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### Multimodal Writing for Promoting Multilingual Adolescents' Writing Growth: An Integrative Research Review

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Abstract: This integrative research review explores in what ways multimodal writing, a newer writing approach, can promote multilingual adolescents' writing growth. This research review finds that multimodal writing benefit multilingual learners in providing flexibility in meaning making process, expanding and deepening learners' understanding of writing in contemporary technology and multimodality rich society, supporting learners to establish their positive writers' identities, as well as helping teachers easily identify learner's needs and facilitate the process of scaffolding writing. Therefore, writing growth is multidimensional and iterative. The current review further discusses how prior researchers understand and interpret writing growth in the context of integrating multiliteracies and multimodalities in writing education, which challenges the narrow definition of writing as mainly grammar and vocabulary skills. By examining the potential of multimodal writing, the research review questions the monolingual and monomodal approach to writing instruction, and highlights a possible way to help multilingual learners who are often silenced in writing classrooms to gain agency, reclaim voices, and draw upon their rich semiotic resources for expression. This review ends with some future research directions, pointing out the necessity of building up teachers' knowledge and skills in implementing this type of writing activity to prepare learners in response to expanding territories of literacy and skills needed for success in the future.

Keywords: asset-based writing pedagogy, multimodal writing, multilingual learners



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Although prior research (e.g., DeNicolo, 2015; Ghiso, 2016) has multilingual demonstrated students' rich literacy practices outside of school, and deep engagement in digital multimodal texts, especially after COVID-19 (Bruner & Hutchison, 2023), these resourcefulness and creativity in meaning-making are often unseen in traditional literacy classrooms for a long time. As educators, there is a pressing need to understand how literacy

education can integrate and justify multilingual learners' rich funds of knowledge (Moll et al., 1992) and how writing can be an inclusive space where all learners' voices can be heard and their ideas can be seen. Most importantly, how can prior research inform, expand, and update our understanding of teaching writing to multilingual learners in this techrich, multimodal world?

To encourage more teaching practitioners to start engaging in these discussions, the current research review highlights multimodal writing as an assetbased writing approach that integrates multiple literacy and language skills learners already have to support multilingual learners' writing growth. Multimodal writing means students strategically and coherently use both linguistic and non-linguistic resources to construct meaning (Smith et al., 2021). Multimedia posters (Hughes & Morrison, 2014), digital storytelling (Turner, 2011), podcasts (Smythe &

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Neufeld, 2010), photovoice (Aparicio et al., 2021), and memes (Nguyen et al., 2022) are all examples of multimodal writing projects. While some teachers are keen to implement multimodal writing, these practices still haven't found their place in mainstream, traditional education (Watts-Taffe, 2022). Writing instruction and curriculums in schools are still restrictively language-focused and print-

> based (Jewitt, 2008), especially for teaching multilingual learners. Additionally, many teachers are under the pressure of standardized assessments to focus on printbased writing skills, which does not necessarily consider multilingual students' rich meaning-making repertoires. Therefore, teachers still mainly rely on standardized, summative, language-focused approaches to assess students' writing progress (Yi et al., 2020). As argued by Yagelski (2021), this

overemphasis on the correctness of the form of writing is a separation of writing content and the writer's voice from its form. Another critique of current school writing instruction relates to its authenticity. There is an imposed boundary between out-of-school writing and official school writing (Marshall & Toohey, 2010). School writing does not take into consideration the already expanding territories of literacy (including multiliteracies, digital literacy, and pop culture) and newer writing skills that are critical for participating in a multimodal, digitized contemporary society (Jewitt, 2008).

Therefore, this literature review aims to help literacy educators reflect, redefine, and challenge current monolingual and unimodal writing instruction for multilingual learners by highlighting successful examples of multimodal writing. Additionally, teachers may also have a deeper understanding of multilingual learners' unique trajectories of writing growth and needs for various venues for selfexpression, which may shed light on newer ideas for future instruction. To be more specific, this review has two guiding questions: (1) In what ways can multimodal writing support multilingual learners in writing learning? and (2) how can we understand and interpret multilingual learners' writing growth through multimodal writing?

#### Key Terms and Foundational Theories

This section defines and reviews key terms and foundational theories relating to multimodal writing, which addresses why this writing approach aligns with the evolving epistemological trend of literacy and why it responds to the rich but often unseen literacy practices of multilingual learners.

#### **Multilingual Learners**

Limited English proficiency (LEP), English language learners (ELL), and learning English as a second language (ESOL) are terms frequently used in federal and state documents, describing students who are developing multiple language proficiency. However, García et al. (2008) critiqued the use of these labels because they take a deficit-oriented perspective by emphasizing what a learner is lacking and position English as a superior language (variety). Building upon García et al.'s (2008) idea that English language learners are in fact emergent bilinguals, Souto-Manning (2016) claimed that the change of terms from ELL or LEP to bilingual or multilingual students is a sign of a mindset shift that highlights learners' potential and funds of knowledge, as well as having important implications for moving towards a more affirmative and equitable education. Thus, I use the term "multilingual learners" in this manuscript, which is defined as young people who are developing more than one language (varieties), because it is the most inclusive term that presents the diverse nature of these students (Meyer et al., 2020).

#### New Literacy and Multiliteracies

Definitions of and orientations towards "literacy" keep changing and developing. Street (1984) posed an "ideological model of literacy," which contrasted with the long-held "autonomous model of literacy" (pp. 1-2). According to Street, the autonomous model viewed literacy as a decontextualized, isolated, variable relating independent to economic development and abstract cognitive processes, which implicitly privileges some practices as literacy while ignoring the different literacy practices in different cultures. In contrast, the ideological model of literacy started to recognize the social and cultural contexts of literacy practices. This newer perspective on literacy has a critical role in The New Literacy Studies (NLS) (Street, 1997). NLS provides a new way to understand literacy, which has important implications for a slightly later literacy movement, the new literacies studies (Gee, 2015).

Moving from literacy to the plural form of literacy literacies, the new literacies studies emphasize new forms of literacy beyond print-based literacy in response to the coming digital era. Lankshear and Knobel (2007) specifically discussed what was new in new literacies. They believed that the concept of new literacies was not only about having access to new technological tools; instead, the core was how the use of new technical stuff changed old mindsets. Therefore, there are multiple forms of literacy, and traditional print-based literacy, which is dominant in school settings, is only one of them. The discussions of what new literacy skills we need to prepare our learners have started to emerge since then.

Multiliteracies pedagogy (New London Group, 1996) is one of the most seminal research under the new literacies. Multiliteracies not only challenges the narrow and autonomous definition of literacy as print-based technical reading and writing skills (Street, 1984), but also recognizes the authentic and changing literacy practices in a more culturally and linguistically globalized world. However, the goal of this multiliteracies pedagogy was not to demean traditional literacy but to decenter its long-held prestige in literacy education (Burke & Hardware, 2015). The pedagogy of multiliteracies is a process leading to innovative and transformative literacies practices instead of reproducing whatever is provided by teachers (Cope & Kalantzis, 2009). Multiliteracies emphasize the abilities to understand, interpret, critique, and create texts, both print-based texts and multimodal texts such as images, videos, and audios. According to New London Group (1996), learning is a designing and redesigning process, so students are designers who should be able to draw upon all semiotic resources they have to make sense of texts and construct meaning. Leu et al. (2017) argued that "to be literate tomorrow will be defined by even newer technologies that have yet to appear and even newer discourses and social practices that will be created to meet future needs" (p.1). Therefore, it is necessary to prepare students for these new literacy skills. Yi et al. (2020) also asked how we should define writing and texts, especially in this technologyprevalent society where new writing genres such as websites, social media posts, blogs, emails, videos, and podcasting emerge. These new genres, which are prevalent in the contemporary world, should be included in literacy instruction (Brown, 2015). As such, recognizing, embracing, and responding to social changes and social realities should be at the core of current and future literacy education.

#### Multimodalities

Multimodality is one of the defining features of multiliteracies practices, which focuses on integrating different modes such as visual, aural, sensual, and spatial with linguistic elements to convey richer and more complex meaning (Copes & Kalantzis, 2009; New London Group, 1996). Different modes (e.g., images) have different modal resources (e.g., font, size) (Bezemer & Kress, 2008). Therefore, multimodality draws attention to the affordance and limitations of each mode, as well as how different modes can be successfully combined to reach communication purposes (Kress, 2000; Kress & Van Leeuven, 2001).

This recognition of multiple forms of literacy and multiple approaches to meaning-making besides using language further justifies the rich literacy practices that many culturally and linguistically diverse students have already engaged in their daily lives. For example, the literacy of Kiowa people is highly dependent on storytelling and listening (Jackson & DeLaune, 2018), and the core of Navajo ritual performance literacy involves and interpretation of sand painting (McCarty, 2013). Latinx children in Ghiso's (2016) research revealed their daily engagement in storytelling and bilingual visual texts in community spaces such as laundromats. These daily multimodal practices relate to the ideological orientation towards literacy (Street, 1984), which emphasizes the sociocultural contexts of literacy. These examples also demonstrate that literacy itself is multimodal, challenging archaic assumption that literacy only pertains to written expressions. However, this fact is often ignored and devalued in schools (Harman & Shin, 2018; Marshall & Toohey, 2010). Therefore, this review highlights multimodal writing for multilingual learners to explore how it can be a space to bring multiliteracies and multimodalities into literacy classrooms.

#### Multimodal Writing for Multilingual Learners

This review specifically focuses on multilingual learners' writing. Therefore, it is necessary to define key terms relating to multilingual learners' writing and how these terms connect to multimodal writing. Scholars (e.g., Curiel & Ponzio, 2021; Smith et al., 2017) have recognized the relationship between multimodal writing and multilingual practices such as translanguaging (García, 2009) and codemeshing (Canagarajah, 2011).

Translanguaging means that multilinguals draw upon one integrated linguistic system for communication (Velasco & García, 2014). Horner and Alvarez (2019) emphasized the language users' agency and conscious decision-making behind this

dynamic, and creative fluid. hybridity of linguistic repertoires. Another term for hybrid language use is codemeshing. Canagarajah (2013) defined code-meshing as a form of writing that creates hybrid texts for voice. Codemeshing differs from translanguaging in that it goes beyond the mixed use different languages of and emphasizes using both a full linguistic repertoire and multimodal for resources communication.

Similar to these two types of intentional deployment of a full linguistic repertoire, the idea of multimodal writing encourages the manipulation of full semiotic resources (including linguistic mode) to fully express one's ideas. Therefore, multimodal writing can be a space for multilingual learners to further build upon their multilingualism and go beyond a languagebased approach to meaning-making.

Traditional writing instruction, which solely focuses on print-based skills (e.g., vocabulary, syntactic structures), neither centers multilingual students' full semiotic resources nor prepares them for learning contemporary writing skills. As such, to support multilingual students in authentic and meaningful writing development, multimodal writing can be one way to motivate and engage these students. Through this review, teachers can also gain clearer ideas of why this writing approach is especially beneficial for multilingual learners, whose multilingual and

"Through this review, teachers can gain clearer ideas of why the [multimodal] writing approach is especially beneficial for multilingual learners ..., and how multimodal writing may prepare our learners for future social

multimodal resources should be valued in classrooms, and how multimodal writing may prepare our learners for future social participation.

#### Methodology

This article took the integrative research review approach (Torraco, 2005). According to Torraco

(2016), integrative review can "review, critique, and synthesize representative literature on a topic" to identify new perspectives or provide a deeper understanding of an emerging topic (p. 404). Although using technology and multimodal resources in classrooms is not uncommon, how to integrate them into writing instruction and how this hybridity may bring new opportunities for supporting multilingual learners' learning of writing are two

questions underexplored. Therefore, there is a need for expanding the understanding of writing in contemporary society and how meaning-making can be more responsive to the rich semiotic repertoires multilingual learners already have. This article examines prior research to identify how multimodal writing may contribute to multilingual learners' writing experiences beyond developing language proficiency, which can also expand our understanding of writing growth.

#### Searching and Screening Procedures

#### Step 1. Initial Searching

I used *EBSCOhost* as the searching platform. Academic Search Ultimate, Education Source, ERIC, OpenDissertations, Primary Search, Professional Development Collection, and Teacher Reference Center were databases included for identifying articles. I used multimodal writing, multilingual

Table 1	
Key Search	Terms

Key Search Terms	Related Synonyms
1. multimodal writing	multimodal composing
2. multilingual learners	English language learners, ESL, ESOL, English as second language learners, bilingual students, emergent bilingual learners, emergent multilingual learners
3. adolescents	elementary school, middle school, high school, secondary school, youth, teen, teenager

learners, adolescents, and their synonyms as key search terms (see Table 1 for all search terms). Adolescents include upper elementary grade (4<sup>th</sup> and 5<sup>th</sup> grade) and secondary learners. As discussed in the prior section, "multilingual learner" is an inclusive term and a term used throughout this research review; however, there are many studies adopting different terms to describe this diverse group of students. I included peer-reviewed articles written in English between 2000 and 2023 to give a recent overview of this topic. This is also a time when social media has quickly developed and started to play critical roles in people's daily literacy practices. This initial round of searching generated 198 articles, including both empirical articles, theoretical articles, book chapters, and doctoral dissertations.

#### Step 2. Abstract Screening

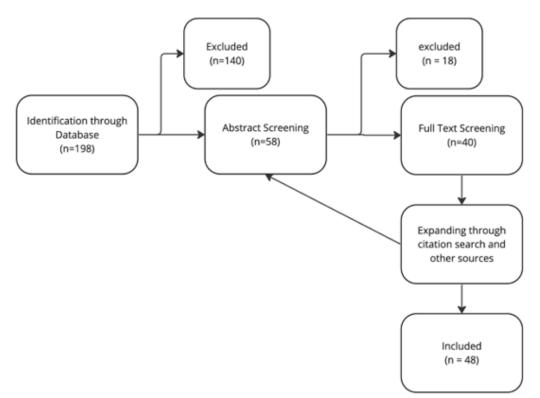
After reading the titles, keywords, and abstracts of all generated articles, I removed articles that were unrelated to the focus of this literature review based on the following criteria: Firstly, I only included articles that focused on students who were learning and developing their writing in English-dominant countries, including the United States, Canada, Australia, and New Zealand. This is because the goals and purposes of learning English can be different in other contexts where a second language (English in this case) is not pivotal for surviving and thriving in school systems. As discussed in the prior section, "multilingual learners" is an inclusive term; therefore, research articles focusing on speakers of dialectical English varieties, such as Black and Native American adolescents—were considered relevant. These students' linguistic repertoires should be justified and affirmed as they continuously develop their competencies in the language of instruction in schools.

Secondly, I further narrowed down the scope of this review by only including research about adolescent students. Adolescence is a stage when students usually begin to receive more formal writing instruction in schools (Gehsmann & Templeton, 2022). Also, adolescents engage in digital practices more frequently than younger children, and digital writing experiences naturally afford more multimodalities (Hafner & Ho, 2020). Adolescence is also an age level when students start to be more agentive in navigating their multiple identities and already have knowledge of how to inquire about and critique their own social reality through various literacy practices (González Ybarra, 2022.

Thirdly, articles should focus on students' multimodal writing in educational settings, both formal schools and after-school programs. The number of articles after the initial abstract screening was down to 58.

#### Figure 1

#### Process of Article Identification



#### Step 3. Full Text Review and Expanding

After closely reading the full texts of 58 identified articles, 18 articles were removed from this list. These were articles that mainly focused on the design and affordance of technology platforms instead of focusing on students' writing; articles about teacher education programs; articles discussing other components of writing class (e.g., students' kinesthetic movements during interaction); and articles examining the multimodal literacy practices in local communities or at home.

In order to create a more comprehensive set of articles to be reviewed, two more strategies were used to expand this set of research articles. Firstly, I manually searched related articles in the reference lists of the 40 articles. Secondly, I asked for recommended articles relating to multilingual adolescents' multimodal writing from experts who know this topic through two doctoral level multiliteracies courses. After mining extra articles based on inclusion and exclusion criteria listed in Step 2, this research review finally included 48 articles (see Figure 1 for the process of article selection).

#### **Analytic Procedures**

Adopting the thematic analysis method (Terry et al., 2017), I started by closely rereading each article to familiarize myself with the content. I recorded the research topic, research participants, the type of multimodal writing, and researchers' interpretation of writing growth in a Google sheet. Based on the subheadings and content of finding sections, four aspects were frequently discussed by prior research: the writing process, writing products, students' identity development, and teachers' perspectives. Therefore, these articles were categorized into these four categories for later coding. "Writing Process"

#### Table 2

Categories	Guiding Questions
Writing Process	What did students do in the process? What multimodal tools did they use? Are these behaviors or interactions with multimodal tools beneficial? Why? How is this writing process different from traditional writing?
Writing Products	What is the writing product? How did researchers interpret these writing artifacts? How did students think about their own writing? Did students show high quality writing? Based on what criteria?
Identity Development	How may multimodal writing affect students' motivation and engagement in learning? What are students' feelings about this writing experience? How do they change their perceptions of themselves as writers?
Teachers' Perspectives	What are teachers' opinions about multimodal writing? Do teachers change their perceptions about students and instructions during and after the activity? What led to these changes?

Guiding Questions for Initial Coding

(n=31) means researchers explored students' interactions, designing process, and experiences in the process of doing multimodal writing. "Writing Product" (n=25) shows researchers' analysis and interpretation of students' multimodal writing artifacts. "Identity Development" (n=22) examines how multimodal writing creates a space for learners to build up positive knowledge holder identities. Lastly, the "Teachers' Perspectives" category (n=27) discusses how teachers changed their understanding of students' learning during and after multimodal writing activities. As expected, most articles discussed more than one aspect, this reveals that multimodal writing should be examined from multiple dimensions to better understand how it contributes to students' writing learning experiences.

After categorizing these articles, I examined articles in each category to identify codes relating to how multimodal writing can support multilingual learners in writing from different aspects. Table 2 presents guiding questions when I reread articles in each category and identify emerging codes.

With these guiding questions, I conducted initial coding, which was flexible and open to all possible research directions (Saldaña, 2016, p. 115). I also drew upon the In Vivo coding method, which uses the actual language from articles (Saldaña, 2016, p. 105); in this case, multilingual learners' and teachers' voices can be highlighted. For the second-round coding, I used the focused coding method to cluster similar codes and identify the most significant codes for emerging themes (Saldaña, 2016, p. 241). In the end, I distilled one representative and overarching theme for each category (see Appendix for codes and themes).

#### Multimodal Writing and Writing Growth

Based on this review, multimodal writing can support multilingual learners' writing growth in four ways: flexible meaning making, expanding understanding of literacies, the construction of positive writer identities, and entry points for teacher scaffolding.

#### Theme 1. Flexible Meaning Making

Prior research found that multimodal writing allowed a more flexible meaning making process because it encouraged multilingual students' full semiotic repertoire across languages and across modalities to construct meanings.

Embracing multimodalities in the writing process created many entry points into writing tasks for students who are developing English fluency (Lenters & Winters, 2013; Smith et al., 2017; Vasudevan et al., 2010). This often led to greater motivation to engage in writing and confidence to participate in school learning activities. For example, Vasudevan et al. (2010) found that their participant, Michael, an initially disengaged writer in school, gradually became an active storyteller and was more motivated to share his writing in the "building speak" project. In multimodal this writing project, Michael enthusiastically shared photos of his home and drew upon his life experiences to explain in his writing why these photos represent important stories of his life. Similarly, in Linares's (2021) ethnography research of a group of refugee students' journal writing, the author highlighted rich translanguaging practices and the efforts of these students using drawings to elaborate their simple English sentences. When the students kept getting positive feedback from their teacher and realized their multimodal writing and ideas were valued, they devoted more time to writing the multimodal journal, not only as a way of practicing English but also as a place to convey feelings and experiences. Therefore, being able to

write beyond English words contributed to students' "academic risk-taking" and "emotional risk-taking" (Linares, 2021, p. 687), which shifted the sole focus from correct grammar to the content of the writing.

In addition to creating more opportunities for participation in writing, by allowing various semiotic possibilities to express ideas, multilingual students were able to express more sophisticated ideas compared with only writing in English (Black, 2005; Bunch & Willett, 2013; Hughes & Morrison, 2014). In Johnson and Kendrick's (2017) study, digital storytelling helped Yaqub, a student from a refugee background, convey more nuanced and difficult affective themes, such as struggling experiences. For example, Yaqub talked about how he could not fully express his desperate feelings when he escaped from a war merely through English; instead, he added background music and a picture of a man walking on a desert to make readers better resonate with his desperation. Additionally, compared with traditional essays, multimodal writing makes writing more real to both writers and readers. Students who made and podcasts in Smythe Neufeld's (2010)ethnographic research shared that they frequently experimented with different sound effects to convey the right mood to audiences, which made them create more real stories. In these examples, students were creating "humanizing essays" (Jensen and Nelson, 2022) by combining different semiotic resources to better convey their voices and achieve their own writer's rhetorical purposes.

Lastly, thinking and writing across modalities provided new venues and multiple perspectives for multilingual learners to negotiate meaning and deepen their understanding of texts, which laid the important foundation for their later writing (Early & Marshall, 2008; Shin et al., 2020). For example, in Early and Marshall's (2008) study, students talked about how they purposefully read the text multiple times and took advantage of multiple visual resources in order to have a better sense of how to do the multimodal writing project. Multimodal writing opened up more entry points for multilingual students to access content knowledge with tools familiar to them (Ronan, 2014; Smith et al., 2017; Tippett, 2011). In Smith et al.'s research (2017), they found that many multilingual students needed visual representations to support laying out and organizing their ideas, and then they used these visual tools to further elaborate their ideas in written language. They used images as road maps to guide and facilitate their writing process. One student mentioned that she felt her brain "was doing more stuff" when she tried to make a slide introducing her everyday hero compared to writing a paper essay. Thus, multilingual students had more opportunities for understanding, deep thinking, and organizing thoughts in the process of multimodal writing.

Although prior research showed that multimodal writing has presented various digital and creative components, this was not to deny the value of traditional text-based forms of writing activities but was about inviting new and more possibilities for multilingual students to make meanings (Brown, 2015). Prior research demonstrated that multimodal writing provided students with more flexibility in the meaning making process. This not only made writing activities more inclusive and agentive for students who were still developing their biliteracy skills but also helped these students use any resources at their disposal to express complex ideas.

## Theme 2. Expanding Understanding of Writing and Literacy

The second way that multimodal writing activities can help multilingual learners' engagement and progress in writing is to justify and build upon learners' daily writing experiences outside of school and expand students' understanding of writing beyond their print-based writing skills. These new writing skills are critical in the contemporary world, where new digital tools lead to emerging multimodal writing genres such as blogs and social media posts. Therefore, multimodal writing supports the development of writing skills that are not only valued in schools but in real-world contexts.

Multimodal writing extended the definition of writing as more than print-based skills, which justified multilingual students' rich multiliteracies resources and knowledge. Educators need to pay close attention to the social reality of our multilingual students, who already live in a modality rich world, and make these multimodal resources more visible in writing classrooms (Canady et al., 2020). For Ghiso documented (2016) example, rich translinguistic and transmodal literacy practices happening in laundromat spaces by analyzing photos taken by students. Leu et al. (2017) emphasized that developing technology has already changed students' daily literacy practices and will keep redefining what being literate means in the future. Luke (2003) called these multimodal texts that students were engaged in their everyday lives as their "first curriculum" (p. 398), and starting points to understand the world around them.

Multimodal writing is an example of inviting multiple literacies into classrooms, which leads to new understandings of legitimate literacy practices in schools (Watts-Taffe, 2022). This new understanding can become a third space (Gutierrez, 2008) where multilingual students can draw upon their knowledge from different spaces, such as home and school, to generate new learning. In this third space, students can use their full literacies and linguistic repertoires to express themselves in writing and to understand their world critically. For example, students in Marshall and Toohey's (2020) research recorded and brought in their grandparents' immigration stories to the classroom. They used these stories to make picture books, generating opportunities for difficult conversations about religious difference and violence, which were topics not touched upon in the standard curriculum in schools.

Another example was from Honeyford (2013), who observed one student, Gabriel, creating a digital story about his name. Honeyford found Gabriel used a Latin American way of narration, which poetically waved imagination and reality together. Gabriel's unique way of narration and his adroitness in conveying ideas through several other semiotic resources diverged from standard narrative structures taught in school. However, this unique way of writing opened the space for communicating his cultural identities in a manner that could best present his own life experiences and social critiques. Therefore, bringing in the cultural and linguistic resources of multilingual students contributes to these students' critical thinking skills, challenges the separation of out-of-school funds of knowledge from school education (Yagelski, 2021), and makes writing a space for "negotiating, resisting, and combating the dissonance of these [their] worlds." (Flores, 2018, p. 4).

In addition to redefining writing, Canady et al. (2020) asked educators the question of what it means to be writers and composers in the contemporary world. The question pointed to the fact that decoding and encoding skills were not enough anymore, and five paragraph essays were not the only way to make arguments in the real world (Jensen & Nelson, 2022). Understanding, interpreting, creating, and hybridizing different semiotic representations are important skills. Therefore, multimodal writing also supports contemporary writing development because it opens the space for multilingual students to learn, explore, and practice multiple literacy skills (such as critical literacy and digital literacy), which they are able to use beyond school walls. Students in Turner's (2011) research engaged in digital storytelling projects about hip-hop writing for social justice because they believed the critical media literacy skills they learned

in the process were applicable to their daily experiences. Similarly, Smythe and Neufeld's (2010) research found that students were motivated in the process of making podcasts. They frequently reread, revised, and evaluated both their written scripts and the orchestration of multimodal resources to make sure they were conveying their stories to audiences in an authentic way. In the interview, students talked about how they not only built up their confidence in print-based narratives but also learned multimodal skills they valued and wanted to apply to their out-ofschool lives. Although not every student was excited and comfortable with exploring multimodal writing genres and composing digitally initially, this experience may still challenge and change their opinions. One student in the study of Canady et. al. (2020) revealed that in the beginning she positioned herself as a media outsider and was anxious to do the multimodal story writing. However, this experience in the end made her not only feel more comfortable in using multimodal tools in writing but also helped her realize how multimodalities both enrich and can convey the same message differently.

Multimodal writing not only includes multiple literacy skills but also connects school writing experiences to authentic, real-life-related writing practices. For example, Castek et al. (2018) invited multilingual adolescents who were interested in becoming engineers in the future to write their design journals. Their journals were full of models and images besides verbal descriptions of their design decisions because the discipline of engineering requires multimodal representations to fully present works. This writing experience supported students to experience and explore their aspired careers and helped them understand how multiple literacies were important in their future careers. Thus, when multimodal resources are utilized, writing becomes more authentic and organic.

Lastly, multimodal writing places more cognitive demands on students, and it requires multiple literacy skills compared with writing a traditional essay (Smith et al., 2017). As demonstrated in Smith et al.'s study, instead of layering different modalities in a linear way, students were doing "multimodal codemeshing" (p. 7) when they brainstormed and negotiated modal choices iteratively. By observing focal students' screen recordings when they were creating slides for the "My Hero" project, researchers found all students demonstrated varied and unique ways of traversing and hybriding texts, images, sounds, and transition effects to make their writing project coherent and holistic. One of the students mentioned that this writing process required her to think more and use more skills than writing an essay. Similarly, Doering et al. (2007) argued that writing in the digital era is more than the content, but the ways to best convey the content. Multimodal writing can be a fruitful space for learning multiple literacy skills that are critical for future real-life participation and exploring how to orchestrate multiple modal resources to better express oneself.

In conclusion, all these studies pointed out that writing education should take into consideration the continuous development of writing, changing definitions of what counts as legitimate writing in schools, and how writing experiences can be authentic and relate to students' needs in contemporary life. As educators, we are preparing our learners not only for today but also for future, not only for schooling but also for social participation.

## Theme 3. Construction of Positive Writer Identities

Multimodal writing also supports multilingual learners, who are often marginalized and seemingly disengaged in writing classes, to build up stronger agency in writing. From a deficit perspective about multilingual learners' capabilities, much prior research demonstrated that multimodal writing helped multilingual learners establish positive writer identities, which disrupted the negative images constructed by schools (Beucher & Seglem, 2019; Li, 2015).

Multimodal writing supports positive writer identity because it takes on an asset-based perspective on multilingual writers' writing progress and helps students position themselves as capable writers and knowledge holders. For example, in Hughes and Morrison's (2014) case study, multilingual students were engaged in creating different genres of digital poetry writing and sharing with peers through collaborative social media. They found that allowing multimodal resources in writing artifacts not only honored students' multiple abilities, including technological skills, but also made writing a less daunting task because all students were positioned as capable writers who had a range of communicative resources. In the interview, two students, Benji and Farrah, shared that they were able to better present themselves to peers and teachers multimodally. Their perceptions of themselves as creators and critics of peers' writing artifacts led to their stronger motivations to participate in interaction with peers, which further supported their English proficiency development. Vasudevan et al. (2010) implemented several multimodal projects that helped students rethink and reimagine the composing process. They found that one of the students, Saima, a previously shy and silent newly immigrant girl in class, gained a louder voice by "speaking" with images, music, and her narration together in her digital storytelling project. Saima was more visible in class and found her own way of contributing to class discussions. Similarly, Korobkova (2017) found students in her research started to perceive themselves as successful multiple text producers and adept communicators due to their new understanding of writing through multimodal writing activities.

In addition, Kennedy et al. (2019) emphasized that multimodal literacy practices were especially beneficial to emergent bilingual students as they explored and navigated their multiple emerging identities. In their research, multimodal writing became a healing space for students to reflect and figure out their senses of social belonging. Another example is that students in Danzak's (2011) research developed a deeper understanding of their community identities in the process of interviewing family members and creating comics about their own immigration stories. They weaved voices from their families into their writing and provided authentic insights for people outside of their group to better understand their life journeys. Writing like this led to self-exploration, self-expression, as well as self-love (Lee et al., 2022).

Several prior research studies have also demonstrated that multimodal writing can be a transformative space where students can bring forth real-life impacts through their writing (Lee et al., 2022). Through multimodal writing experiences, youths can actively take on the role of advocates for their own communities and for people who are silenced or misleadingly depicted. For example, in Honeyford's (2013) library project, a group of 7th and 8th grade Latinx students identified the issue that the public library in their community provided limited access to Spanish materials. They engaged in interviewing people in their community, writing up their research as a presentation to the public library board, and redesigning the library website by adding Spanish translation and signs for local people to find information easier. These students agentively used their in-between positioning and their bilingual and multiple literacy skills to advocate for the needs of their own community. As the researcher said, their writing was not only for the library board but also for broader audiences to call for iustice and inclusiveness.

Many multilingual adolescents also used multimodal writing as counter storytelling, which was defined by Solórzano and Yosso (2002) as "a method of telling the stories of those people whose experiences are not often told... a tool for exposing, analyzing, and challenging the majoritarian stories of racial privilege (p. 32)." Hull and Nelson (2005) emphasized that students were experts and powerful communicators in their communities, and multimodal writing projects such as digital storytelling amplify these youths' voices to broader audiences. In their research, they highlighted and dissected a student, Randy's, digital story. They found Randy's multimodal decisions, such as the choice of background music, the display of title and subtitles, as well as his purposeful selection of pictures of iconic figures, conveyed his self-reflection of his life struggles and provided social critique, which created a more inviting space for audiences to reflect on their own lives with him. Tommy, in Curwood and Gibbons's (2010) research, created a digital poem to push back master narratives about race and sex orientation and reclaim their own identity as an Asian American queer youth. The use of multiple modes in their iMovie video vividly presents their struggled feelings of not being able to fit in, while at the same time strategically relieving the tension raised by their video. Youths in González Ybarra's (2022) research drew upon immigrant stories of people in their community to create a testimonio with a photo collage. Their writing helped people in the community see themselves and their diverse and authentic stories being presented, countering the biased and stereotyped narrative of who they are. This same group of youth also carefully designed the gallery page of their community website by highlighting photos of achievements, excellence, and joy happening in their community as a way to speak back to negative descriptions about them from outside.

All these students demonstrated that writing could take different forms, and multimodal writing amplified the messages conveyed by these students in a more powerful way. Barnes and Tour (2023) argued that multimodal composing can help students disrupt existing power dynamics and allow for opportunities to engage in critical literacy. These multilingual students' multimodal writing experiences documented in prior research can influence not only themselves to be capable writers but also impact audiences who have misunderstandings and deficit perspectives towards them and their communities. For educators, this writing experience can also be a starting point for more culturally responsive teaching and helping learners realize the power of literacy in presenting and shaping who we are.

#### Theme 4. Entry Points for Teachers' Scaffolding

There are several research studies shifting focus from multilingual students' experiences and writing artifacts to teachers' roles, especially their perceptions and pedagogical strategies in the process of participating in or implementing multimodal writing activities with multilingual students (e.g., Barnes & Tour, 2023; Britsch, 2020; Danzak, 2011; Early & Marshall, 2008). Jocius (2020) emphasized that teachers played a critical role in shaping students' writing experiences. However, there are both positive and negative perceptions from teachers.

Some research has found teachers can be reluctant to do multimodal writing activities in their classrooms. For example, Dagenais et al. (2017) showed a tension between researchers' goal of promoting multimodal composing and teachers' resistance to using technology tools in class. Teachers in their research thought that multimodal composing was not for real school learning, so they only allowed students to finish their writing on paper and then type writing on iPads. One of the teachers in the same research

terminated the project earlier because she wanted to students for the coming standard prepare assessment. Tan et al. (2020) also revealed several teachers' negative views of multimodal practices as less academic and less rigorous for teaching and learning a second language, and these teachers still only assessed students' linguistic development in writing. Similarly, Green (2013) claimed that although teachers in the research used students' multimodal writing artifacts to understand students' thinking, but it seemed like teachers only wanted to know about students' understanding of new vocabularies instead of any other multiliteracies skills. All this research revealed the fact that the premise of the effectiveness of multimodal writing in supporting multilingual students' writing development relied on educators' willingness and efforts to create a space for it, and provide needed scaffolding for students to learn from multimodal writing.

Despite some concerns from teachers, most teachers in prior literature still hold positive and open-minded attitudes towards multimodal writing. According to interviews with and reflections of teachers in prior research, multimodal writing created a space for them to braid students' old literacy and new digital literacies practices together (Li, 2015), provided access to students' funds of knowledge and identities (Smith et al., 2021), generated more opportunities for deeper conversations between teachers and students (Pacheco et al., 2021), and better reached the evasive goals of motivating and engaging students in writing education (Pandya, 2012). For example, Burke and Hardware (2015) interviewed a teacher about her experiences doing photo stories with students. The teacher mentioned that talking and writing about weighty issues such as life and death were onerous tasks. Although multilingual students mav understand these topics, their developing English fluency would hinder their ability to fully express their ideas. However, inviting multimodal resources actually revealed many telling moments about

multilingual students' ideas in the process of viewing these students' photo stories, which helped the teacher better elicit, build upon, and scaffold students through rich discussions. Castañeda et al. (2013) also mentioned that teachers were able to spark deep discussions about cultural identities when inviting multimodalities into the writing process. Both research studies showed that multimodalities can be a mediating tool for students to overcome barriers of language proficiency and for teachers to identify more individualized support.

Additionally, the reflection from one of the teachers in Harman and Shin's (2018) study revealed that the teacher had a deeper insight into one of the difficult students' needs and concerns from reading the student's writing, which made her adjust her teaching style with this student. The teacher encouraged the student to use visuals as the germinating seeds for his story and had many dialogues with this student to help him write up his story. In the end, the researchers found multimodal writing afforded more scaffolding steps and deep discussions, which led to the student's great improvement in a writing importantly, assessment. Most this student demonstrated progress in conventional writing skills as well as more sophisticated dimensions of writing, including audience awareness and writing motivation. Angay-Crowder et al. (2013) showed how multimodal writing gave teachers more opportunities to interact and respond to students' ideas in the process of scaffolding. For example, teachers frequently ask students about their modal choices, how these choices connect to key themes in their writing, and how they can convey their ideas better to audiences. This dialogic process of talking and reflecting on the content of writing supports students to keep revising and improving their writing in a more agentive manner.

According to prior research, multimodal writing shifted teachers' focus from writing as a final product

to writing as an experiential learning process (Burke & Hardware, 2015). Giampapa (2010) argued that multimodal writing helped teachers change the role of "linguistics gatekeeper" (p. 418) when assessing students' writing, and take a more asset-based approach to evaluation. Canady et al. (2020) also discussed how multimodal writing changed teachers' "evaluative perspective," focusing more on what a student didn't achieve, to a more "descriptive perspective," which attended to what a student had already demonstrated in the writing (p. 14). These arguments are also connected to the three purposes of multimodal writing assessments identified in Anderson and Kachorsky's (2019) literature review. According to them, one of the key goals of assessing multimodal writing is to redefine what should be valued in classrooms and acknowledge students' achievements from multiple perspectives.

Researchers also found that many teachers used multimodal writing as formative assessments, which helped them plan the next steps to further support their students in classes (Britsch, 2020; Tan et al., 2020; Tippett, 2011). For example, Tan et al.'s (2020) found that most educators in prior research took a sociocultural perspective in multimodal writing assessment, which means these educators focused on how well students present their understanding of their writing topics and how this formative assessment can help them further enhance individual students' learning. The focal teacher in Tippett's (2011) research said multimodal writing was revealing, and the teacher felt it was much easier to identify students' misunderstandings. The teacher also emphasized that it was helpful for better differentiating instruction because with the flexibility, all students can work at their own pace, and students who lagged behind can still find ways to shine in the writing project.

In sum, multimodal writing can afford teachers more opportunities to identify learners' specific strengths



Figure 2

and needs for individualized scaffolding and differentiated instruction, which often leads to a new understanding of students. Although there are some concerns, it is still worthwhile to take the risk for the positive learning experiences of our multilingual learners.

#### Discussion

In this research review, four key themes emerged to answer the question of how multimodal writing supports multilingual learners in writing. These four themes also point to different interpretations of multilingual learners' writing growth in the context multimodal writing. Print-based of writing development already contains multiple aspects, including lexico-grammatical features, genre awareness, audience awareness, and depth of content, whereas multimodal writing adds more complexities (such as digital literacy skills, critical literacy skills, and knowledge of multimodalities) to the process. Moreover, the writing development trajectories of multilingual students can also be because of biliteracy development, unique translanguaging practices, cultural assimilation, and conflicting identities in the process of learning writing. This review revealed this complexity by presenting how multimodal writing supports multilingual students in various ways, as shown in Figure 2.

Some researchers measured students' linguistic growth in writing after doing multimodal writing projects (e.g., Green, 2013; Harman & Shin, 2018); however, most research focuses on other aspects of the writing growth of multilingual students. Firstly, writing motivation is one of the important components of writing growth. Many students in prior research (e.g., Hughes & Morrison, 2014;

Vasudevan et al., 2010) mentioned their engagement and improving agency in writing. Secondly, researchers (e.g., Johnson & Kendrick, 2017; Ronan, 2015) found that students can express richer ideas and develop a deeper understanding of content

knowledge after doing multimodal Additionally, writing projects. researchers (e.g., Doering et al., 2007; Turner, 2011) identified learners' improved writing skills in various digital genres. Lastly, developing positive writer identities was also considered an important indicator of writing growth (e.g., Curwood & Gibbons, 2010; González Ybarra, 2022). These studies demonstrated that multimodal writing growth is nonlinear and multidimensional

"the effectiveness of multimodal writing should not be romanticized, because all successful outcomes of this type of writing projects ... are determined by educators' careful design, implementation, assessment, and reflection."

(2012) emphasized that high-quality interactions between teachers and students can lead to improvements in reasoning skills and academic achievement. Multimodal writing creates more opportunities for teachers to ask elaborating and

> prompting questions based on students' writing artifacts (Harman & Shin, 2018). At the same time, Tour and Barnes (2022) argued that the complexity of multimodal writing requires more support from teachers in the process and for the product. The flexible, inclusive, and creative nature of multimodal writing scaffolding makes more differentiated and individualized because there is no one right way to write in this specific context.

Therefore, peer scaffolding, teacher scaffolding, and students' engagement make writing more motivating. This mutual and iterative process of seeing students' growth, providing ongoing feedback and scaffolding, and motivating students to further revise and improve their writing leads to multilingual students' continuous growth in both conventional and new writing skills.

The purpose of multimodal writing is not to devalue print-based literacy; instead, it aims to open up more possibilities for learners. However, as shown in several research studies (Dagenais et al., 2017; Tan et al., 2020), there is still a long way to go before educators feel comfortable to perceive multimodal writing as rigorous and effective writing practices, are conscious of the changing definition of writing in the contemporary world, especially after COVID-19, and are willing to take risks in exploring new multimodal knowledge with students and finding spaces for multimodal writing within this still high-stakes, monolingual, monomodal context of teaching and learning.

and should be observed and understood throughout the whole designing and writing process. Therefore, only measuring the language development of learners may not be able to fully capture the multiple aspects of writing growth in the context of multimodal writing (Beucher & Seglem, 2019).

However, the effectiveness of multimodal writing should not be romanticized, because all successful outcomes of this type of writing project, as shown in the articles reviewed, are determined by educators' careful design, implementation, assessment, and reflection. Therefore, in Figure 2, I placed teachers' practices as an outer circle because it is teachers' efforts to create a space for multimodal writing. Multimodal writing provides several entry points for teachers to understand multilingual students' funds of knowledge (Moll et al., 1992) and other competencies that are often unable to be seen in traditional writing. This understanding and attention to the writing process give a teacher a clearer idea of where a student is at and how to specifically address and support the student's needs. Mercer and Howe

#### Research Gaps and Future Directions

Prior research has demonstrated the great potential of multimodal writing in promoting multiple dimensions of writing growth for multilingual learners, however; there are still lingering questions that need to be addressed in future research and practices.

#### Contextualize Multimodal Writing in Different Educational Settings

Although prior research revealed perceived challenges from some teachers and students during the implementation of multimodal writing activities, there are scarce studies explicitly addressing these concerns. For example, the question of how to better integrate multimodal writing into standardized curriculum needs more exploration, which speaks to teachers' concerns about time pressure and standardized assessments. Multimodal writing and traditional writing are not mutually exclusive, but the question of how to strike a balance between developing conventional writing skills and leaving room for new literacy skills and students' engagement needs more exploration. Therefore, there are many considerations that need to be made for multimodal writing to be accepted and better integrated into school curricula, including careful consideration of learners' learning needs, school culture, and teachers' perspectives.

Additionally, much prior research was conducted in after-school settings (e.g., Black, 2005; Castek et al., 2018; González Ybarra, 2022). Therefore, there should be more research on multimodal writing that is contextualized in different educational settings, especially formal schools, to explore the effectiveness and potential of weaving multimodalities and multiliteracies into writing classrooms. Different from after-school settings, teachers in public schools have less flexibility to determine writing curriculums. There should also be more studies explicitly mentioning how researchers consider the opportunities and constraints of context and how they respond to and negotiate with these constraints, which is critical for understanding how to design, implement, and sustain this writing practice in formal school settings.

#### Opportunities for Researcher and Practitioner Collaboration

Most studies regarding this topic are researcherdirected rather than teacher-directed intervention or researcher-teacher collaboration. As mentioned previously, relatively few studies integrate multimodal writing as a natural and organic component of literacy classrooms, so there is a lack of knowledge about considerations and guidelines for teachers to implement in school settings. As such, more action research or stronger researcherpractitioner connections will be helpful to understand and better address teachers' concerns in implementing these innovative writing practices. This will lead to a better understanding of how to improve teachers' knowledge and self-efficacy in implementing multimodal writing.

Moreover, there are very few frameworks guiding teachers' practices. Prior research regarding teachers' practices reveals that it would be beneficial to explore effective teaching strategies and practices to scaffold multimodal writing. Traditional effective teaching may not be sufficient for this type of writing projects, instead, teachers will need more skills and knowledge to build up students' prior knowledge and respond to potential challenges. Even though multiliteracies pedagogy (Copes & Kalantzis, 2009; New London Group, 1996) is a framework adopted by many educators, it is relatively general and does not attend to the special needs and writing development features of multilingual learners. Neither does it discuss how to teach and scaffold knowledge of multimodalities. Therefore, there should be more

research exploring effective practices for teachers to scaffold and support multilingual learners in the multimodal writing process, especially attending to multilingual learners' interests and academic and sociocultural backgrounds.

#### Need for Consistent and Comprehensive Definition of Writing Growth

The definition and dimensions of writing growth for multilingual learners in the context of multimodal further writing should be explored. The conceptualization of learners' progress is still vague and inconsistent. Prior research found that many teachers only attended to the linguistic elements of multimodal writing artifacts created by students while ignoring other writing competencies revealed (Tan et al., 2020). Some teachers perceived multimodal writing as simply copying and pasting print-based writing onto another digital platform (Dagenais et al., 2017). This narrow definition and restricted approach towards the creation and design of multimodal writing may still go back to the limitations of traditional writing education. Therefore, how to define and interpret students' progress in writing systematically and holistically is a remaining question.

#### Conclusion

Prior research has demonstrated the potential of multimodal writing to support multilingual adolescents' writing growth in various aspects, including supporting richer expression of ideas, cultivating multiple literacy skills, and promoting stronger writer identities. This research review also reveals the critical role educators play in creating a space for multimodal writing and making it a fruitful writing experience. The current research review can be a starting point for more teaching practitioners and researchers who are passionate about engaging multilingual learners in an authentic literacy learning journey and helping students enhance their voices through writing. More future research regarding implementation and assessment should be conducted to further our understanding of how to better support multilingual learners in the context of new literacies.

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#### Appendix

#### Sample Categories and Codes

Categories	Initial Coding Examples	Focused Coding	Themes
Writing process	<ul> <li>Negotiate tensions between home and school literacy</li> <li>Explore different options available</li> <li>Safe space for expression</li> <li>More opportunities to engage in meaningful work</li> <li>Express complex ideas</li> <li>Choices</li> <li>Engage in deeper thinking and negotiating best way to present ideas</li> <li>Learning of more nuanced component of writing</li> <li>Make visible intangible</li> <li>More opportunities for discussion</li> <li>Multiple entry points for producing texts</li> <li>Attention to details</li> <li>Authentic writing experience</li> </ul>	<ul> <li>Entry points to writing tasks</li> <li>Express more complex ideas</li> <li>Authentic expressions</li> <li>Negotiation and interaction</li> </ul>	Flexible meaning making
Writing products	<ul> <li>Writing as a space for speaking up for oneself</li> <li>Hybrid prior experiences and skills</li> <li>Redefine "text" and "writing"</li> <li>Individualized way to express oneself</li> </ul>	<ul> <li>Integration of multiple literacy skills</li> <li>Redefine writing</li> </ul>	Expanding understanding of writing and literacy

	<ul> <li>Remix to recreate story</li> <li>Purposeful use of multiple modes</li> <li>Differentiate choices based on audiences</li> <li>Resources and literacy skills unseen in class</li> <li>Border crossing by weaving different knowledge</li> <li>Multimodal component for more information</li> <li>Reimagine how writing can be</li> <li>Expand repertoire of narratives</li> <li>Challenge norms for composing</li> </ul>		
Identity development	<ul> <li>Freedom of how to present one's thinking</li> <li>Positioned as capable meaning maker</li> <li>Confront negative labels through writing</li> <li>Experts of one's own writing and knowledge</li> <li>I am more than a stereotype</li> <li>Redefine oneself by better presenting oneself</li> <li>Reconstruct learners as intellectually and linguistically capable</li> <li>Multimodal writing as testimonio</li> </ul>	<ul> <li>Position students as knowledge holders</li> <li>Writing as a transformative space</li> <li>Multimodal writing as counter- storytelling</li> </ul>	Construction of positive writer's identities

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	<ul> <li>Countering negative depiction from outside</li> <li>Bring real impact to community</li> <li>Presenting voices needing to be heard</li> <li>Writing for realization of one's own resilience</li> <li>Successful producer and adept communicator</li> <li>Agency to decide what to and not to share</li> <li>Vividly presenting multiple aspects of identities</li> <li>See oneself as literate and resourceful</li> </ul>		
Teachers' perspectives	<ul> <li>Reframe literacy instruction in a new context</li> <li>Rethink how to assess students' learning</li> <li>Impressed by students' multiple skills</li> <li>Differentiated ways to help learners access content knowledge</li> <li>Better elicit students' ideas on difficult topics</li> <li>Telling moments of learners' knowledge</li> <li>Deeper and richer conversations</li> <li>Reveal teachable moments</li> </ul>	<ul> <li>Weave different forms of literacy in classrooms</li> <li>New understanding of learners</li> <li>Individualized scaffolding</li> <li>More comprehensive assessment of writing growth</li> </ul>	Entry points for teacher scaffolding

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<ul> <li>Afford more opportunities to scaffold</li> <li>Deeper insights about learners' needs</li> <li>A more holistic view of learners</li> <li>Discovering students' perspectives and strengths</li> <li>Unexpected but meaningful discussions</li> <li>Opportunities to learn various new genres</li> <li>Shift focus from grammar to writing process</li> <li>Deeper understanding of how students make meaning</li> </ul>
Deeper understanding of
<ul> <li>reaching or critical media literacy and 21st century skills</li> <li>Posters as valid form of assessment</li> </ul>