**Three Guiding Principles for Using AI Technologies in**

**Middle School Education**

Over 50 years ago, Toffler (1970) introduced the concept of "future shock" to explain the psychological stress that many people feel when technological change disrupts familiar ways of thinking and living. Toffler’s concept of “future shock” remains strikingly relevant today because new technologies, particularly artificial intelligence (AI), are sparking widespread concern and questions about the technology’s effects on classroom teaching and student learning (National Education Association, 2023). For many middle school teachers, the technological advances of AI may feel daunting, but this technology also holds immense potential for transforming teachers’ work and improving students’ learning. In this manuscript we introduce three principles designed for helping middle school teachers navigate the evolving AI landscape, as well as demystifying the technology’s potential for supporting classroom teaching.

**Authors’ Positionalities**

We are college faculty with extensive experience in teacher education, particularly in preparing literacy specialists for K-12 classrooms. Our initial teaching experiences involved planning directed reading lessons that consisted of teaching vocabulary, phonics, comprehension and integrated the language arts activities. Theoretically, we “came of age” in graduate schools of education when psycholinguistic theory (e.g., Goodman, 1967; Smith, 1971) was having great impact on reading instruction. Since then, our perspectives about teaching and learning evolved through whole language (e.g., Cambourne, 1988 ; Weaver, 1990), balanced literacy (e.g., Pressley, 2002; Fountas & Pinnel, 1996), sociocultural influences on learning (e.g., Heath, 1983; Ladson-Billings, 1994; Muhammad, 2023), response to intervention (e.g., Allington, 2009; Fuchs & Fuchs, 2006) and evidenced-based teaching practices (e.g., National Reading Panel, 2000; Shanahan, 2000), among others. These theoretical perspectives contributed in varying ways to our own perspectives for teaching reading. Importantly, we learned that change was an inevitable part of the scholarship and practice of teaching. That is, as new knowledge emerged, it was absorbed, usually incrementally, into the scholarship of teaching.

The digital literacies have been a significant area of interest for us for many years. Early influencers of our thinking about the importance of the digital literacies in K-12 education were primarily that of Donald Leu and his colleagues (e.g., Leu, Kinzer, Coiro & Commack, 2004; Leu et al., 2011; Leu, O’Byrne, Zawilinski, McVerry & Everett-Cacopardo, 2009) who frequently presented at our state literacy conferences and explained through their publications that the digital literacies have become critical components of how reading and writing are used in the contemporary world and that all children should learn to use them well. Leu et al. explained that the new literacies involved additional skills than those used when reading and writing with printed texts, and that K-12 students needed to learn how to use the digital literacies to be literate in today’s world. They highlighted the pressing need to address issues of access and equity to ensure all students have opportunities to regularly engage with digital literacies.

In our own experiences when supervising student teachers and coordinating after-school literacy programs at our universities, we learned that middle school students eagerly read and wrote with computers and other digital devices. However, the same students often displayed less enthusiasm when asked to read or write with conventional paper-based texts. When ChatGPT emerged in the fall of 2022, we were immediately attracted to the technology’s potential for supporting teachers and students. We speculated that the AI technologies might be particularly helpful to students in under-resourced urban schools, where access to well-stocked libraries, technology centers and other educational resources, such as tutoring, were typically limited when compared to schools in wealthier communities.

Our social and ethnic identities align with the demographic composition of the national teaching workforce. That is, we are white and of European descent, and we also understand that our personal identities and life experiences influence our interpretations of the world and thoughts about teaching. Yet, our professional educational experiences have consisted largely of work with children attending urban schools located in high poverty neighborhoods. In these contexts, the majority of the children have been African American and Latino. We have actively participated in professional literacy opportunities in which we have reflected with other educators on how our privileged identities influenced our teaching practices. As a result of these experiences, we believe we developed a deeper understanding of the importance of integrating culturally responsive and sustaining theories and practices (e.g., Gay, 2018; Ladson-Billings, 1994; Paris, 2012) into our teaching of prospective teachers.

**Educational Technologies and Its Promises**

Many teachers are well aware of the promises that have been made over the years about how technology would advance classroom teaching and student learning (Cuban, 2001, Cuban, Kirpatrick & Peck, 2001; Cuban & Jandric, 2015; Kimmons & Veletsianos, 2021). Advocates argued that technology would improve student engagement, help teachers become more student-centered, encourage personalized learning, and achieve lasting effects on children’s academic achievement. Yet, despite such claims, classroom teaching has been largely the same as that experienced by children of a few decades ago, at least until recently.

However, the Covid pandemic generated rapid change to teaching, and it has produced what appears to be long lasting effects on some instructional practices (Jacob, 2024). When the pandemic hit, teachers and their students needed to quickly adapt to online learning, although this came not without difficulties, especially in the most under-resourced communities where Internet access and computer hardware were lacking (Harris & Jones, 2020). Today, most teachers and children have become very familiar with digital technologies. This is evident in the widespread use of digital platforms like Google Classroom and devices such as Chromebooks. These digital platforms allow students to view content, compose responses, and engage with lesson concepts and skills in diverse ways. Teachers now routinely employ digital methods to communicate with families and assign a variety of learning activities for their students.

**Artificial Intelligence and the Emergence of Large Language Models (LLMs)**

Artificial intelligence has been with us for years, and most of us experienced it in our everyday live. We have used it when using voice commands with Apple’s Siri and Amazon’s Alexa. Most of us have used it when viewing Netflix’s list of movies recommendations, discovering the best routes to drive, using automatic spelling and grammar checks that are embedded into our word processing programs. Social media platforms like Instagram, Facebook, and TikTok use it to analyze our viewing preferences and advance videos for us to view when using the platforms (Goldman, Carreon, & Smith, 2024).

In November 2022 when the newest AI technology, the Large Language Models (LLMs), became publicly available, there was a rush of concern about its effects on education. However, some educators argued that this new AI technology offers great promise for supporting teachers’ work and student learning (Bowen & Watson, 2024; Ciampa, Wolfe & Bronstein, 2023; Hargrave, Fisher & Frey 2024; Mora & Semington, 2023). The LLMs differ from previous AI technologies because they use human language for processing information and accessing data from the Internet, which, of course, holds untold amounts of information for task completion. The first and best known of the LLMs is ChatGPT, which is particularly effective for using language to complete a myriad of tasks. It, as well as other LLMs, can nearly instantaneously answer questions, compose stories, explain difficult concepts, edit our writing, summarizing research documents, explain complex concepts in simpler terms as well as a myriad of other tasks previously considered time-consuming and complex. The large language models, such as ChatGPT, can even function as conversational partners, who are highly effective at understanding on-going questions and respond with nearly limitless information.

Recently, the AI technologies have become a focal point in our own work in teacher education. This manuscript shares our thoughts about how the new AI technologies, particularly ChatGPT, can be used to support middle school teachers in planning and delivering lessons. By demystifying AI technologies, it is our hope that this manuscript will contribute to teachers learning of how using these new technologies can support them in planning and implementing lessons for their middle school students.

Since the LLMs emergence, educational literature has provided a variety of theories and practices for using AI in classroom settings. Molick and Molick (2023) describe ways AI can support classroom teaching, including generating diverse examples and explanations of lesson concepts, creating assessments, and facilitating distributed practice opportunities for retrieval and practice of lesson content. Goldman, Carreon, and Smith (2024) proposed integrating AI technologies with the TPACK model (Mishra & Koehler, 2006) so that the technology can be aligned with teachers’ content knowledge, pedagogy and technological expertise. Some researchers are discussing the importance of integrating AI methodology into teacher education programs (Black et al., 2024; Howard, 2024). Our guiding three principles contribute to this body literature by offering a 3-step conceptual framework for understanding and productively using ChatGPT technology in classroom teaching.

Although other generative AI platforms, which are specifically designed for education, are available (e.g., Brisk, MagicSchool.ai, NotebookLM, Gemini), this manuscript focuses on ChatGPT. We selected ChatGPTbecause of its interdisciplinary nature and the broad range of resources it draws that are not limited to educational contexts. ChatGPT’s versatility makes it particularly useful for planning learning activities that transcend the subject areas, such as those that would occur in project-based learning outside of school or studies of the social and cultural histories of communities. Additionally, we suspect that learning to use ChatGPT might better equip teachers to more deeply understand AI’s potential and limitations, and this would be less likely to occur when using education-specific tools designed to fast-track AI integration in classroom teaching.

Throughout this manuscript we explain that AI technologies offer an invaluable resource for middle school teachers. The technology can support teachers by streamlining the time and work needed for curriculum development, lesson planning and assessment of student learning. AI will not replace teacher expertise because the ability to personalize instruction to fit students personal, social and cultural histories can best be accomplished by teachers who know and understand the life experiences of the children they teach. Yet, AI technologies can provide a powerful resource for supporting teachers’ work.

We propose these key principles for understanding and using AI technologies in middle school teaching:

1. **AI prompts differ significantly from Google searches.**
2. **Interactive exchanges with AI technologies improve its output**.
3. **AI outputs require close scrutiny for applicability and accuracy to our classroom needs.**

**1. AI Prompts Differ Significantly from Google Searches.**

Googling has become everyday knowledge, and changing to AI requires a rethinking of how to use technology to search for information. The first distinction between Googling and AI is that the outcomes of a Google search and AI can be very different. Google searches typically produce listings of resources, websites and abbreviated responses to inquiry, which are based on the key words in the search bar. AI, however, typically provide fuller responses to queries, which include contextual information such as the purpose and audience for its output. For this reason, AI platforms require descriptive searches that are better considered as ‘prompts’ in which one presents detailed and contextualized information about the tasks to be completed.

To illustrate the difference between a Google Search and an AI prompt, the following example about middle school graphic novels is presented: When searching for the titles of graphic novels to engage middle school students in reading, one might compose a Google search by inserting the phrase, “graphic novels for middle school readers” into the Google search bar. The top three sites that are produced through the search are to “High Five Books,” the “Boston Public Library” and “Goodreads.” However, when we used ChatGPT, a very different outcome was produced: ChatGPT presented a brief introduction about the importance of graphic novels and an annotated listing of graphic novels that might satisfy our request. Figure 1 illustrates the comparison of the output from a Google search and a ChatGPT prompt when seeking graphic novels for middle school readers.

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Insert Figure 1 Here

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A second distinction between Googling and composing an AI prompt is that AI requires descriptive information about the users purpose and intent. This is because the AI will produce a detailed response to the prompt, rather than a list of websites or sources for locating the desired information. Successful prompts describe the purpose, the intended audience, form, style and form the outcome should appear. For instance, rather than inserting a few key words or phrases into a Google search bar, AI prompts are better when contextualized, and one good way to do this is to follow the recommendations of Bower and Watson (2024) who explain that productive prompts include these four elements: (1) A description of the task to be completed (e.g., summarize, analyze, persuade, draw, compare/contrast, etc.; (2) The format one would like the outcome to be produced (e.g., narrative, poem, image, essay, etc.); (3) The voice that it should be produced (e.g, the style of a news reporter, a personal friend, family member, or adolescent author, etc.; (4) The context that explains the purpose, audience, social setting and the length of the desired product.

To again use the example of identifying graphic novels for middle school students, we composed an AI prompt that includes Bower and Watson’s elements. Such a prompt might be written in the following way:

Compose an annotated listing of five graphic novels that teachers might use in an urban, middle school. The novels that are recommended should be appealing to multiethnic seventh grade students living in a middle-income Brooklyn neighborhood. Each annotations should be about 25 words in length. Some of the students are new immigrants and emerging bilinguals, and approximately 15% of the students are students with reading comprehension difficulties.

The result is that ChatGPT produced an annotated listing of books that it designated as appropriate for the students described in the prompt. The first book, *The New Kid* (Craft, 2019) is one that we have used in our coursework and fully agree about this recommendation. Craft’s book is a Newberry winner, and it is one we have successfully used in our teaching as a fine example of a graphic novel. The fifth recommendation, *El Deafo* (Bell, 2014), is one that we like, although it seemed on the lower end of the middle-school grade span that we wanted. The other books listed are ones we were unfamiliar at the time of composing the prompt. Figure 2 displays ChatGPT’s output of the five books produced with our prompt.

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In another example, we prompted ChatGPT to generate instructional ideas for teaching the concept of “photosynthesis” in a middle school English language arts (ELA) classroom. The rationale was that photosynthesis was being taught in the school’s science courses, and the ELA teachers were asked to support the learning of science vocabulary into their lessons. The prompt that we composed and the ChatGPT product are displayed in Figure 3. ChatGPT identified and described three teaching strategies consisting of using visual aids, planning collaborative learning activities and accepting children’s home language for learning vocabulary (translanguaging); each of recommendations were following with specific suggestions and rationales supporting their effectiveness.

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We all know that today’s middle school students have grown-up with social media and especially with video that appears in widely used platforms, such as YouTube, TikTok and Instagram. Effective middle school teachers understand that technology integration can improve student engagement and motivation to learn as well as help them become critical consumer of digital media (Bishop & Harrison, 2023). ChatGPT can be used to help teachers generate learning activities with many of the videos found on the Internet; one caveat is that the video must include a “transcript or permit “Closed Captioning;” many online videos include these features, but not all. In the example that follows, we used a video from PBS[[1]](#footnote-1) about former president Jimmy Carter, who had recently died at 100 years of age. By posting the url into ChatGPT, we composed a prompt asking it to generate five questions and three learning activities for an 8th grade social studies class. Our prompt and ChatGPT’s output are seen in Figure 4. The feature of AI to generate questions and learning activities about classroom texts, print or video, make it a rich resource for teacher planning.

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Insert Figure 4 Here

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To summarize, our first principle is that composing prompts for AI is very different than conducting Google searches. Google searches are typically concise, consisting of key terms or short phrases focused on finding a specific product or piece of information. In contrast, AI prompts are often more detailed and descriptive, ranging from a few sentences to a paragraph or even longer. Another second key difference between Google and AI is that AI allows a series of exchanges with users, and these exchanges resemble everyday conversation. The conversational and interactive characteristic of AI is our second guiding principle.

**(2) Interactive exchanges with AI technologies improve its output**.

AI technologies, such as ChatGPT, are designed to simulate human conversation, and they are similar to the structure of classroom discussion (e.g., Cazden 2001). The interactive feature of AI is one of the main advancements and distinctions with Googling. The effects of this advancement is that rather than a one-time precise query that is inserted into a search bar, users include descriptive information into the prompt with the expectation that additional prompts can be added to the chat so that increasingly more precise outcomes are obtained.

Everyday conversation involves back and forth interactions between speakers, and prompt writing can be similar. Namely, interactions between AI and their users can result in extremely precise outcomes. Although it might seem awkward to converse with a technology platform, AI was developed for it. AI technologies are designed to accommodate human conversation with each sequence of prompts and responses offering increasingly more precise and satisfying outcomes. The AI holds the original prompt in its memory, and it uses that information as additional prompts are posted. When users want information on an entirely new topic, a “new chat” must be signaled or otherwise the AI will build on the information previously provided.

To give an example of the conversational nature of AI prompt writing, we share an example about teaching Lesa Ransome’s *Finding Langston* with a 7th grade ELA class. We asked ChatGPT to summarize Chapter 1 of the book in 100 words and generate three pre-reading questions to stimulate classroom discussion about the key concepts presented in it. A Word file of the chapter was included in our prompt. The prompt and ChatGPT’s output is displayed in Figure 5. The 100-word summary served as our refresher of the chapter’s content, and the questions it provided would help us generate discussion about the chapter (i.e., the death of one’s mother and moving to a new geographic region).

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Next, we added to our original prompt by asking ChaptGPT to provide instructional strategies for supporting students with reading difficulties in understanding of Chapter I’s content. Our prompt asked for specific teaching strategies for supporting these students and to include ideas for supporting the comprehension of immigrant students who were emergent language learners. Figure 6 displays our prompt and ChatGPT’s output. What is noticeable about ChatGPT’s output is that it used the information from our initial prompt as a context for answering the second prompt.

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Insert *Figure* 6 Here

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The interactive and conversational quality of AI technologies is one of its key features. AI platforms, such as ChatGPT, can include increasingly specific queries within each chat. A chat can involve multiple prompts, and the chat keeps building on the information that preceded it as new prompts are added, just as a one would do when conversing with another person. This cumulative and interactive feature of AI, in which information from preceding prompts are used to produce subsequent outputs, is an important feature of AI platforms.

**(3) AI outputs require close scrutiny for applicability and accuracy to our classroom needs.**

Teachers must critically evaluate AI outputs for applicability and accuracy for their classroom needs. The literature about teacher effectiveness has long considered teachers to be the ultimate decision-makers about classroom pedagogy. Effective teachers are those who critically evaluate and reflect on the efficacy of their curriculum and their teaching methods (e.g., Cochran-Smith, 2012; Cochran-Smith & Lytle, 2009). Similarly, teachers need to critically analyze AI’s products for accuracy and applicability for their students’ learning needs. Two years ago, for example, when AI first appeared for public use, one of us composed a prompt asking for a summary of a middle-school novel that his students were reading. The book, *Witness* by Hesse, took place in Vermont. However, ChatGPT produced a book summary with an erroneous setting because it indicated that the story had taken place in northern Georgia, where there are also beautiful mountains. More recently, when we prompted ChatGPT to produce research citations about a specific question regarding methods of reading instruction, a false citation was produced; that is, ChatGPT identified for research article that did not exist. Erroneous products, such as these are called “hallucinations,” and this is what occurred with our initial prompt asking for a summary of *Witness* and the search for a research citation regarding reading methods. The take-away from these experiences is that effective use of AI requires teachers to carefully scrutinize its outputs for accuracy and relevance to their teaching needs. Although our experiences with “hallucinations” have been rare, we have experienced them. Consequently, we recommend that middle school teachers carefully scrutinize AI outputs for accuracy and relevance to their teaching needs.

There are no simple ways to assure accuracy of an AI output, but we have found two strategies to offer some degree of assurance of the trustworthiness of an AI product. The first is to use common sense and prior knowledge about a topic when evaluating an AI output. When one senses conflict between prior knowledge and the AI product, there may well be a problem. The old adage, “If it looks like a duck and swims like a duck, then it probably is a duck” works here. One needs to ask whether the AI output make sense according to what one previously knew about the topic being examined. If it does, the AI product is likely to be trustworthy. However, when the output does not seem quite right, there could be an issue, and the teacher should take the next step of “cross-checking.”

Cross-checking can be done in a variety of ways. One can compose a second and related prompt within the chat by asking the AI to generate more information about its previous output. A simple prompt, such as “Tell me more about …” can work. Another way for checking trustworthiness is to compare outputs from other AI platforms, such as contrasting a ChatGPT output with one that is produced by Magicschool.ai. Users can try a Google search on the same topic so that key information can be corroborated. We have found that using common sense and cross-checking AI outputs can help eliminate hallucinations and falsehoods produced by AI technology.

Although we have not discovered bias and equity problems in our own use of AI, such issues can occur. These problems result from the implicit biases that are embedded on the Internet and websites that the technology is trained. Because AIs gather data from existing Internet sites, its output can replicate biases that are embedded on those sites (Hargraves, Fisher & Frey, 2024). As a result, teachers need to scrutinize the AI products for biases. Certain topics, for example, are more susceptible to bias than others, e.g., topics related to gender, race, ethnicity, income, geography are ones that readily come to mind. The preceding concerns pertaining to AI’s hallucinations and bias are cautionary, but they should not serve as reasons to avoid the technology in middle school teaching.

**Conclusion**

The benefits of AI technologies far outweigh their concerns. To help middle school teachers effectively use AI in their practice, we presented three guiding principles: (1) Prompt writing is very different from Googling and other conventional Internet searches. While Googling searches require use of concise terms or phrases, AI prompts involve more detailed descriptions of the tasks to be completed, which often include information about the intended audience, the desired tone or voice, and relevant contextual features underlying task completion. (2) AI prompts can be interactive and conversation-like in which successive prompts and the AI outputs become increasing more precise and detailed. Prompts can build on previous ones, and this enables teachers to refine AI outputs to better align with their objectives, making the process more interactive and responsive than basic Google searches. (3) Our third principle underscores the importance of teacher decision-making because AI use requires critical analysis of its outputs. This third principle aligns with well-established concepts that effective teachers are reflective practitioners who evaluate and adapt their pedagogy to meet the diverse learning needs of their students.

Middle school teachers will discover other benefits when using AI technologies. AI can empower them by serving as personal assistants in helping them save time from routine classroom activities. This might occur when drafting and editing written communication with families or identifying learning resources and instructional strategies for new units of study. AI can be used to generate initial comprehension questions about classroom texts, as we demonstrated here with Ransome’s book, *Finding Langston*, and the video about Jimmy Carter’s life. When used in these ways, some of teachers’ planning time can be reallocated from everyday classroom routines to interacting with students and personalizing their instruction. Importantly, AI cannot replace teachers, but it can serve as a powerful tool for enhancing classroom pedagogy by freeing up time for teachers to personalize their instruction and interactions with students.

Finally, AI technologies should not cause unnecessary fears or anxieties, such as those discussed 50 years ago in Toffler’s *Future Shock*. We believe that after the dust has settled, AI technologies will become a powerful tool for advancing teaching and learning in our middle schools.

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**Figure 1:** *Comparing Outcomes of a Google Search and an AI (ChatGPT) Prompt*A screenshot of a book

Description automatically generated

**Figure 2:** *ChatGPT Output for an Annotated Listing of Five Graphic Novels for a Multiethnic Middle School.*

### **ChatGPT Output: Graphic Novels for Multiethnic Urban Middle School Classrooms**

1. **New Kid by Jerry Craft**  
   A relatable, humorous story of a Black seventh grader navigating a private school, addressing race, class, and identity in an accessible format perfect for struggling and bilingual readers.
2. **American Born Chinese by Gene Luen Yang**  
   This award-winning novel intertwines humor, folklore, and modern struggles with identity, resonating with multiethnic and immigrant students through vibrant illustrations and straightforward text.
3. **When Stars Are Scattered by Victoria Jamieson and Omar Mohamed**  
   A heartfelt account of two brothers in a refugee camp, offering themes of resilience and belonging, with engaging visuals ideal for emerging bilinguals and struggling readers.
4. **They Called Us Enemy by George Takei**  
   A powerful memoir of Japanese American internment, blending history and personal narrative to captivate students while fostering empathy and understanding of injustice.
5. **El Deafo by Cece Bell**  
   A humorous and inspiring memoir about a deaf girl’s challenges, promoting themes of acceptance and resilience, with simple text and expressive artwork for readers at all levels.

**Figure 3:** *Example of a Prompt for Teaching “Photosynthesis” in a Multilingual Classroom*

ChatGPT’s Output

**Initial Prompt:** I need to teach the concept of "photosynthesis" to a seventh grade ELA class. The concept is being taught in their science course, and I am expected to reinforce disciplinary concept in my ELA course. My class is a located in a Brooklyn school with many new immigrants from South America. Many of my students are emergent bilinguals and learning English as a second language. Some of the students are very proficient when reading and writing in Spanish. Please give me three research-based teaching strategies for teaching photosynthesis to my students.

**ChatGPT’s output:**

1. **Use of Visual Aids and Graph Organizers**:
   * ***Strategy****: Incorporate visual aids such as diagrams, charts, and graphic organizers to illustrate the process of photosynthesis. Visuals can bridge language gaps and help students understand complex scientific concepts.*
   * ***Implementation****: Create a flowchart or diagram that outlines the steps of photosynthesis, including the role of sunlight, water, carbon dioxide, and chlorophyll. Use labels in both English and Spanish to support bilingual students.*
   * ***Research Basis****: Visual aids are known to enhance comprehension and retention, especially for students learning in a second language. They provide context and make abstract concepts more concrete.*
2. **Integrate Language and Content through Collaborative Learning**:

**Strategy**: Use collaborative learning techniques such as pair work or small group discussions to encourage language use and content understanding simultaneously.

***Implementation****: Pair students with different language proficiencies and have them discuss the process of photosynthesis. Provide sentence starters and key vocabulary in both English and Spanish to guide their discussions.*

***Research Basis****: Collaborative learning promotes language acquisition and content mastery by allowing students to practice language skills in a meaningful context. It also fosters peer support and builds confidence.*

**3. Leverage Students' First Language**:

* + ***Strategy****: Encourage students to use their first language as a resource for learning new content in English. This can involve translating key terms or concepts and drawing parallels between languages.*
  + ***Implementation****: Allow students to first discuss and write about photosynthesis in Spanish, then gradually transition to English. Provide bilingual glossaries and encourage students to create their own bilingual notes.*

***Research Basis****: Utilizing students' first language can enhance understanding and facilitate the transfer of knowledge to a second language. It validates students' linguistic backgrounds and supports cognitive development.*

**Figure 4:** *Using ChatGPT to Generate Questions and Learning Activities about Video*

*Content*

**Prompt:** Construct five higher level questions and three extended learning activities for a 8th grade social studies students about the life of former President Jimmy Carter as discussed in the PBS video. The class is located in an urban school in the Bronx and consists of high performing students. The url to the video is here: <https://ny.pbslearningmedia.org/resource/remembering-former-president-jimmy-carter-video/pbs-newshour/>

**GPT-4o Output**

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Here are five higher-level questions tailored for high-performing 8th-grade social studies students in an urban Bronx classroom. These questions are designed to connect Jimmy Carter's life and legacy to themes of leadership, social justice, and community impact, while encouraging critical thinking and personal reflection:

1. **Leadership and Legacy**  
   Jimmy Carter is often remembered more for his humanitarian work after his presidency than for his time in office. Why do you think his post-presidency work, such as fighting diseases and promoting human rights, has had such a lasting impact? How does this redefine what it means to be a leader?
2. **Social Justice and Civil Rights**  
   Growing up in the segregated South, Carter witnessed racial inequality firsthand. How did his upbringing influence his views on civil rights and his policies as president? How might his experiences resonate with the fight for racial justice in urban communities like the Bronx today?
3. **Global Citizenship**  
   Carter’s work with the Carter Center focused on global issues like eradicating diseases and monitoring elections. Why is it important for leaders to address global problems, not just issues within their own country? How can young people in urban communities contribute to solving global challenges?
4. **Overcoming Challenges**  
   Carter faced significant challenges during his presidency, such as the Iran hostage crisis and economic struggles. How did these challenges shape his leadership style and his approach to problem-solving after leaving office? What lessons can students learn from how Carter handled adversity?
5. **Community Impact and Service**  
   Carter’s work with Habitat for Humanity showed his commitment to helping underserved communities. How can his example inspire students in the Bronx to make a difference in their own neighborhoods? What are some specific ways young people can take action to address issues like housing, poverty, or inequality?

Learning Activities

1. **Debate: "What Defines a Successful Leader?"**
   * Divide the class into two groups. One group will argue that Jimmy Carter’s presidency was successful based on his policies and leadership during his term. The other group will argue that his post-presidency humanitarian work defines his success.
   * Students will use evidence from the video and additional research to support their arguments.
   * After the debate, hold a class discussion to reflect on how leadership can be measured in different ways.
2. **Community Housing Project Proposal**
   * Students will research housing challenges in the Bronx and compare them to the goals of Habitat for Humanity, as discussed in the video.
   * In small groups, students will create a proposal for a community housing project that addresses local needs, inspired by Carter’s work.
   * Each group will present their proposal to the class, explaining how it reflects Carter’s values of service and equality.
3. **Timeline and Legacy Analysis**
   * Students will create a timeline of key events in Jimmy Carter’s life, including his presidency and post-presidency humanitarian work.
   * For each event, students will write a short reflection on how it contributed to his legacy as a leader and humanitarian.
   * As a class, discuss which events had the greatest impact on his legacy and why.

These questions and activities are designed to encourage critical thinking, connect historical content to students’ lived experiences, and foster discussions about leadership, social justice, and community impact. Let me know if you'd like further details or additional resources!

**Figure 5:** *Compose a 100-word summary of Chapter 1 and produce three higher level pre-reading questions for classroom discussion.*

ChatGPT’s Output: In Chapter 1 of Finding Langston, 11-year-old Langston relocates with his father from rural Alabama to Chicago's Bronzeville neighborhood during the Great Migration. Grieving the loss of his mother, Langston struggles to adjust to the bustling urban environment, feeling out of place in the unfamiliar city. At school, he faces teasing and bullying from classmates. Langston's longing for his old life and the challenges of his new reality highlight his sense of isolation. This chapter sets the stage for his emotional journey as he seeks to find solace and a sense of belonging in this new chapter of his life.

Here are three higher-level, pre-reading questions to engage your 7th-grade students and activate their critical thinking before reading Chapter 1 of *Finding Langston*:

1. **How do you think moving to a new place can affect someone emotionally and socially, especially if it’s very different from where they grew up?**
   * This question invites students to consider themes of change, identity, and adaptation.
2. **What challenges might families face when moving to a big city during a time of significant historical change, like the Great Migration?**
   * Encourages students to connect historical context to personal experiences and empathy.
3. **How might grief or loss impact someone’s ability to adapt to new surroundings or build new relationships?**
   * Prompts reflection on how emotional struggles influence personal growth and decisions.

**Figure 6:** *Instructional Strategies to Support Students’ Understanding of Chapter 1*

**Prompt:** Generate 5 instructional strategies to support the reading comprehension of students with reading difficulties when reading the chapter. In addition, there are several immigrant students who are emergent language learners and will need additional supports when silently reading.

**ChatGPT Output:** Here are **5 instructional strategies** to support students with reading difficulties and emergent language learners in comprehending *Finding Langston*:

1. **Use Multimodal Instruction**

**Why**: Reinforces comprehension through multiple senses.

**How**: Combine text with visuals (pictures of the Great Migration), audio (audiobook or teacher read-aloud), and videos (like the one provided in the YouTube link). Use gestures and dramatizations to convey meaning.

**2. Scaffold Vocabulary and Background Knowledge**

**Why**: Helps students connect new concepts to prior knowledge.

**How**:

* + Pre-teach key terms (e.g., *segregation, migration, grief*).
  + Use picture dictionaries or translation apps for emergent language learners.
  + Provide historical context for the Great Migration using maps and timelines.

**3. Pair Reading with Partner Support**

**Why**: Peer collaboration improves confidence and fluency.

**How**:

* + Pair students with reading difficulties or emergent language learners with stronger readers.
  + Encourage them to alternate reading sentences or paragraphs.
  + Provide guiding questions for the pair to answer together.

**4. Chunk Text and Use Graphic Organizers**

**Why**: Breaking the text into smaller sections reduces cognitive load.

**How**:

* + Divide Chapter 1 into short, manageable sections.
  + After each section, use graphic organizers like story maps (e.g., *Who is Langston? Where is he? What is he feeling?*).
  + Encourage students to jot down their thoughts or sketch illustrations.

**5. Incorporate Cooperative Learning Strategies**

**Why**: Builds comprehension through interaction and peer teaching.

**How**:

* + Use *Think-Pair-Share*: Pose questions about Langston’s emotions or experiences, and have students discuss with a partner.
  + Assign small group tasks like summarizing a section or creating a visual timeline of Langston’s journey.
  + Include sentence frames for emergent language learners to scaffold their participation (e.g., “I think Langston feels \_\_\_ because \_\_\_.”).

These strategies create a supportive and inclusive classroom environment, promoting engagement and comprehension for all learners. Let me know if you'd like specific resources for any of these approaches!

1. <https://ny.pbslearningmedia.org/resource/remembering-former-president-jimmy-carter-video/pbs-newshour/> [↑](#footnote-ref-1)