cultivates positive attitudes towards learning.

2.2. Digital Storytelling and Remixing

Digital stories allow students to develop and express their own voices (Kim et al., 2020). Individual voices can be revealed in storytelling, and a student voice can be further articulated as people develop awareness about the contexts of their lives. Storytellers shape narratives based on their own emotions and how viewers perceive those emotions, selecting scenes that contribute to the author's overall intention.

Students' personal experiences are at the heart of digital stories, as the video-making process draws on meaningful personal contexts and emotions that students bring. According to Vinogradova et al. (2011), "new learning begins there, firmly anchored in students' individual knowledge and cultural life experiences, and is negotiated in the context of assignments that require cross-cultural collaboration and fluency with academic and social discourses" (p. 187). Students sometimes communicate intense emotions about complex cultural experiences, and classmates can be challenged by those experiences.

In digital stories, students can remix elements to create their own meanings and convey emotions and feelings that are otherwise difficult to express (Kim et al., 2020). Knobel and Lankshear (2008) describe remixing as the act of "tak[ing] cultural artifacts and combin[ing] and manipulat[ing] them into new kinds of creative blends" (p. 22). Through remixing, students assign their own meanings to semiotic resources through imagination and reimagination (Yang, 2012). Types of remixing that students employ include: (1) chunking/mixing sources, where students' own multimodal elements are combined with those made by others, (2) mixing modes/layering, which involves combining sources from the Internet with student-created elements, (3) mixing genres/blending, in which different genres are integrated or alluded to, and (4) mixing cultural resources/intercultural blending, which shares local culture with a global audience (Hafner, 2015).

2.3. Analytical Framework for Digital Stories

Kress and van Leeuwen's (1996) *Grammar of Visual Design* introduces a theoretical framework that guides the understanding of how "depicted elements—people, places and things—combine in visual 'statements' of greater or lesser complexity and extension" (p. 1). They provide an approach to describing elements of multimodal composition and understanding elements' meanings and relationships. Just as different word choices express the author's intent and social contexts, thereby chang-

ing the meaning of a text (Halliday, 2014), different visual choices do the same (Kress and van Leeuwen, 1996).

Drawing on systemic functional linguistics, two pioneers in this area of study—Kress & van Leeuwen (1996) and Unsworth (2001)—describe the *ideational, interpersonal,* and *textual* meta-functions accomplished by multimodal signs. Despite occasionally varied terminology, both describe how an *ideational/representational* approach focuses on elements that represent the world and experiences within the world; an *interpersonal/interactive* approach considers the relationship between the author and the audience, in addition to relationships between represented participants within the text; and a *textual/compositional* approach investigates how textual and visual information are organized into an integrated ensemble.

Meaning-making in multimodal texts always takes place in social contexts, and such texts embed understandings of society and power relations. Thus, we add a fourth dimension, *sociocultural*, to our model, in addition to *ideational*, *interpersonal*, and *compositional.* We also analyze gaze, posture, images, and writing with respect to social and cultural environments (Bezemer et al., 2012). We borrow from Serafini's (2015) Framework for Multimodal Literacy, which incorporates an *ideological* dimension that facilitates the analysis of sociocultural, historical, and political contexts that influence multimodal texts like digital stories. This dimension allows for the analysis of sites in which digital stories are produced and received, using categories like gender, race, power, and stereotyping.

We adopt existing SFL-based theoretical frameworks (Kress & van Leeuwen, 1996; Unsworth, 2001) and add Serafini's (2015) ideological dimension. This has yielded a holistic analytical framework for digital stories. The *representational*, *interpersonal*, *compositional* and *sociocultural* dimensions each yield sub-questions that allow the in-depth analysis of digital stories from multiple perspectives. The present study applies this new multimodal framework to examine middle school students' self-expression and reflective learning. Our analytical framework allows us to uncover evidence of student reflection and articulation of voice through digital storytelling.

3. Methodology

Utilizing qualitative multiple-case methods (Merriam & Tisdell, 2015), we investigated the digital stories created by two immigrant students during a capstone project. We used a systemic functional linguistics (SFL) approach to examine students' use of semiotic resources and to analyze the elements that the students assembled in their respective digital stories (Kress & van Leeuwen, 2006; Serafini, 2015; Unsworth, 2001).

3.1. The Capstone Project

The students were participating in a three-week capstone program for sixth and seventh graders at St. Mary, a private Catholic school located in the northeastern United States. The program asked students to connect academic subject matter to their personal experiences, and to document their work in a digital story. Students selected one of the following topics: (1) engineering and urban gardening, (2) exploring and teaching virtual reality, (3) math in cooking, (4) home-based sustainability, (5) career, (6) psychology, and (7) the arts.

3.2. Focal cases

Criterion sampling (Patton, 2001) was used to select two students out of the 18 who participated in the capstone project. These participants were selected based on: (1) their background as ELLs, (2) completion of the project, and (3) willingness to participate in the study.

The two focal cases are referred to in this study with pseudonyms, Jesús and Eva. Jesús was a 6th grader who was born in the U.S. to a Salvadoran mother and Greek father. He selected the "math in cooking" topic for his capstone project, in which he baked Salvadoran pancakes to sell at a school bake sale. The other participant, Eva, was a 7th grader from a Ukrainian family. She was born in the U.S., then spent part of her childhood in Ukraine before returning to the U.S. at age 4. Eva selected the "arts" topic for her capstone project, and she created a colorful sculpture using a papier-mâché figure and melted crayons.

3.3. Data Collection

The data included (1) classroom observations, (2) semi-structured student interviews, and (3) the digital stories.

(1) *Classroom observations*:

On each day of the program, two research team members observed and took field notes of activities. Twice a week, observers engaged in informal 10-15-minute conversations with students about their experiences during the project. At times students also asked research team members for technical assistance.

(2) *Semi-structured student interviews*:

Two 30-minute semi-structured interviews were conducted with students, one during the project and one after completion. Interview questions were developed based on the two research questions and focused on students' feelings, reflections, and experiences with the capstone project and their digital story composition.

The first interview had 15 questions, most of which were followed by at least one probe. Interview questions covered four topics:

1 Background information on individual projects (e.g., "Tell me about your project"; "Why did you choose this topic?")
2 Perceptions of digital storytelling (e.g., "What have you enjoyed about creating your digital story?"; "What has been the most challenging part about creating your digital story?")
3 Reasoning behind specific elements of the digital story (e.g., "What is your narration about?"; "What kind of music are you using, and how did you select it?"; "Where did you find your images?")
4 Reflective conclusions about the overall learning experience (e.g., "What have you learned about your subject matter through the digital storytelling project?")

The follow-up interview had 10 questions, most followed by at least one probe. Some questions from the first interview were repeated. New questions covered the following three topics:

1 Experience presenting the final digital story (e.g., "How did you feel about having your project presented?")
2 Perceptions about peers' digital stories (e.g., "What did you learn from watching your friends' digital stories?")
3 Reflective conclusions about the digital storytelling project (e.g., "How would you like to change or improve your project?")

(1) *Digital stories*:

The final digital story products were a combination of videos and photos students took themselves during the capstone project, images and music from the Internet, and voiceover narration. The videos were created using two web-based applications, VoiceThread (https://voicethread.com/) and WeVideo (https://wevideo.com), which allow students to layer multimodal elements by uploading media, adding audio, using stock media, and inputting text. Jesús used the Voicethread program, while Eva used WeVideo. The digital stories were the primary source of data for this study.

3.4. Data Analysis

To achieve a holistic understanding of students' digital storytelling experiences, we triangulated across the multiple sources of data: classroom observation notes, interview data, and the final digital stories. We used different analytic approaches for the notes/interviews and the digital stories.

3.4.1. Qualitative data analysis

The interview and classroom observation data were analyzed inductively (Lincoln & Guba, 1985). Initial codes were derived from the literature on digital stories and multimodal analysis (Kress & van Leeuwen, 1996; Unsworth, 2001), focusing on how students described their digital stories from the four main perspectives: *Representational, Interpersonal, Compositional, and Sociocultural.* The first round of coding was conducted using these initial codes together with the key concepts in our research questions, "feelings", "expression", and "reflection". This launched a process of open coding (Strauss & Corbin, 1990) in which new codes emerged from the data—such as "perceptions about subject matter", "rationale for topic selection", and "social identity as an ELL". These codes were combined to form thematic categories (e.g., "remixing to communicate feelings", "shift in attitude towards subject matter", and "digital storytelling to reflect on and develop identity").

Our multiple data sources allowed us to triangulate across results and increase the trustworthiness of our findings (Lincoln and Guba, 1985). All three members of the team analyzed data and engaged in the iterative process of coding. Any discrepancies in interpretation were resolved through discussions. Conducting follow-up interviews also allowed researchers to ask for clarifications about emerging codes. This partial member-check interview (Birt et al., 2016) gave students an opportunity to revise previous responses and explain puzzles that had emerged in the initial coding.

3.4.2. Digital story data analysis

We analyzed the digital stories using a new multimodal analytical framework, derived from a combination of Kress & van Leewen (1996), Unsworth (2001), and Serafini's (2015) approaches to multimodal analysis. As described above, the framework includes (1) representational, (2) interpersonal, (3) compositional, and 4) sociocultural dimensions. These four elements guided our analysis of the visuals, text, audio, and narration in the students' digital stories. From a *representational* perspective, we asked ourselves questions such as: Who are the participants involved in the story? What are the objects involved? How are they visually and verbally represented? From an *interpersonal* perspective, we focused on the relationships between the author and the audience, as well as the relationships between participants within the video. For example, we examined camera angles and the direction of eye gaze within images, among other cues. A *compositional* perspective focuses on the structure of the digital story and how the individual parts combine to create a coherent whole. Finally, a *sociocultural* perspective focuses on the author's own social, cultural, and political positionality as well as the context in which the composition was created. To ensure a systematic analysis in which no details are overlooked, our digital storytelling analysis was methodical. A visual transcript was developed for each digital story, including screenshots of each slide and information about corresponding narration, text, music, and transitions. Analysis of the four perspectives was done using these detailed transcripts.

4. Findings

Both participants' digital stories reflected on their experiences during the capstone projects. Jesús narrated a story about his project on "math in cooking", in which he reinforced his professional aspirations to become a chef. Eva's story was about her art project, which involved reflection on her experiences as a young immigrant and an ELL. We found that students used different forms of remixing to articulate their voices through the digital stories. We also found that our analytical framework for digital stories helped to illuminate the ELLs' self-expression and reflection.

4.1. Remixing to articulate voice

In both videos, students employed different types of remix practices (Hafner, 2015) to add complexity and alternative perspectives to their narrative. We observed three kinds of remixing: (1) *Layering,* the integration of distinct modes of communication such as narration, text, visuals, and soundtrack; (2) *Chunking*, the combination of students' multimodal artifacts with those created by others; and (3) *Intercultural blending,* the combination of elements from both local and global cultures.

Using *layering,* both students conveyed abstract or intangible information that cannot be represented exclusively in photographs. In Jesús' video, 8 out of 11 slides layered mini clip art or stock photo images from the Internet on top of the photographs taken by the author. The layered images helped to convey Jesús' sentiments towards others and towards the experience. For example, in the image of the bakery owner depicted in Slide 4 (Fig. 1), he placed a glowing halo on top of her head and a candle in the cake she was holding. Similarly, in a concluding slide (Slide 10; Fig. 1), he also added a cartoon image of an angel emoji as he verbally described his teacher's *"angel smile"*. In his interview, Jesús repeatedly complimented his teacher using phrases such as, "he's a really good teacher", "he's very skilled", and "he was a big help". The remixing allowed Jesús to characterize both of his role models as angels or virtuous figures, thus translating his feelings of admiration into a visual format. Jesús also *layered* text on top of photographs to convey the delicious taste of his pancake, which he described in the interview as turning out "pretty good, because…it blended in a lot of flavors." The delicious taste was visually reinforced in Slide 3 (Fig. 1), through his incorporation of yellow text saying *"YUM"*, emphasizing to his audience that the final product was delicious.

Eva used *layering* differently, by combining visuals with background music. This integration allowed Eva to express complex emotions. In her own words, she enjoys "interpreting real life into music," and by selecting music which she described as "calming meditating music" she was able to emphasize the therapeutic nature of the digital storytelling process.

Through *chunking,* both students incorporated artifacts that were created by others into their digital story, and in doing so they conveyed their affiliation with certain communities. In Jesús' video, most of the cartoons he affixed to his photographs were characters from video games – namely, Cooking Mama and Kirby (Slide 2; Fig. 1). His decision to select these cartoon characters for his digital story alludes to his identity as a member of the gaming community. In Eva's digital story, she introduced her melting crayon project by showing a Google Image of a similar art piece from which she took inspiration. This reinforced Eva's budding artist identity, since it is common practice for artists to take inspiration from existing art.

Finally, using *intercultural blending,* Jesús selected symbols with well-known characteristics to convey complex feelings. Blending the aforementioned cartoon characters from popular culture allowed audience members to understand complex traits that cannot be easily conveyed through photographs (Slide 2; Fig. 1). "Cooking Mama" is the main character of a simulation cooking game, while "Kirby" is a character from games that revolve around food and eating. These characters' affinity for food and cooking are well known; by association, this allowed Jesús to describe his own affinity for cooking without explicitly mentioning it. Similarly, in Slide 5 (Fig. 1) Jesús layered a photograph of a budgeting worksheet with a cartoon of Homer Simpson scratching his head. This character is well-known for his dim-witted nature, and so the remix communicates how Jesús felt about the task. Jesús also incorporated texts and symbols from different countries into his title slide (Slide 2; Fig. 1) to express his personal affiliation and possible international connections to audience members. When the interviewer asked if he was

Figure 1. Screenshots from Jesús' digital story.

from El Salvador, Jesús responded, "Yes, I am from El Salvador, and I am from Greece too." Although the entire project was influenced by his Salvadoran background, Jesús included a Greek flag in his introductory slide to remind his audience of his multicultural identity and his Greek father.

4.2. *Using the digital storytelling analytical framework*

Despite being part of the same capstone project, the two videos had distinct formats and styles. This section explores how our analytical framework illuminates students' voices, emotions, and reflections as they are communicated in the digital stories themselves. We will explore the four dimensions of our framework (representational, interpersonal, compositional, and sociocultural) and illustrate how meaning is communicated by the multimodal signs in students' digital stories.

4.2.1. *Representational perspective*

The representational perspective focuses on the visual and verbal representation of events, objects, and participants in the story. We focused on three main representational components: images, language, and music. Jesús' video centered around the topic of math in cooking, while Eva's was on art.

The *images* that were used in the digital stories represented the locations, participants, actions, and objects involved in the project. The digital stories were created as part of a capstone project at school, so images in both videos were primarily taken in the school, in areas like the classroom and the gym. Jesús' video depicted some community engagement as well, with images taken at a neighborhood bakery and a supermarket. Since the digital stories were similar to a multimodal journal of personal experiences, the main participants in both videos were the authors themselves. Additionally, it was a school project with some collaborative elements, so both videos also depicted classmates and a teacher. Jesús' video included an image of the owner of a bakery that he visited.

Both students included images that represented their learning process. For Jesús, this included images of the bakery owner who gave him some tips on baking (Slide 4; Fig. 1), a budgeting sheet that helped him calculate the quantities of ingredients that were needed for his recipe (Slide 5; Fig. 1), and also an image of juice provided by a chef guest speaker who taught him about cooking. Eva included images of three different pieces of art that were created using different media: a portfolio folder made with paint, glitter and googly eyes, an abstract painting, and a sculpture of a burger and soda (e.g., Slide 4, Slide 9; Fig. 2).

Based on these images, it was clear that Jesús learned from speaking to and observing experts in cooking, while Eva learned from experimenting independently and listening to her teacher. Both students included close-up photos of the materials that they used to create their final products. Jesús included images of baking ingredients, a mixing bowl, and a pancake griddle (e.g. Slide 9; Fig. 1), while Eva included images of wire, a wire cutter, papier-mâché, pipe cleaners, and crayons (e.g. Slide 9; Fig. 2). These close-up images emphasized students' intimate involvement in the project, as well as the fact that everything was made from scratch by the students. Finally, both students ended their digital stories with a visually distinct slide reflecting on their experience. Every other slide in both videos contained a photograph, but Jesús' final reflection slide was an enlarged cartoon image, while Eva's reflection slide was a moving visual from the WeVideo library.

The *language* used in both digital stories was mostly in the past tense, since the video was created at the end of the project to narrate the experience retrospectively (Kim & Li, 2020). The pronouns "we" and "I" were used by both students to emphasize both the collective and the independent nature of the project. In Eva's video, the pronoun usage varied across the video: the first half of the video recounted whole-class activities and used the pronoun "we" (*e.g., Slide 2: "We started the project by learning about different forms of art"*), but she shifted to the pronoun "I" when she started to take ownership of her own work in Slide 8 (*e.g., Slide 19: "I finally made myself an umbrella"*). Jesús used both individual and collective pronouns on almost every slide. Narration on most slides started with "we" to show what he did in class, then ended with "I" to show his own takeaways from those group experiences (*e.g., Slide 3: "…we chose the dessert that we were going to make. The recipe I decided to make was El Salvadorian pancakes…"*). Jesús also used the third person pronouns "she" and "he" when narrating the actions and speech of his role models (the guest speaker and teacher). Finally, both authors used the pronoun "you" at the end of their videos to address the audience.

Although Jesús did not use any background *music* in his video, it was central to Eva's digital story. Her video included an instrumental selected from the WeVideo music library that she described as "calm-

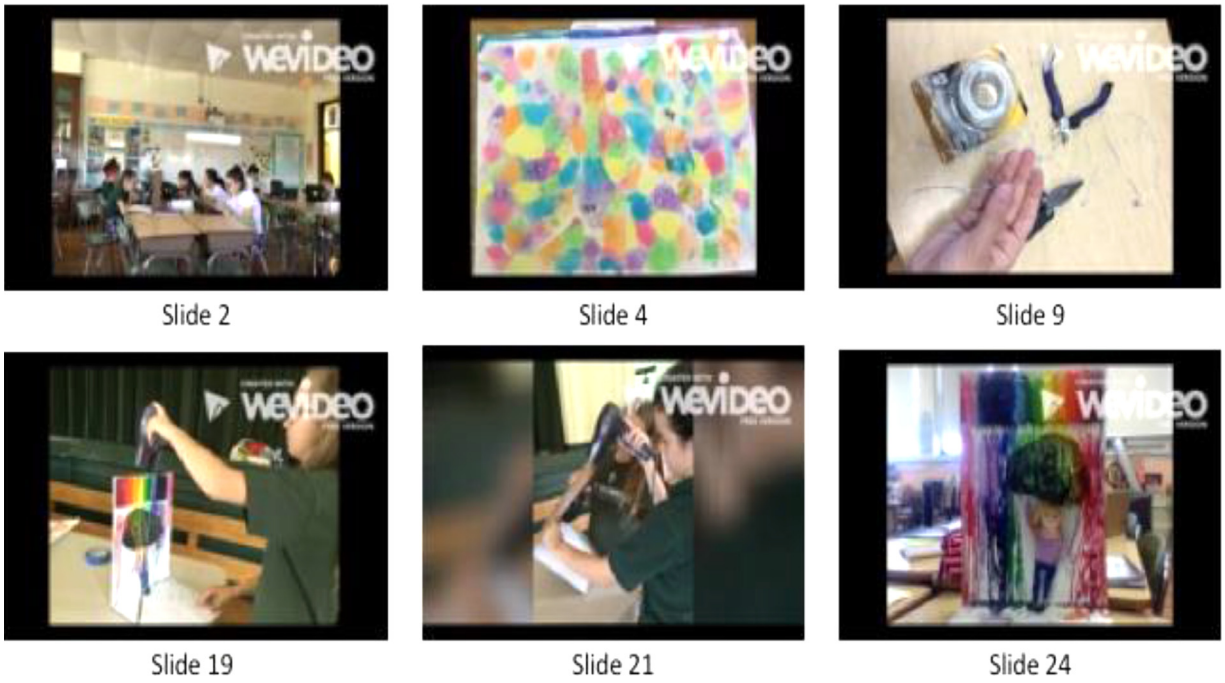

Figure 2. Screenshots from Eva's digital story.

ing, meditating music." Eva had more music than narration, telling us that "[too many words] might be a little distracting." Her music was a piano and violin instrumental that started off with a soft piano solo but increased in pitch and volume as the violin blended in. The music ended by going back to a soft piano solo.

4.2.2. *Interpersonal perspective*

The interpersonal perspective focuses on relationships between the author and the audience, as well as relationships between participants within the story. Both students' digital stories were deeply personal and characterized their relationships with home cultures and other people. Jesús focused more on community engagement, while Eva's depicted an independent process of maturation.

Jesús' case. Jesús developed a relationship with his audience members largely through the angles of his photographs and the language used in his voiceover narration. Many images in Jesús' digital stories were close-ups of him during the project, and this invited the audience to experience the process from his first-person perspective. In one image, for example, the author does not make direct eye contact with the audience, because he was deeply engaged in the task at hand, squeezing pancake batter on a griddle (Slide 9; Fig. 1). However, despite the detachment that lack of eye contact generally represents, this image took an over-the-shoulder perspective that positioned the audience as observers standing behind him. Through language, Jesús used other techniques to connect with his audience. He started his digital story with a title page that included the text, *"Hi everyone! Let's learn how to cook!"* in both Russian and Greek (Slide 2; Fig. 1). These are the languages of his friend and his father, which both connected to an important member of his audience and indexed his proud heritage. On his last slide, he addressed the whole audience with: *"Thank you everybody! You guys were a great audience! See you next time"*.

The types of images he selected for his digital story and his voiceover narration also demonstrated Jesús' engagement with members of the community. The only photographs in his digital story that included direct eye contact with the audience were of Jesús' role models: the bakery owner and his teacher (e.g. Slide 4; Fig. 1). Jesús wanted to include a clear depiction of these individuals to emphasize his deep admiration for them. Jesús' narration recounted lessons and actions by these and other individuals who supported him throughout his project (e.g. bakery owner, guest speaker, teacher). He also included shout-outs to others who helped him. For example, he mentioned that members of our research team helped him with the difficult calculations on the budgeting sheet, and that a lunch lady lent him a pancake griddle. These expressions of appreciation for specific individuals showed Jesús' respect for and connections to those who helped him, as well as his desire to share his success.

Eva's case. Eva also established a relationship with her audience members through her camera angles and voiceover narration. Using close-up and off-the-shoulder angles, similar to those in Jesús' video, Eva achieved a similar effect of inviting audience members into her personal space. Eva also incorporated a 360-degree montage of her artwork and her creation process, and this offered immersive opportunities for her audience to engage with her (e.g., Slides 19, 21, 24; Fig. 2). The montage scene had no narration and was solely accompanied by music, encouraging audience members to recreate Eva's meditative experience. The montage was interrupted by a brief narration that reinforced Eva's desire to involve audience members: *"It took a while, but as you can see, it was totally worth it."* (e.g., Slide 24, Fig. 2)

Eva's experience creating the digital story was more independent, but she had some interaction with classmates. One of her slides included a picture of her working with a classmate, accompanied by voiceover narration: *"I even needed some help from my friends"* (Slide 21; Fig. 2). The story represents some parts of the project as collaborative, despite the overarching theme of personal reflection and independent creation.

4.2.3. *Compositional perspective*

The compositional perspective focuses on the structure of the digital story and how the elements of the text combine to create a coherent whole. This includes multimodal elements such as images, videos, voiceover narration, background music, and text. Since the stories were based on the authors' personal experiences, they mostly included photographs that were taken by the authors. Jesús used cartoon images to

add more detail to his own images. Except on the title slides, minimal text was used in both stories. Jesús used text on every slide to label the day in the project that the slide corresponded to, but this was not central to the story's message.

In their narrative structure, both digital stories paralleled the curriculum of the capstone project, which was designed so that students spent the first segment of the program engaging in whole-class activities that introduced relevant skills and language. The second segment applied those skills in an independent culminating project: Jesús made pancakes for a bake sale, while Eva created her artwork. Correspondingly, the first half of both digital stories recounted work in collective activities, while the second half involved reflection on personal experiences. Both authors had a slide dedicated to reflection, one which was visually distinct from the rest of the digital stories. Reflections focused on takeaways (*e.g., Eva: "This capstone has taught me that it's ok to make mistakes. It's ok to be messy"*) and messages of appreciation (*e.g., Jesús: "[Teacher] makes me feel as though I can accomplish my dreams and get into the culinary school"*). In a video composed solely of photographs, Eva's final slide was an animated moving visual, while Jesús' reflection slide was an enlarged image of the cartoon character, Cooking Mama (e.g., Slide 2; Fig. 1). The clear shift from photographs to animation highlighted students' awareness that their reflections were not direct representations of real-life events, but rather insights taking place in a mental space.

4.2.4. Sociocultural perspective

The sociocultural perspective recognizes that communication does not happen in a vacuum, but is instead informed by sociopolitical context. This perspective specifically looks into the author's social, cultural, and political positions. Both students were middle schoolers in a Catholic school, and this may have influenced Jesús' portrayal of role models. Both his teacher and the bakery owner were associated with symbols of angels (e.g. Slide 4 & 10; Fig. 1), which is tied to Catholic theology. This marked the admiration that Jesús felt for these virtuous mentors.

Another important sociocultural factor was that both students were English language learners. Their digital stories shed light on the complexities of immigrant students' experiences. While Jesús' representation of culture was more traditional, including languages and flags (e.g., Slide 2; Fig. 1), Eva showcased her experience being positioned as an "other" (e.g., Slide 24; Fig. 2). Jesús presented himself as a cultural ambassador who embraces cultural diversity and views culture as an asset (e.g., Slide 4; Fig. 1). Eva presented an alternative experience of ELLs (e.g., Slide 24; Fig. 2): that cultural differences can lead to bullying. Eva shared in her interview that "the first week [of 1st grade] was a little hard because I didn't speak any English….I was bullied at one time". The digital storytelling project was a chance for her to reflect on this traumatic experience of being bullied because of her low English proficiency. The art showcased in her digital story depicted her as a girl under an umbrella who was "shutting out [negative] thoughts from [her] head" in an act of "resistance". Eva used the digital story to process her experiences of being bullied, and to embrace a more active stance in resisting the bullies. Both Eva and Jesús valued their cultural identities, and they were enthusiastic about the opportunity to articulate their experiences (Kim, 2019).

5. Discussion

This study shows how digital storytelling provides opportunities for students to communicate their emotions and reflection in powerful ways. An in-depth analysis of the two students' videos reveals that digital stories can encourage student expression and reflection by offering them creative freedom as they integrate semiotic resources. This study contributes to the literature by proposing a framework for analyzing student-produced digital stories, a framework that can uncover how students communicate using multimodality.

5.1. Remixing to communicate emotions

Remixing is made possible by multimodality, allowing students to express their emotions and perspectives through decisions made in the creative process. Vinogradova et al. (2011) shows how digital stories offer a medium for students to convey complicated emotions through their use of semiotic resources such as visuals, audio, cartoons, and voiceover. Yang (2012) similarly shows how multimodal composition in students' digital stories can communicate emotional stances and themes. For example, one case included an "exciting puzzled face on the emoticon" (Yang, 2012, p. 228) to express simultaneous nervousness and wonder, using deliberately selected colors to reveal feelings of isolation from the online community. Our findings illustrate a similar process, showing how Jesús and Eva thoughtfully combined semiotic resources to express their emotions towards the project, the people involved, and themselves. For instance, Jesús remixed the photo of the bakery store owner with a golden halo on her head to illustrate her kindness and his gratitude towards her. Eva remixed soothing instrumental music with the progression of visuals to indicate the calmness she felt while completing the art project. This tranquility was juxtaposed with her strength and determination to overcome past experiences of bullying.

In the remixing process, Jesús also used emojis to express his emotions. Emoticons and emojis are used by children to communicate feelings and can help students express ideas that are more difficult to articulate through written explanations (Sönmez, 2019). Some of the remixing in his digital story offered Jesús an opportunity to use his repertoire of different modes. Emojis also demonstrate new literacies, as they are commonly used in instant messaging texts and social media posts. Emojis are a pathway for English Language Learners to creatively express ideas and develop alternative literacies (Lee & Moorhouse, 2019).

For ELL students who have experienced obstacles in verbal and written communication, remixing provides multiple entry points into the creative experience of expressing ideas and emotions. In Johnson and Kendrick (2016), for example, refugee and immigrant children were asked to share their personal experiences through digital stories. Pieces of their stories were difficult for them to express through words, but digital storytelling allowed them to use other semiotic modes. Similarly, Eva chose soothing music that illustrated a state of healing from past experiences of being bullied. This form of communication can be powerful. In Eva's case, the music was able to portray the calming effect that creating art had on Eva and invited the audience into Eva's current emotional state, in a way that words could not.

In addition to the use of visuals, emojis, and audio, the students also worked with existing cultural artifacts in remixing. Students used icons from popular culture, artfully using them to create new meanings that fit the narratives' emotional content. For example, Jesús added a visual of Homer Simpson to the photo of the budget sheet to index his initial confusion about the complicated mathematical steps involved in budgeting and in modifying recipes (e.g., Slide 5, Fig. 1). To demonstrate his excitement and commitment to culinary arts, he also placed an image of Cooking Mama, a character from an interactive cooking game who trains players to be a chef (e.g., Slide 2, Fig. 1). The use of cartoons from popular culture can increase engagement in writing and foster meaningful conversations (Pigozzi, 2020). The interplay between new and traditional literacies in remixing offers opportunities for students to apply existing cultural knowledge in classroom tasks, thereby promoting student interest and positive engagement.

As students portray their personal experiences in digital stories, they can capture feelings authentically in a way that traditional classroom tasks cannot (de Leeuw & Rydin, 2007). Through the layering of semiotic resources, students add layers of their own feelings. This gives the audience a glimpse into their minds and helps students deal with their own complex emotions.

5.2. Digital stories as a platform for reflection

The digital storytelling process is similar to journal writing, which Boud (2001) explains "can be viewed through many different lenses: as a form of self-expression, a record of events, or a form of therapy" (p. 9). Our student participants used digital storytelling as both a form of self-expression and a space to recount events. Eva even used it as a therapeutic healing opportunity. Journal writing is known to support reflection, and digital storytelling does this as well. Hullfish and Smith (1961) describe productive reflection as a controlled balance of sentiency, memory, and imagination. Jesús and Eva's digital stories demonstrated sentiency in their reflection on past memories and imagination, through their projections of the future, and in their creativity.

Since these two digital stories were composed *after* the completion of the capstone project, both students practiced "reflection *on* action" (Boud, 2001), using recent memories of the capstone experience. The two students navigated memory and imagination in different ways. In his digital story, Jesús recounted the daily events of his capstone project while simultaneously expressing himself as a cultural ambassador and projecting his future as an aspiring chef. Jesús was a cultural ambassador because of his digital story's focus on Salvadoran culture. His decision to include flags and languages that represent people within his community displayed cross-cultural relations and alliances, and positioned him as a proud representative of his home cultures. Jesús demonstrated imagination through his projection of a future career, which was his motivation for chosing this project:

> *"I joined this capstone because I have loved to cook ever since I have been very little. I plan that when I grow up, I can go to Le Cordon Bleu culinary school." (Voiceover narration)*

This ambition set the tone for his entire project. Thus his digital story was a way for him to engage with an *imagined community* (Norton, 2001) in which he emulated practices associated with his career aspiration.

In Eva's digital story, although she also recounted events from the process of completing her capstone project, she engaged in a deeper level of personal introspection that went on during her project. On the surface, the digital story described her creating a sculpture of a figure holding an umbrella to shield herself against melting crayons (Slide 24; Fig. 2). Upon further analysis and triangulation with the interview data, we learned that the figure represented Eva herself and that the umbrella was a shield which gave her "hope and protection" against negative thoughts and events that she faced as a victim of bullying. She added that, besides protection, the umbrella also represented "resistance," a more active stance in standing up for herself against the bullies. This experience of being bullied happened to Eva five years before she joined the capstone project. The fact that she selected this event as the focus of her project showed the impact that being bullied had on her. This digital storytelling project gave Eva an opportunity to revisit an unresolved trauma. In reflecting on this past experience, Eva used imagination to creatively visualize her internal feelings, to represent herself as actively resisting, and consequently to empower herself.

According to the experiential learning cycle (Kolb, 2015), in the process of learning, a learner goes through a cyclical process where they shift their stance from "actor to observer" and back to actor. This move from direct involvement to momentary detachment allows students to take the "unprocessed, raw material of experience and engag[e] with it as a way to make sense of what has occurred" (Boud, 2001, p. 10). Creating a digital story requires students to translate their experience into a coherent narrative. To become a successful storyteller, students have to take a step back, from being an actor to being an observer who can make objective decisions about *what* stories should be told, *how* they should be told, and most importantly *why* they should be told. By becoming an author, students have to reflect on the meaning of their experiences so that they can effectively tell a story that represents their personal feelings while captivating the audience. For example, in Jesús' video, he included brief verbal narrations of about five sentences that accompanied the photos on each slide. When he talked about visiting the bakery, he mentioned the cooking tips that he learned from the bakery owner, even though there could have been other points to discuss from this experience. He could have talked about the environment of the bakery, or the types of baked goods that were sold there, but his decision to focus on lessons from the bakery owner emphasizes the highlight of his experience as an aspiring chef. Students have to be intentional about picking salient moments from their overall experiences, and this is accomplished through thoughtful reflection. Digital storytelling provides space and time to think about what has been learned. This can reinforce students' learning and make it more meaningful.

Limitations

This study has a small sample size, as is typical in case studies. We intentionally chose this method to ensure thorough application and robust illustration of our framework for analyzing digital stories. We emphasize that the purpose of this study is not generalizability, but rather transferability. We recognize that the focal students are not representative of all English language learners, and certainly not of all middle school students. But these cases nonetheless illustrate the power that digital stories can have both for subject matter learning and for personal expression by English language learners. Our research team's other projects on digital storytelling across subject matters and population groups address these limitations on sample size to some extent (Kim et al., 2020; 2020).

Conclusion

Multimodal and digital literacy are well developed for many young students who constantly engage with visual texts online. Aside from *reading* multimodal texts, many also have experience *authoring* such texts through the abundance of applications that take advantage of multimodality. Tapping into these funds of knowledge in the classroom creates opportunities for students to reflect on their learning and develop their identities. It also allows teachers and other members of the school community to gain a deeper understanding of who the students are. When working with ELLs, many may have anxiety or lack confidence to practice writing or speaking. Digital storytelling draws upon out-of-school skills and gives ELLs more accessible opportunities to reflect and express their voices.

The framework that we have developed for analyzing digital stories can help educators and analysts to interpret the complex reflection and identity development that are both implicitly and explicitly accomplished in digital stories. Students use elements such as images, video, audio, and text to express their thoughts and feelings. Our systematic analytical framework allows for careful analysis of each element and reveals how they make meaning as an ensemble. For teachers, the framework can facilitate a deeper understanding of who students are, and it can also be used as a form of informal assessment. For researchers, the framework can illuminate students' experiences and reveal how digital stories can provide a platform for marginalized students to amplify their voices.

Conflict of Interest

None.

References

Abidin, M. J. Z., Pour-Mohammadi, M., Souriyavongsa, T., Tiang, C. D. B., & Kim, N. O. L. (2011). Improving listening comprehension among Malay preschool children using digital stories. *International Journal of Humanities and Social Science, 1*(14), 159–164.

Amancio, M. (2017). "Put it in Your Story": Digital Storytelling in Instagram and Snapchat Stories *[Unpublished master's thesis]*. Uppsala University.

Bezemer, J., Diamantopoulou, S., Jewitt, C., Kress, G., & Mavers, D. (2012). Using a social semiotic approach to multimodality: Researching learning in schools, museums and hospitals. *National Centre for Research Methods*. http://eprints.ncrm.ac.uk/2258/.

Birt, L., Scott, S., Cavers, D., Campbell, C., & Walter, F. (2016). Member checking: A tool to enhance trustworthiness or merely a nod to validation? *Qualitative Health Research, 26*(13), 1802–1811. 10.1177/1049732316654870.

Boud, D. (2001). Using journal writing to enhance reflective practice. *New Directions for Adult and Continuing Education, 90*, 9–18.

Chandler, P. D. (2017). To what extent are teachers well prepared to teach multimodal authoring? *Cogent Education, 4*(1), 1–19. 10.1080/2331186x.2016.1266820.

de Leeuw, S., & Rydin, I. (2007). Migrant children's digital stories. *European Journal of Cultural Studies, 10*(4), 447–464. 10.1177/1367549407081948.

DePalma, M.-J., & Alexander, K. P. (2018). Harnessing writers' potential through distributed collaboration: A pedagogical approach for supporting student learning in multimodal composition. *System, 77*, 39–49. 10.1016/j.system.2018.01.007.

Gray, S. D. (2020). Embedded video questions as a low-stakes assignment during the remote learning transition. *Journal of Chemical Education, 97*(9), 3172–3175. 10.1021/acs.jchemed.0c00505.

Gregori-Signes, C. (2014). Digital storytelling and multimodal literacy in education. *Porta Linguarum, 22*, 237–250. 10.30827/digibug.53745.

Hafner, C. (2015). Remix culture and English language teaching: The expression of learner voice in digital multimodal compositions. *TESOL Quarterly, 49*(3), 486–509. 10.1002/tesq.238.

Halliday, M. A. K. (1994). Spoken and written modes of meaning. *Media texts: Authors and readers, 7*, 51–73.

Halliday, M. A. K. (2014). *Halliday's Introduction to Functional Grammar* (3rd ed.). Routledge.

Harste, J. C. (2010). Multimodality. In P. Albers, & J. Sanders (Eds.), *Literacies, the Arts, and Multimodality*. NCTE (pp. 27-43).

Hullfish, H. G., & Smith, P. G. (1961). *Reflective thinking: The method of education*. Dodd, Mead & Company.

Hung, C.-M., Hwang, G.-J., & Huang, I. (2012). Project-based digital storytelling approach for improving students' learning motivation, problem-solving competence and learning achievement. *Journal of Educational Technology & Society, 15*(4), 368–379.

Hwang, W.-Y., Shadiev, R., Hsu, J.-L., Huang, Y.-M., Hsu, G.-L., & Lin, Y.-C. (2016). Effects of storytelling to facilitate EFL speaking using web-based multimedia system. *Computer Assisted Language Learning, 29*(2), 215–241. 10.1080/09588221.2014.927367.

Jenkins, M., & Lonsdale, J. (2007). Evaluating the effectiveness of digital storytelling for student reflection. In *ICT: Providing choices for learners and learning. Proceedings ASCILITE Singapore* (pp. 440–444).

Jewitt, C., & Kress, G. R. (2003). *Multimodal Literacy*. Peter Lang.

Jewitt, C., & Kress, G. (2010). Multimodality, literacy and school English. In *The Routledge International Handbook of English, Language and Literacy Teaching* (pp. 342–353).

Jiang, L., & Luk, J. (2016). Multimodal composing as a learning activity in English classrooms: Inquiring into the sources of its motivational capacity. *System, 59*, 1–11. 10.1016/j.system.2016.04.001.

Johnson, L., & Kendrick, M. (2016). Impossible is nothing": Expressing difficult knowledge through digital storytelling. *Journal of Adolescent & Adult Literacy, 60*(6), 667–675. 10.1002/jaal.624.

Kim, D (2019). Elementary English learners' use of reading strategies with culturally relevant and culturally distant stories. *Journal of Language, Identity and Education*, 1–19. 10.1080/15348458.2018.1503960.

Kim, D., & Jia, F. (2020). "Ever wondered what Schizophrenia was?" Three bilingual students' digital storytelling about mental disorders.. *Journal of Curriculum Studies Research, 2*(2), 144–169. https://curriculumstudies.org/index.php/CS/article/view/67/31.

Kim, D., & Li, M. (2020). Digital storytelling: Multimodality, project reflection, and identity. *Journal of Computers in Education, 8*(2). 10.1007/s40692-020-00170-9.

Kim, D., Long, Y., Zhou, Y., & Alexander, J. (2020). Teacher professional identity development through digital stories. *Computers and Education, 162*. 10.1016/j.compedu.2020.104040.

Kingsley, K., Sanchez, R., & Collier, M. (2019). Exploring WWII heroes through digital stories. In J. Theo Bastiaens (Ed.), *Proceedings of EdMedia + Innovate Learning*. Association for the Advancement of Computing in Education (AACE) (pp. 1569-1572).

Kolb, D. A. (2015). *Experiential Learning: Experience as the Source of Learning and Development*. Pearson Education.

Knobel, M., & Lankshear, C. (2008). Remix: The art and craft of endless hybridization. *Journal of Adolescent & Adult Literacy, 52*(1), 22–33. 10.1598/jaal.52.1.3.

Koto, I. (2020). Teaching and learning science using youtube videos and discovery learning in primary school. *Mimbar Sekolah Dasar (Elementary School Forum), 7*(1), 106–118. 10.17509/mimbar-sd.v7i1.22504.

Kress, G., & van Leeuwen, T. (1996). *Reading Images: The Grammar of Visual Design*. Routledge.

Kress, G., & van Leeuwen, T. (2006). *Reading Images: A Grammar of Visual Design*. Routledge.

Lee, J., & Moorhouse, B. (2019). Writing with a smiley. *English teaching professional, 123*, 8–10.

Leisner, D., Zahn, C., Ruf, A., & Cattaneo, A. (2020). Different ways of interacting with videos during learning in secondary physics lessons. In C. Stephanidis, & M. Antona (Eds.), *Communications in Computer and Information Science*. Springer *1225*. (pp. 284-291). HCII 2020. 10.1007/978-3-030-50729-9_40.

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic Inquiry*. SAGE Publications.

Martinec, R., & Salway, A. (2005). A system for image-text relations in new and old media. *Visual Communication, 4*(3), 337–371. 10.1177/1470357205055928.

Merriam, S. B., & Tisdell, E. J. (2015). *Qualitative research: A guide to design and implementation*. Wiley.

Niemi, H., & Multisilta, J. (2016). Digital storytelling promoting twenty-first century skills and student engagement. *Technology, Pedagogy and Education, 25*(4), 451–468. 10.1080/1475939x.2015.1074610.

Nilsson, M. (2010). Developing voice in digital storytelling through creativity, narrative and multimodality. *Seminar.net, 6*(2), 148–160.

Norton, B. (2001). Non-participation, imagined communities and the language classroom. *Learner Contributions to Language Learning: New Directions in Research, 6*(2), 159–171.

Oskoz, A., & Elola, I. (2016). Digital stories: Bringing multimodal texts to the Spanish writing classroom. *ReCALL, 28*(3), 326–342. 10.1017/s0958344016000094.

Painter, C., Martin, J. R., & Unsworth, L. (2013). *Reading Visual Narratives: Image Analysis of Children's Picture Books*. Equinox.

Patton, M. Q. (2001). *Qualitative Research and Evaluation and Methods* (3rd ed.). Sage.

Pigozzi, G. (2020). I got a confession, I still like Pokémon.": Enacting HOMAGO to foster creative writing. *Journal of Literacy & Technology, 21*(1), 30–60.

Rahimi, M., & Yadollahi, S. (2017). Effects of offline vs. online digital storytelling on the development of EFL learners' literacy skills. *Cogent Education, 4*(1), 1–13. 10.1080/2331186x.2017.1285531.

Schuller, B., Lang, M., & Rigoll, G. (2002). Multimodal emotion recognition in audiovisual communication. In *Proceedings of IEEE International Conference on Multimedia and Expo 1*. (pp. 745-748). 10.1109/ICME.2002.1035889.

Serafini, F. (2015). Multimodal literacy: From theories to practices. *Language Arts, 92*, 412–423.

Sidpra, J., Gaier, C., Reddy, N., Kumar, N., Mirsky, D., & Mankad, K. (2020). Sustaining education in the age of COVID-19: A survey of synchronous web-based platforms. *Quantitative Imaging in Medicine and Surgery, 10*(7), 1422–1427. 10.21037/qims-20-714.

Strauss, A., & Corbin, J. M. (1990). *Basics of Qualitative Research: Grounded Theory Procedures and Techniques*. SAGE Publications.

The New London Group. (1996). A pedagogy of Multiliteracies: Designing social futures. *Harvard Educational Review, 66*(1), 60–93. ttps://doi.org/10.17763/haer.66.1.17370n67v22j160u.

Sönmez, H. (2019). Examination on the use of emoticon technique as a communication tool for narrative skills. *Dil ve Dilbilimi Çalışmaları Dergisi, 15*(2), 470–483. 10.17263/jlls.586137.

UNESCO. (2020, March 4). *COVID-19 Educational disruption and response*. UNESCO. Retrieved from https://en.unesco.org/covid19/educationresponse

Unsworth, L. (2001). *Teaching Multiliteracies Across the Curriculum*. Open University Press.

Verdugo, R., & Belmonte, A. I. (2007). Using digital stories to improve listening comprehension with Spanish young learners of English. *Language Learning & Technology, 11*(1), 87–101.

Vinogradova, P., Linville, H. A., & Bickel, B. (2011). Listen to my story and you will know me": Digital stories as student-centered collaborative projects. *TESOL Journal, 2*(2), 173–202. 10.5054/tj.2011.250380.

Yang, Y. F. D. (2012). Multimodal composing in digital storytelling. *Computers and Composition, 29*(3), 221–238. 10.1016/j.compcom.2012.07.001.