Journal of Education and Practice
ISSN 2222-1735 (Paper) ISSN 2222-288X (Online)
Vol.14, No.10, 2023

The Critical Journey to Develop Ideological Clarity and Redress the Hidden Curriculum

Madeleine Mejia, EdD
College of Education, California State University Fullerton
CP 570-28 Fullerton, CA 92831, USA
Tel: 1-657-278-3497 E-mail: madeleine.mejia@fullerton.edu

Abstract
In this article, I examine the role that educators have in preparing students for the 21st-century knowledge economy. I argue that teachers and their curriculum are crucial for enacting equitable teaching practices that promote inquiry, problem-solving, and innovative thinking --skills essential for everyone to gain access to high-skill/high-pay jobs and participate meaningfully in this era. I begin by drawing attention to the work teachers must do to develop ideological clarity and gain the knowledge and skills to redress the negative impact of the hidden curriculum, particularly for minoritized students. This is necessary work because teachers need to know how to challenge hegemonic curricula and create and maintain just and equitable learning environments in an effort to disrupt the status quo. Using the context of disciplinary literacy, I explain pedagogical practices that apprentice students to the language and thinking processes of various disciplines and prepare them with the skill set to inquire, problem-solve, and engage in innovative thinking. Finally, I emphasize the importance of students' voices in maintaining a classroom learning culture. Throughout the article, I provide tools and resources for educators to use as they embark on this work.
Keywords:ideological clarity, hidden curriculum, disciplinary literacy instruction, culturally relevant curriculum
DOI: 10.7176/JEP/14-10-05
Publication date: April 30th 2023

1. Introduction

In 2004, Powell and Snellman argued that intellectual capital and the utilization of knowledge are fundamental to growth, wealth creation, and employment. They described how the knowledge economy of the future would entail "production and services based on knowledge-intensive activities [that greatly] rely on intellectual capabilities [rather] than on physical inputs or natural resources" (p. 201). In 2017, Klaus Schwab, founder, and executive chairman of the World Economic Forum wrote about the Fourth Industrial Revolution (4IR). He believed new innovations in technology—artificial intelligence (AI); blockchain or the transparent way of sharing and recording data (e.g., digital currency); the advent of the cloud; virtual reality; biotechnology; robotics, etc.—would provide long-term gains in efficiency and productivity and open new markets to drive economic growth. Schwab argued these technologies would raise global income levels and improve the quality of life for populations around the world. We have already seen and experienced the benefits of robotics (e.g., Alexa and Siri), electric cars, the computerization of almost every common household device and appliance, and most recently the new advent of AI tools like ChatGPT and DALL-E. While these innovations are enabling faster change and progress, Schwab forewarned that, due to these innovative technologies, the job market may become more segregated into low-skill/low-pay and high-skill/high-pay roles, which would further intensify social tensions.

As educators, what should we do to prepare our students for success in the knowledge economy of the 21st century? In this article, I suggest that we need to create a culture of learning that promotes the inquiry, problem-solving, and innovative thinking that the 4IR requires. I argue that teachers and their curriculum are the driving forces to enact equitable teaching practices that prepare students for success in a knowledge economy. Next, I describe the work teachers need to do to develop ideological clarity by "comparing and contrasting their explanations of the existing social order with those propagated by the dominant society that supports unfair and inequitable conditions" (Bartolomé, 2002, pg. 168). I also highlight the hidden curriculum of schools and curricular programs and explain the negative impact these practices have on students, teachers, and society. Using the context of disciplinary literacy instruction, I provide examples of ways to deconstruct, construct, and reconstruct schools' curricula (Ladson-Billings, 2006), and to redress the hidden curriculum. I describe the pedagogical practices teachers can use to apprentice students to the language and thinking processes of historians, literary critics, scientists, and mathematicians to prepare them for 21st-century high-skill jobs. Finally, I explain how the role of process feedback and students' voices in the learning and teaching process is crucial to maintain a culture of learning in the classroom. Throughout the article, I provide tools and resources for teachers to use as they embark on this work.

2. The Learning Process

Learning is an ongoing process that influences change in an individual's thinking and doing (Shuel, 1986). It requires the application and analysis of information and interactions with others to acquire and construct new knowledge (De Felice et al., 2023). For learning to be meaningful and engaging, it must make use of the learner's culture, language, and funds of knowledge (Moll, et al., 1992). Since this is an active and ongoing process, learning is something that happens *by* the learner and not something that happens *to* the learner. The practice of learning lies in inquiry. Inquiry refers to investigating, researching, and examining topics or ideas with the goal of analyzing findings and developing an in-depth understanding of the world (Freire, 1978). As such, inquiry requires a reciprocal relationship between the teacher and the students where an active exchange of information and flow of ideas can be explored. In these exchanges, learners ask questions, analyze a variety of primary and secondary sources, and discuss ideas with others to further their understanding and arrive at new explanations (Öztürk et al., 2022).

Central to the practice of learning is critical thinking. Critical thinking is a set of processes that entail a) examining information to avoid oversimplified understandings; b) asking questions to consider other interpretations by identifying whose perspective is represented and whose is missing; c) making inferences to draw conclusions that help justify one's reasoning through explanation and analyzing assumptions and biases to evaluate their impact on the construction of knowledge; d) analyzing assumptions and biases to evaluate their impact on the construction of knowledge; and e) monitoring one's cognitive abilities self-consciously (Facione, 2020). Critical thinking goes beyond rote memorization or recanting of information provided (Dinsmore & Hattan, 2020). Instead, critical thinking prompts learners to interact with and dialogue about ideas, reflect upon and identify the relationship between concepts, and apply knowledge in new and creative ways to arrive at well-reasoned decisions (Kuhn, 2018; Iordanou, 2022). Critical thinking also manifests tolerance, flexibility, and an openness to critique (Florea & Hurjui, 2015).

Problem-solving and innovative thinking help maintain a culture of learning. These behaviors are influenced and sustained by critical thinking. I refer to problem-solving and innovative thinking as a culture because these skills reflect the outcome of learning. Problematizing fosters dialogue and critical analysis promotes searching for unreadily available answers and extends learning beyond the classroom walls. When issues are problematized, learners visualize information previously examined to associate said information with past experiences; they learn to consider the current context of the situation, critically raise questions of their own, and collect new ideas that contribute to possible solutions (Foshay & Kirkley, 2003; Plummer et al., 2022). This type of learning culture fosters the inquiry, problem-solving, and innovative thinking the 4IR requires, making teachers and the curriculum key contributors to students' preparation for and success in this new environment (Xu et al, 2023).

3. The Work to Develop Ideological Clarity

Classroom culture is shaped by teachers' fundamental beliefs and values enacted through everyday classroom practices (Alfaro & Bartolomé, 2017; Rubie-Davies, 2015). Creating a culture of learning, as described previously, requires teachers to objectively assess how their beliefs and values are enacted in their daily teaching practices and to evaluate the dynamics of their classroom culture as they examine how their students experience schooling in their classrooms.

Alfaro & Bartolomé (2017) explain that the development of teachers' ideological clarity is an important aspect of the teaching and learning process. Developing ideological clarity requires teachers to objectively "compare and contrast their explanations of the existing social order with those propagated by the dominant society that supports unfair and inequitable conditions" (Bartolomé, 2002, pg. 168). In other words, when teachers name and juxtapose dominant ideologies with their own set of beliefs and values, they can better understand if, when, and how their belief systems uncritically reflect those of the dominant society. This is important because dominant ideologies such as deficit perspectives, meritocracy, assimilation, and colorblindness are reflected in the symbols and practices of the dominant culture and uphold ideas that shape people's thinking and are inscribed in every dimension of schooling. Therefore, doing the work to develop ideological clarity supports the creation and maintenance of a culture of learning.

Deficit perspectives are "a symptom of larger socio-political conditions and ideologies born out of complex socialization processes" (Gorski, 2011, pg. 153; Gorski, 2018) and are difficult to identify because they are deeply rooted in the world around us. Meritocracy refers to the idea that hard work, perseverance, and one's own abilities can help them achieve success, power, and influence. Many scholars have stated that meritocracy is a myth (Love, 2004) because it does not consider the structural inequalities that limit opportunities based on class, gender, race, ethnicity, ability, etc. The assimilationist ideology demands that those not in the majority conform, adapt, and assimilate to the mainstream culture to maintain the dominant status of the majority group (Verkuyten, 2011). The colorblind ideology insists that everyone is the same. This stance supports the idea that we live in a post-racial society where race does not impact social relations (Atwater, 2007; Gordon, 2005) and rejects the

realities and unjust systems that impact the schooling experiences of students of color as opposed to White students.

Solórzano and Yosso (2002) explain that these dominant ideologies are not often questioned because they are generally invisible and considered "natural" parts of everyday life. Unexamined dominant ideologies maintain the status quo (Giroux, 1984). Yet, teachers who are ideologically clear have a firm understanding of the impact of these ideologies on students' schooling experiences and engage in the ongoing work to challenge these ideologies in their teaching practice (Bartolomé, 2002). Table 1 provides classroom examples that make these dominant ideologies visible.

Table 1. Definitions and examples of dominant ideologies

Dominant Ideology	How dominant ideologies become "natural" parts of everyday life
Deficit Perspectives	The focus is on students' weaknesses rather than their strengths. Deficit ideology is visible when students are deprived of rigorous curriculum due to their perceived ability levels. Can be seen in comments such as: "These students can't," or "my students will never be able to do that," or "I don't want to stress students with this…it's too difficult for them."
Meritocracy	The focus is on equating success with effort and on blaming struggling students for "not working hard" or "not caring about schooling." Lack of student effort is the stated reason for not getting ahead. Meritocracy is visible when the policies, practices, and processes in place prevent access to high-quality education and yet are not perceived as doing so.
Assimilationist	The focus is on whiteness as the standard. Assimilationist ideology is visible when students are told to "speak English" and are not allowed to use their home language and language variants in school. This ideology is also visible when cultural representations of people of color are lacking or perpetuate negative stereotypes. These representations can be explicit or implicit.
Colorblind Ideology	The focus is on the idea that race does not exist so long as one ignores it, and that to acknowledge race is itself racist. The focus is also on "not seeing color" and treating everyone the same. Colorblind ideology is visible in comments such as: "I don't see color" or "I treat everyone the same" and the realities of inequitable systems which affect the opportunities of students of color are not acknowledged or recognized.

Developing ideological clarity heightens teachers' awareness of social and historical exclusionary practices that have long-term effects on racially minoritized students. For example, Mun and colleagues (2020) found that teachers' deficit ideology, which is deeply ingrained in the general education system, results in inequitable access to resources and services for culturally, linguistically, and economically diverse student populations. This leads to the underrepresentation of students from culturally and linguistically diverse and low-income backgrounds in gifted and talented programs, despite evidence of their giftedness (Castellano & Francis, 2022; Gray, 2022; Gray & Gentry, 2023; Ford et al., 2021; Flynn, 2023).

Unequal poverty rates have also been found to account for long-term differences in academic outcomes for students who live in poverty due to the structure of how schools are funded (Gorski, 2018; Shores et al, 2020) and the availability of, as well as referral to, gifted and talented programs. This belief further reifies the myth of meritocracy (Peters, 2022). Recent data from the National Center for Education Statistics (2019) reports that one out of every three Black or Native American children lives in poverty, compared to 28% of Latinx children and 11% of Asian and White children. The Civil Rights Data Collection (https://ocrdata.ed.gov) reports that Black and Latinx students are underrepresented in gifted and talented education programs by almost 50% and 40%, respectively.

Additionally, teacher bias when working with culturally and/or linguistically diverse students and insufficient preparation in giftedness education contribute to the lack of representation of Latinx, Black, American Indian, Alaska Native, low-income, and emerging bilingual students in gifted programs (Castellano & Francis, 2022; Gray, 2022; Ramos, 2010). White middle-class female teachers, who comprise the majority of public school teachers in the United States, evaluate giftedness through their own cultural lens, even while their students are often neither White nor middle-class (Szymanski & Shaff, 2013). This reinforces an assimilationist belief among teachers, where whiteness is the standard.

Castellano and Francis (2022) explain that the first step in identifying culturally and linguistically diverse

gifted students requires valuing their linguistic and cultural backgrounds as an asset in everyday classroom instruction. Culturally relevant instruction, which promotes diverse students' cultural, ethnic, and linguistic diversity, supports the identification of students' gifted thinking, traits, and skills that may be otherwise overlooked. Ford and colleagues (2021; 2018) and Grissom and Redding (2016) found that Black students who were in classrooms with same-race teachers were more likely to be identified as gifted. Carman and colleagues (2018) also found that using building norms (e.g., students are identified as gifted based on how they compare with all other students in the same grade level at their school rather than to a national norm) narrows down the underrepresentation of Latinx students, English language learners, Black students and those eligible for free or reduced-price lunch (FRPL) in gifted programs. Wells (2020) argues that if schools and districts have a large English language learner population, then dual-language gifted services can be made available to serve their student population. The work of these scholars makes visible the colorblind ideological practices that maintain the status quo.

I use the dominant ideologies of deficit thinking, meritocracy, assimilation, and colorblindness to highlight their enduring presence in the classroom and to emphasize the impact they make in the educational experiences and services available to linguistically and culturally diverse students. In doing so, I call on teachers to recognize and name the structures that these ideologies uphold and to acknowledge their impact on students' lives as the first step to developing ideological clarity and doing the critical reflective work to challenge the status quo. I provide guiding questions for this introspective analysis, which also includes seeking and listening to students' classroom/learning experiences. Table 2 organizes these critical reflective questions into three dimensions: self, everyday classroom practices, and relationships with students.

Table 2. The journey to critically examine teaching ideology

Area of Focus	Critical reflective questions for teachers	Critical reflective questions for students
Critical Examination of the Self	1. What are my beliefs about just, equitable, and inclusive instruction? What experiences have shaped these beliefs? 2. How are my beliefs and values made visible in my teaching and in my interactions with students? 3. How familiar am I with dominant ideologies and their impact on students' schooling experiences? How do I continue to educate myself about dominant ideologies in order to interrupt them? 4. How do my values and beliefs compare and contrast to dominant ideologies? 5. What do I do to become aware of my biases (unconscious and conscious)? How do I interrupt and address these biases?	
Critical Examination of Everyday Classroom Practices	1. How would I describe the culture of my classroom? How do I promote a culture of learning in my classroom? 2. How does my classroom feel for my students? 3. How do my students experience schooling in my classroom? 4. Does my description of my classroom culture align with my students' experiences?	1. How would I describe the culture of my classroom? 2. How would I describe how learning happens in my classroom? 3. How does my classroom feel for me? 4. What is school like for me?
Critical Examination of Relationships with Students	1. What do I know about my students? How well do I know my students and their families? 2. What kind of relationship do I create and maintain with my students? 3. How would my students define my relationship with them? 4. How often do I request students' input and feedback on my teaching practice? How do I do this? 5. How do my responses to these questions compare to my students' responses?	1. How well does my teacher know me? 2. What kind of relationship does my teacher create with me as his/her student? 3. How often does my teacher request my input and feedback on their teaching practice? How does she/he do this?

I provide these questions as a tool that guides teachers to engage in an intentional reflection to name and reflect upon their beliefs, views, and values and to compare them to their everyday classroom practices, thus

beginning their journey toward ideological clarity. Doing this work can develop an awareness of the systems in place that prevent the development of diverse students' gifts and talents and that act as a roadblock to their development of the critical thinking skills needed to compete in a 21st-century society.

In addition, I bring attention to the curriculum teachers use in their classroom and ask that teachers critique and examine curricular materials using the dominant ideologies as a framework to uncover the hidden curriculum.

4. The Hidden Curriculum

Knowing how to identify and vet the hidden curriculum is also the work of ideologically clear teachers. The hidden curriculum represents the conscious and unconscious socialization of students through the "norms, values, and belief systems embedded in the curriculum, the school, and classroom life, [that are] imparted to students through daily routines, curricular content, and social relationships" (Margolis, 2001). As such, the hidden curriculum helps maintain the dominance of popular mainstream academic knowledge (McGee Banks & Banks, 1995) and reproduces existing socioeconomic structures (Bernhardt, 2022; Giroux & Penna, 1979). Like dominant ideologies, the hidden curriculum maintains structures of power and privilege because it typically goes unrecognized and unchallenged (Yeh & Otis, 2019).

Yosso (2002) explains that the school curriculum is made up of the visible materials, such as curricular programs and textbooks, and the less visible structures, processes, and discourses that determine what information is included or excluded from instruction, how knowledge is disseminated, and who will have access to that information. Ladson-Billings (2008) also contends that curriculum is a "cultural artifact and as such is not an ideologically neutral document" (p.32) as it transfers content and visual messages of nationalism, racism, sexism, and social bias.

The history curriculum, for example, reflects ethnocentric and xenophobic attitudes (Ladson-Billings, 2008) and excludes or distorts the stories of cultural minority groups. Thomas and Dyches (2019) found that racial groups represented in fiction and nonfiction texts of the Fountas and Pinnell Leveled Literacy Intervention (F&P LLI) curriculum portrayed a single story of people of color as poor or less educated, inferior, engaged in criminal behavior and helpless and in need of saving (e.g., abandoned by a parent), whereas Whites were represented as heroic, determined, innovative, and successful.

The mathematics curriculum is also susceptible to ideology. For example, poor children of color "receive [math] curriculum that focuses on rote memorization and algorithms whereas middle-class students have early access to algebraic thinking and more conceptually grounded approaches" (Ladson-Billings, 2008 pg. 32-33). Yeh and Otis's (2019) analysis of elementary mathematics textbooks found word problems had a consistent message about gender normativity—word problems with boys' names focused on sports and competition whereas word problems with girls' names provided context related to looking pretty, being helpful, and being a homemaker. Playing sports was represented as what boys do whereas playing house was represented as what girls do. Additionally, these scholars found that word problems seldom contain problems involving non-nuclear families (e.g., single parents).

Ragusa (2013) used a rubric to analyze four dimensions of anti-bias theory in K-12 science textbooks: visual, written content, author's perspective, and omission. An analysis of forty-three K-12 science textbooks revealed that lower elementary science texts had the greatest bias of omission of people of color and/or women as scientists or engineers, followed by high school texts. Most pictures in texts were of White men and the language used to describe scientists was mostly gendered male. Chacón-Díaz (2022) conducted a similar study and found that science textbooks only included contributions of American scientists and represented them as the "first" to uncover new knowledge in the field, thereby excluding any contributions from scientists from non-U.S. backgrounds.

Uncovering how the hidden curriculum functions in classrooms and impacts student learning is the work of ideologically clear teachers. They question how knowledge is mediated through curricular programs, instructional practices, and the culture of the classroom to determine which knowledge is valued, presented, and made accessible to students. Ideologically clear teachers are aware of the messages presented in curricular materials, textbooks, picture books, leveled readers, etc., that uphold a hegemonic curriculum that reinforces existing dominant ideologies of power, identity, gender, and class. They are deeply committed to creating equitable learning experiences for their students and work diligently to help their students develop a positive self-identity. Before they begin to plan teaching lessons, ideologically clear teachers conduct a critical analysis of their curricular programs to deconstruct, construct, and reconstruct the curriculum (Ladson-Billings, 2008) in order to redress the negative impact of the hidden curriculum.

Deconstructing the curriculum requires teachers to use their knowledge of dominant ideologies and the hidden curriculum to determine what knowledge is presented, how it is presented, what is included, and what is omitted. This analysis requires a careful review of the content, images, and language used, who is present and speaking, and who is left out or silent. Exposing a curriculum's weaknesses, myths, distortions, and omissions

helps teachers determine how to supplement the curriculum to make it whole and relevant to their students. Additional areas to explore when analyzing the curriculum include the alignment between the level of thinking that the lessons purport to teach (e.g., analysis, evaluation, synthesis, creation, etc.) and the amount of time provided for students to practice that thinking level. This is important because 21st-century skills require individuals to know how to think critically, solve problems and engage in innovative thinking.

Constructing the curriculum requires a collaboration between teachers and students to assemble their knowledge and experiences. As part of their instruction, ideologically clear teachers use the curricular materials they have found to be incomplete to develop their students' critical thinking skills and agency. Asking students questions—*Is this story complete? Whose perspective is this? Whose perspective is missing?* — encourages students to uncover, interpret, and infer explicit and implicit information in texts. This type of instruction also creates the space for students to learn how to counter a hegemonic curriculum.

Reconstructing the curriculum elevates learning experiences for students. This is where teachers and students interact with the curriculum to rebuild what was taken apart and reconstruct new knowledge through critical analysis and questioning of the information presented. Here teachers can incorporate students' cultures, heritages, and experiences into their curriculum. Instruction and learning can be co-created with students to welcome all voices, learn how to listen deeply and openly, explore ideas, and take risks. Reconstructing the curriculum with students develops cross-cultural competence and fosters an appreciation for diversity, which helps students think critically about different cultures, beliefs, and ways of life. Engaging students in building a culturally relevant curriculum also promotes intercultural communication and creates the pathway for instructional dialogue that invites thinking and prepares students with the dispositions to effectively navigate and contribute to the increasingly interconnected and diverse world.

Table 3 defines the action required by each element of curricular analysis and provides guiding questions as a starting point for teachers to critically analyze and examine their curriculum.

Table 3. Deconstructing, constructing. and reconstructing the curriculum: elements of curriculum analysis

Elements of Curriculum Analysis	Action required to complete a critical analysis of curriculum	Guiding questions to complete a critical analysis of curriculum
Deconstruction of the Curriculum	To deconstruct the curriculum means to review, analyze, and critique the knowledge and information presented in curricular materials and everyday classroom practices. The deconstruction of the curriculum "exposes its weaknesses, myths, distortions and omissions" (Ladson-Billings, 2008 pg. 32).	Deconstructing the curriculum asks: ● What knowledge, reasoning, and skills does the curriculum purport to impart? ● What thinking skill(s) are the lessons teaching? Are these higher-order thinking skills? ● How much time is provided for students to practice using the thinking skill taught? ● How is the hidden curriculum present in this curriculum? ● How does the curriculum teach students to think critically? To use the language of the discipline? To make meaning from reading texts? To produce texts to demonstrate their new knowledge?
Construction of the Curriculum	To effectively construct the curriculum requires using the experiences and knowledge teachers and their students bring to the classroom to build the curriculum.	Constructing the curriculum asks: ● How does the curriculum include and value students' cultural and linguistic backgrounds as assets? ● What does the curriculum I co-create with my students accomplish? ● How is the hidden curriculum identified, challenged, and interrupted?
Reconstruction of the Curriculum	A reconstruction of the curriculum calls for "rebuilding the curriculum that was previously taken apart and examined" to fill in the holes that emerge when "students begin to use critical analysis as they attempt to make sense of the curriculum" (Ladson-Billings, 2008 pg. 32).	Reconstructing the curriculum asks: ● How often are students thinking critically? ● When are students using the language of the discipline to explain their reasoning? ● How are students making meaning from reading texts and anchoring that knowledge? ● What kinds of written materials are students creating to demonstrate their new knowledge? ● What type of culture of learning is this curriculum nurturing?

Ideologically clear teachers acknowledge that their primary role is to teach students, not to teach programs. While there is much emphasis on the faithful implementation of school-adopted programs, teachers are prepared professionals who need to take back their craft and construct and reconstruct the curriculum alongside their students. Ideologically clear teachers understand that curricular programs provide resources that serve as starting points to plan effective instruction. In their planning of lessons, ideologically clear teachers create long-term goals that go well beyond the time students spend in their classroom and deliver instruction without compromising rigorous learning experiences that prepare students for high-skill jobs.

Thus far, I have described the personal work teachers need to do to develop ideological clarity and to critically examine their curricular programs and materials. In the following section, I contextualize how teachers can supplement and enact a curriculum that nurtures the culture of learning I described at the beginning of this article. First, I provide a list of recommended multicultural books for teachers to incorporate into their curriculum, lessons, and classroom libraries to use as counterstories to interrupt the hidden curriculum. Second, I explain the thinking processes and language of disciplinary literacy, across content areas, to provide examples that redress the hidden curriculum. This includes the explicit and implicit messages in curricular programs that omit, negate, and "other" the experiences of students from diverse backgrounds, which in turn fuels the exclusionary practices that prevent access to gifted and talented programs. I organize this information using the apprenticeship model of disciplinary literacy instruction wherein students learn the practical experiences of experts within a discipline, in this case, the ways historians, mathematicians, literary critics and scientists think, speak, read, and write. I argue that this type of instruction helps educators create a learning culture that cultivates the talent development process as students learn how to show their diverse gifts and identify their interests, needs, and areas of strength.

5. Redressing the Hidden Curriculum

Counterstories regard the "experiential knowledge of people of color" as valid and valuable (Solórzano & Yosso, 2002, p. 26). Using counterstories is a powerful tool to address the negative impact of the hidden curriculum because they provide diverse students with models and examples of characters in picture books, novels, and other texts who look like them and share their background, thus legitimizing their inclusion and belonging. The books listed below chronicle the contributions of people of color and tell stories of their everyday lives, which are filled with happiness, joy, and accomplishments. As such, they serve as counterstories to the implicit and explicit messages found in curricular materials. These books are suitable for K-12 classroom libraries.

5.1 Contributions of Latinx and African American historians:

- *Nuestra America: 30 Inspiring Latinas/Latinos Who Have Shaped the United States* by Sabrina Vourvoulias
- *Carter Reads the Newspaper* by Deborah Hopkinson
- The History Makers is a website that provides untold stories of well-known and unsung African Americans' contributions and history https://www.thehistorymakers.org

5.2 Contributions of Latinx and African American authors and writers:

- *Planting Stories: The Life of Librarian and Storyteller Pura Belpre* by Anika Aldamuy Denise
- *My Name is Gabito: The Life of Gabriel Garcia Marquez* by Monica Brown
- *My Name is Gabriela: The Life of Gabriela Mistral* by Monica Brown
- *Pablo Neruda: Poet of the People* by Monica Brown
- *The Power of Her Pen: The Story of Groundbreaking Journalist Ethel L. Payne* by Lesa Cline-Ransome
- *Schomburg: The Man Who Built a Library* by Carole Boston Weatherford

5.3 Contributions of Latinx and African American scientists:

- *Mario and the Hole in the Sky: How a Chemist Saved Our Planet* by Elizabeth Rusch
- *The Astronaut with a Song for the Stars: The Story of Dr. Ellen Ochoa* by Julia Finley Mosca
- *Galapagos Girl/Galapagueña* by Marsha Diane Arnold
- *Whoosh!: Lonnie Johnson's Super-Soaking Stream of Inventions* by Chris Barton
- *Five Brilliant Scientists by Linda Jones; Computer Decoder: Dorothy Vaughan, Computer Scientists* by Andi Dieh
- *Black Men in Science: A Black History Book for Kids* by Bryan Patrick Avery

5.4 Contributions of Latinx and African American mathematicians:

- *The girl with a Mind for Math: The Story of Raye Montague* by Julia Finley Mosca
- *Counting on Katherine: How Katherine Johnson Saved Apollo 13* by Helaine Becker

- *Ay, Mija! Why Do You Want to Be an Engineer?* by Edna Campos Gravenhorst
- *Paths to Discovery: Autobiographies from Chicanas with Careers in Science, Mathematics, and Engineering* by Norma E. Cantu

Using these picture books teaches students about the contributions of diverse historians, writers, scientists, and mathematicians and helps to reconcile the injustices and harm of the hidden curriculum. These books support the enactment of culturally relevant and sustaining instruction because they serve as the context to examine and discuss the contributions of people of color to the world and they support critical analysis and thinking. When counterstories are used to represent diverse cultures in the curriculum, it supports the cultural competence of the whole classroom. This allows students to become "secure in their knowledge and understanding of their own culture, language, traditions, histories, culture AND develop fluency and facility in other cultures" (Ladson-Billings, 2021 p. 71). This also includes White students, as understanding the culture of those who are different from themselves is important for all students. Developing cultural competence instills positive attitudes and self-concepts and produces sensitivity and acceptance toward diversity. Furthermore, addressing bias in the classroom and the curriculum requires dialogue about the problems of stereotyping, invisibility, distortion, and non-reality that exist in textbooks and picture books (Ndura, 2004). This dialogue deepens self-awareness for both teachers and students and provides the context to diffuse and minimize the impact of bias, which is a disposition that supports critical thinking.

Another way to redress the hidden curriculum is by developing students' disciplinary literacy and providing students with new ways to experience learning. Disciplinary literacy refers to providing students with the tools of knowledge to read and write in specialized ways for specialized purposes determined by the discipline (Moje, 2008; Shanahan, 2019). Moving away from rote memorization of facts to apprenticing students to think, speak, read, and write like experts across the disciplines serves as the conduit to teach students how to: think critically; learn to express their reasoning using the language of the discipline studied; make meaning of texts as they challenge the hidden curriculum; and produce multimodal texts to demonstrate the new skills they have developed and practiced. These skills ensure they are prepared for high-level jobs (González-Pérez, & Ramírez-Montoya, 2022).

For instance, Historians research and analyze information to study the past and understand its influence on the present and future. Historians source information and attempt to understand how the text was created and influenced by its historical moment by contextualizing what was happening in society when the document was created and/or consumed. They corroborate information with additional writings, oral accounts, and other information (pictures, maps, illustrations, art, literature, music, etc.) to develop a thorough interpretation of the past and compare that with current events.

Literary critics tend to create and analyze written text to gain insight into the human condition. They attend to the structural elements, language, plot, character, setting, conflict, resolution, and images to explore the significance of the author's intended message. Literary critics also use different lenses to understand the meaning of texts (e.g., critical, feminist, Christian, Freudian, and Marxist). A reader-response view, for example, helps literary critics identify the readers' personal connections and reactions to the content of the text.

Scientists study and write about phenomena in the natural world. They ask questions, define problems, and create and use models to carry out investigations. They focus on the accuracy of their measurements, instruments, and theories as they make observations to analyze, interpret, and evaluate data. They create organizing principles to present their explanations of the phenomena studied and they design solutions to problems.

Mathematicians focus on developing a deep conceptual understanding of mathematical language, content, strategies, and reasoning. They construct arguments through proofs and explain their reasoning as they solve mathematical problems. They know how to select appropriate strategies to solve problems and can do so with precision. Mathematicians also appreciate and critique the reasoning of other mathematicians.

Disciplinary literacy expects students to move beyond reading a text solely for information and requires students to begin to emulate the thinking, speaking, and work behavior of experts of the discipline studied. As such, disciplinary literacy also promotes critical thinking, creativity, and problem-solving skills. By learning how to think, speak, read, and write within the context of a discipline, students develop a deeper understanding of the subject matter and are better equipped to analyze and interpret complex forms of information. Scholars of literacy contend that disciplinary literacy instruction should begin in the primary school grades to prepare students for future success in the disciplines (Colwell et al., 2022; Martin et al., 2021; Shanahan, 2019). The apprenticeship model of disciplinary literacy instruction helps redress the hidden curriculum because it onboards students to critical thinking practices that problematize the information presented in texts. These critical thinking skills help students inquire into their learning, collaborate with others to seek answers to their questions, and arrive at new understandings that help them develop their gifts and talents. Apprenticing students to the disciplines also support metacognition; students learn to think about *how* they are creating new knowledge resulting in students becoming better prepared to actively participate in the culture and ways of being in and doing a specific discipline (Moje, 2008).

6. Apprenticing Students to the Thinking Processes and Language of the Disciplines

Teaching disciplinary literacy begins with naming and modeling the thinking processes and language specific to each discipline. Explicit instruction (Archer & Hughes, 2011) helps teachers effectively convey how each discipline has unique ways of understanding and interpreting the world and how these factors shape the creation of knowledge. Below, I include resources teachers can use in their planning of content lessons such as curated websites, sentence frames, and graphic organizers specific to each discipline.

6.1 The Thinking Process of Historians

When teaching students the thinking process of historians, teachers must critically analyze and evaluate their history textbooks and curricular programs to determine whether the content includes elements of the hidden curriculum. Teachers also need to assess whether their instruction provides opportunities for students to engage with historical concepts at high levels of thinking. Asking questions such as: *Are students being asked to memorize and regurgitate information, or are students learning how to question the text, conduct research, evaluate information, etc.? Does this content teach students to think and speak like historians? What specific vocabulary or language of historians are students learning and practicing?* during the planning process, supports how teachers make decisions about their instruction.

Teachers looking to supplement their history curriculum can use the following curated online resources:

- Stanford History Education Group (SHEG) lesson plans have been designed to teach historical thinking skills and how to investigate historical questions by employing reading strategies such as sourcing, contextualizing, corroborating, and close reading. https://sheg.stanford.edu
- Stanford's Civic Online Reasoning lessons help educators teach students the methods that fact-checkers use to evaluate the trustworthiness of online sources. The lessons and assessments that make up the curriculum provide students with opportunities to apply fact check to real-world examples. https://cor.stanford.edu
- The Educating for American Democracy project includes free lesson plans and resources created by a diverse collaboration among over 300 academics, historians, political scientists, K–12 educators, district and state administrators, civics providers, students, and others from across the country. https://www.educatingforamericandemocracy.org
- The Alpha History website provides a list of specific words historians use to describe groups in society, and political and economic concepts and to explain the significance of historical events, causes, effects, and consequences (e.g., upper, and middle-class, constitution, democracy, commerce, import, export). https://alphahistory.com/history-words/

Teaching students the discipline's language can be tied directly to experts' thinking processes. Table 4 provides the language used to describe historians' thinking processes in sentence stems/frames. These tools have been field-tested in K-12 classrooms. Student copies can be found in Appendix B.

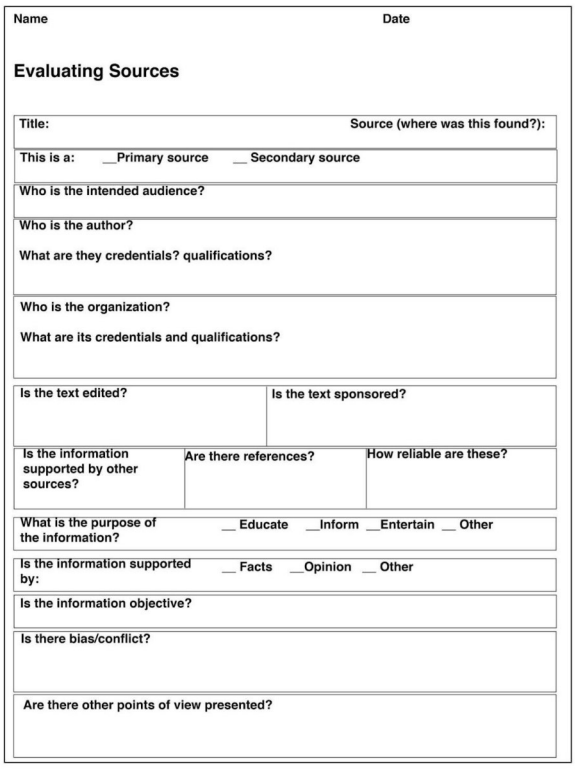
Table 4. Thinking processes and language of historians

Thinking process of historians	Language of historians
Historians… ● Interact directly with primary source materials ● Pursue answers to pressing historical questions ● Source information to consider who the author was and their intentions ● Contextualize the information to consider the original temporal and spatial context as well as the broader historical context of the period ● Corroborate with other sources to cross-check their conclusions ● Analyze problems to identify why the problem arose to develop alternatives	When examining the bias of the author, I found _____. When placing this event in the context of the time period, one discovers_____. _____ was a result of _____. From this perspective_____, one can understand that _____. Other sources of data such as_____, _____, _____ that were analyzed, indicate that_____. These _____factors contributed to the _____. The _____ remains significant in history because_____.

6.2 Anchoring the Thinking Processes and Language of Historians

A document analysis organizer can help anchor the thinking processes of historians. Figure 1 presents the Evaluating Sources organizer, which helps students understand the information presented in a primary source document and develops the research skills students need to analyze primary sources. A student copy can be

found in Appendix A.



Name Date

Evaluating Sources

Title:		Source (where was this found?):
This is a: __Primary source __ Secondary source		
Who is the intended audience?		
Who is the author? What are they credentials? qualifications?		
Who is the organization? What are its credentials and qualifications?		
Is the text edited?	Is the text sponsored?	
Is the information supported by other sources?	Are there references?	How reliable are these?
What is the purpose of the information?	__ Educate __Inform __Entertain __ Other	
Is the information supported by:	__ Facts __Opinion __ Other	
Is the information objective?		
Is there bias/conflict?		
Are there other points of view presented?		

Figure 1. Evaluating Sources Organizer

The Evaluating Sources organizer helps students analyze, assess, and evaluate the content of primary sources.

6.3 The Thinking Process of Literary Critics

Literary critics read texts to seek patterns to interpret and critique texts. They analyze the author's style and craft such as diction, symbolism, and text structures. Literary critics also identify relationships and connections between ideas presented in the text that leads to the creation of themes and consider various interpretations based on historical, social, political, and cultural contexts. Literary critics form opinions based on their analysis and construct new knowledge to share with others.

Apprenticing students like literary critics takes place through read-alouds in the early grades with the teacher guiding the thinking and analysis processes of making meaning from texts. In the later grades, teachers continue to guide students' literary analysis as they teach students how to identify connections among ideas presented in texts and to use textual evidence to support their analysis of a central theme and the author's purpose. Students are onboarded to this type of thinking and speaking by explaining their reasoning as they make connections, inferences, and conclusions about a text. Using this frame, teachers can review their English Language Arts textbooks and curricular materials by asking the following questions about the texts: *How are students practicing the skills of analysis and using evidence to support their ideas after I read this text aloud? How do these lessons teach/apprentice students to identify the author's message and purpose? How much time are students provided to practice this type of analysis and meaning making?*

There are several resources available online for teachers to use as they supplement their ELA curriculum:

- First, teachers need to include multicultural books for children and young adults that celebrate diversity and that share stories of joy, happiness, and success as opposed to stories that solely focus on the pain and woe of people from diverse backgrounds. In addition to the list provided earlier, The Cooperative Children's Book Center out of the University of Wisconsin-Madison School of Education can be a great resource to find high-quality multicultural books. This website publishes yearly diversity statistics in children's books and recommended book lists about diversity written by diverse authors. This website also includes a database to search for books based on content, and format (picture book, easy reader, novel, etc.). https://ccbc.education.wisc.edu
- The PBS Learning Media website provides curated videos and interactive lesson plans that teachers and students can use to practice the thinking processes of literary critics. https://ca.pbslearningmedia.org/collection/literary-elements-and-techniques/

- Newsela offers literacy content in English and Spanish with diverse topics across the curriculum and contemporary events. Reading texts are also organized by lexical reading level. https://newsela.com
- While the term "literary analysis" may seem too sophisticated for elementary students, the function of a literary critic is to analyze and interpret information to make meaning from texts. This is a daily routine that takes place in early elementary classrooms during the read aloud period. Teachers read a book aloud to bring students' attention to the images and words the author uses to convey a meaning. While the terminology may seem new, the function that takes place during the read-alouds is the same. Therefore, the terms of literary critics, imagery, symbolism, themes, context, can be used with elementary students as they are being apprenticed to the practice of analyzing and critiquing texts. Teachers need to define these words for students to start using them as part of their everyday vocabulary when discussing texts. A list of these key terms, amongst others, can be found on this site. https://libguides.sbcc.edu/criticism/keywords

Table 5 provides the language of literary critics alongside the thinking processes of these experts. Student copies can be found in Appendix B.

Table 5. Thinking processes and language of literary critics

Thinking process of literary critics	Language of literary critics
Literary critics…	
● Read texts to seek patterns ● Analyze diction, symbolism, and text structures ● Identify strangeness, surprise, or confusion in texts ● Consider interpretive possibilities ● Make personal connections to text ● Consider histories and other contexts such as Marxist, feminist, Christian, Freudian readings ● Make original claims ● Construct more abstract or universal interpretations ● Construct new knowledge	The language used follows a pattern of _____. I was surprised by_____. The author's intent is to _____. The author is appealing to _____. I made a connection to the character when_____. Using a Marxist interpretation, the author is making the following social commentary_____. The author's call to action is _____.

6.4 Anchoring the Thinking Processes and Language of Literary Critics

Using graphic organizers can help students seek patterns, construct interpretations, and identify the author's intended message. One of my favorite organizers is the Tic-Tac-Toe organizer which helps students make connections across learned concepts and construct new knowledge. This 3x3 grid organizer can be used throughout the instruction, or at the end of a lesson to support critical thinking and big ideas presented in the lesson. The goal is to collaborate with peers and select keywords that reflect what was learned throughout the lesson. These words are then placed in random order on the Tic-Tac-Toe organizer and students select a set of three words either up, down, vertically, or across the Tic-Tac-Toe grid to create a sentence that synthesizes the knowledge gained. Students can either pair-share or work in small groups to create and share their new knowledge. Figure 2 provides an example of synthesizing statements created by using a set of three words from a completed Tic-Tac-Toe organizer after reading *The Name Jar* by Yangsook Choi.

Tic-Tac-Toe synthesizing organizer

name	beautiful	special
value	culture	traditions
identity	belonging	Unhei

Synthesizing our learning:

- We need to value our names because they are part of our identity (words selected: name, value, and identity).
- Different cultures are beautiful, and we need to make sure that we all feel like we belong. (Words selected: beautiful, culture and belonging)
- All cultures are special because they are part of our identities (words selected identity, culture, special)

Figure 2. Tic-Tac-Toe synthesizing organizer
The Tic-Tac-Toe organizer helps students synthesize their learning.

6.5 The Thinking Process of Scientists

Teaching students the thinking processes of scientists requires teachers to engage students in scientific inquiry to identify patterns, classify information, and make observations in real time and over a period to test their ideas. Teaching students how scientists think requires modeling how to analyze data, review and discuss findings, and create models to represent ideas. Teaching students about scientists is more than the step-by-step process of science, it is also about nurturing creativity, as most scientific findings are based on hypotheses or theories. Importantly, students apprenticing to think and speak like scientists need many opportunities to reflect upon their process. As teachers review their science curriculum, they should ask the following questions: *How is the curriculum/lesson teaching students to analyze different sources of data to arrive at new conclusions? How much time is embedded in the lessons for students to articulate their findings and contrast those with their initial hypothesis? How is creativity used to teach students to solve problems? Does the curriculum nurture the development of new ideas? Innovative thinking?*

The following websites provide up-to-date resources that can be used to supplement science curricula:

- The National Science Digital Library provides high-quality educational resources for teaching and learning, with an emphasis on STEM disciplines. Resources are organized in a database by subject, grade level, and standard. https://nsdl.oercommons.org
- The National Geographic and National Geographic Kids websites provide lesson plans and resources for teachers to use in their classrooms as they apprentice students in the discipline of science. https://www.nationalgeographic.org/society/education-resources/ and https://kids.nationalgeographic.com
- Science News for Students offers the latest research on several topics to learn about science in and out of the classroom. https://www.snexplores.org
- Students can learn the specialized language of scientists while scientific experiments are being conducted and observations of data collection are shared. This website uses concept mapping to help students anchor and practice using the language of scientists.

https://www.education.vic.gov.au/school/teachers/teachingresources/discipline/science/continuum/Pages/conceptmaps.aspx#link54

- Like the other disciplines, doing science requires sharing the thinking processes one engages in to arrive at new understandings. Teachers can teach students how to organize their observations and data collection to articulate what story the data tells and to explain the logic used to construct explanations. The language of scientists is specific to the investigations conducted. Identifying the

terminology pertinent to the experiments students are conducting will help teachers plan and model how to teach students the language that will help them articulate their knowledge of science.

Table 6 provides the language of scientists alongside the thinking processes of these experts. Student copies can be found in Appendix B.

Table 6. Thinking processes and language of scientists

Thinking process of scientists	Language of scientists
Scientists…	
● Ask questions	I would like to know_____
● Define problems	The investigation can help answer _____.
● Create and use models (e.g., hypothesis)	The model that will capture this investigation is _____.
● Plan and carry out investigations	
● Make observations	My hypothesis is _____.
● Analyze, interpret, and evaluate different forms of data	I observed_____.
	After analyzing_____, it can be concluded that_____.
● Construct explanations using evidence	My hypothesis was correct because_____.
● Design solutions	One possible solution can be _____.
	Data findings show the following results_____.

6.6 Anchoring the Thinking Processes and Language of Scientists

Concept mapping (Novak & Gowin, 1984) is an effective tool to help students display, name, organize, and identify the relationships between concepts studied. Concept mapping helps students discern patterns of information, organize their content knowledge, and determine how concepts are related to developing deep understanding. A concept map can be created during instruction or at the end of a lesson; students can use keywords and phrases and use lines and arrows to illustrate the connections between concepts. This is an excellent scaffold for students to use as they explain their observations and the logic behind their reasoning. The concepts included in the map can also be color-coded to organize topics and their subcategories in a logical and systematic manner. The example in Figure 3 represents a study of the weather.

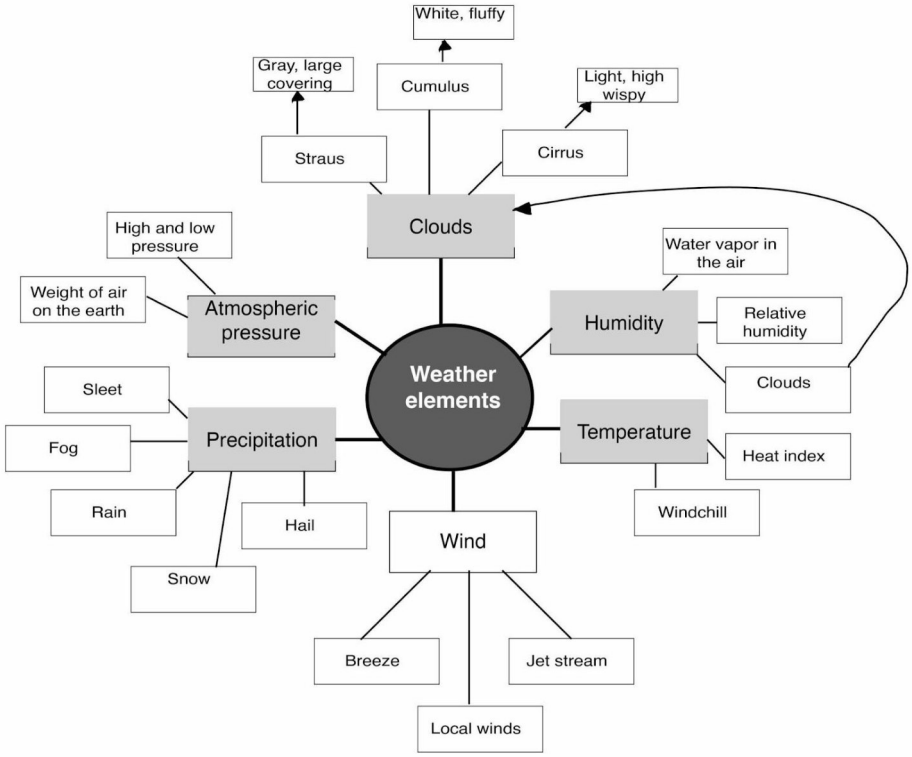


Figure 3. Science Concept Map

The Science Concept Map helps students identify relationships between concepts.

6.7 The Thinking Process of Mathematicians

Apprenticing students to the thinking processes of mathematicians and mathematical competencies requires teaching problem-solving skills, analyzing smaller segments of the problem, and selecting appropriate strategies to solve problems. Some of these strategies include visualizing what the problem is asking students to solve, determining the order of operations, using manipulatives, drawing a sketch, acting the problem out, working backward, and looking for patterns, amongst others. Asking students to think about, select, and try out a problem-solving strategy and providing opportunities for students to explain their thinking and reasoning supports their development of mathematical knowledge. Like the other disciplines, teaching students how mathematicians think requires modeling how to "read" mathematical problems, to make meaning of words/symbols and to identify their relationship before creating a process to solve the problem. Reviewing the mathematics curriculum includes asking the following questions: *How is the math curriculum/lesson teaching students to "read" mathematical problems to make meaning? How are students apprenticed to think like mathematicians? Which problem-solving skills are students taught to use? How often do students practice using these problem-solving skills and strategies? Are there opportunities for students to create their own processes? Is creativity encouraged/nurtured? How much time is embedded in the lessons for students to articulate their solutions and explain their reasoning? How often do students participate in the mathematical discussion to listen to, evaluate, and critique the mathematical reasoning of their peers?*

The following resources can be used to supplement mathematics curricula:

- The NRICH project provides a website with information, tools, and resources to enrich all learners' mathematical experiences and learning. https://nrich.maths.org
- The Annenberg Learner site distributes sample lesson plans and educational video programs that model mathematics instruction. https://www.learner.org
- Providing time for students to explain their understanding of the problem, what needs to be solved, their selection of a problem-solving process, and their reasoning for why their process was successful is necessary for students to learn the language of mathematicians. Teachers need to include time in their mathematics instruction for students to participate in math conversations and practice using the language. A helpful resource for teachers is the Wolfram Math World website which offers interactive GIFs, and demonstrations for various mathematical terms that support mathematical knowledge and understanding. https://mathworld.wolfram.com

Table 7 provides the language of mathematicians alongside the thinking processes of these experts. Student copies can be found in Appendix B.

Table 7. Thinking processes and language of mathematicians

Thinking process of mathematicians	Language of mathematicians
Mathematicians… ● Understand "the problem" that needs to be solved ● Create a problem-solving process to solve "the problem" ● Select appropriate tools and use these strategically ● Solve the problem ● Explain their reasoning (process) ● Look for patterns and structures ● Attend to precision ● Construct viable arguments/articulate why it's true ● Critique the reasoning of others	When I read the _____, I can tell that the problem that needs to be solved is_____. I need to create a plan to solve the problem. I will do the following: First, I will select the _____strategy, because_____. Second, I will _____. Third, _____. I will check to see if I have used this correctly by _____. Finally, I will _____. The strategy I selected was _____. It was helpful because _____. The answer can be checked by_____. The strategy selected worked because _____. I will explain what I have discovered _____.

6.8 Anchoring the Thinking Processes and Language of Mathematicians

To help students anchor their thinking processes as mathematicians, the KWC organizer (Know/What/Conditions) can be used. Under the K column, students can write what they know about the problem, the W column is used to write down notes about what needs to be solved, and the C column is used to write down notes about any rules or conditions that need to be considered to solve the problem. At the bottom, students select from a list of choices to plan to solve the problem. This section is customizable as it includes the strategies taught that students know how to use. Finally, the last section of the organizer is used for students to

write down notes about their process to solve the problem. These notes are later used when students collaborate with a peer or small group to explain their reasoning and problem-solving process. The KWC can be used whole, individually, or in small groups. When used in a whole group setting, the teacher can create the organizer on chart paper and scaffold the conversation as students complete each step of the organizer. A completed organizer can be posted in the classroom to function as an anchor chart for students. Figure 4 portrays the Problem-Solving Method organizer. A student copy can be found in Appendix A.

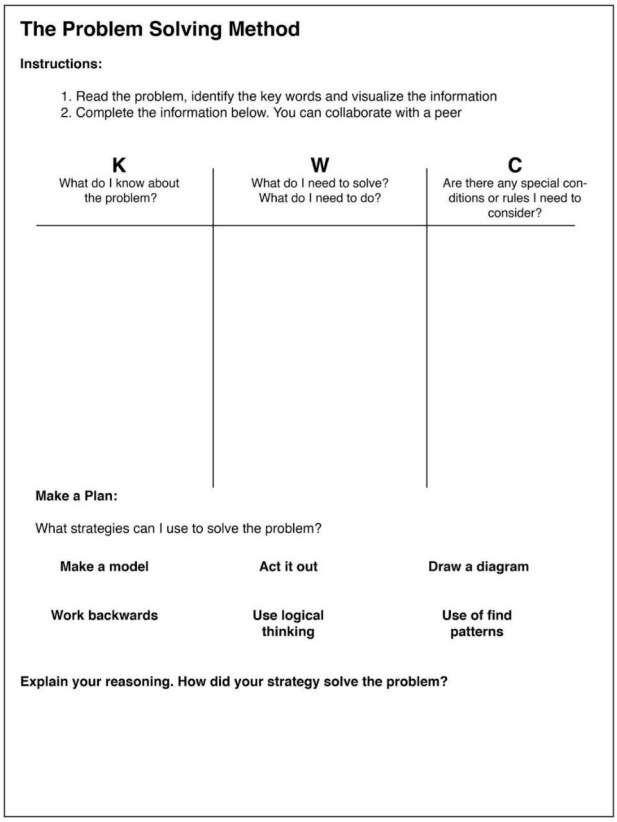


Figure 4. The Problem-Solving Method Organizer

The Problem-Solving Method organizer helps students create a plan to select a strategy to solve a mathematical problem.

Teaching the thinking processes of experts across the disciplines using the graphic organizers and language of the discipline presented above helps uncover and develop students' gifts and talents. Although graphic organizers are not a new concept in education, this application apprentices students to the thinking processes of experts and brings about pedagogical shifts that challenge the forms of knowledge presented in curricular programs. Doing so helps teachers create democratic classrooms where novices and experts co-construct and reconstruct new forms of knowing, learning, and understanding. The social nature of apprenticeship requires using the discipline's language and discourse to acquire new language forms (Gee, 2006), offering students multiple opportunities to apply and explore how language positively influences students' thinking (Nystrand, 1997).

7. Process Feedback

When apprenticing students to the ways of being and doing the disciplines, it is crucial to provide feedback on the processes students are beginning to adopt. Process feedback establishes the optimal conditions for ongoing learning (Hattie & Timperley, 2007; Krijgsman et al., 2019) because the features, functions, and interactions required of each discipline are once more highlighted and made visible to students. For instance, as students are explaining how they have corroborated information across different sources, teachers can spotlight the students' articulation of their thinking processes and use of language when they provide feedback. Teachers can say: "*your careful analysis of the three primary documents you read helped you corroborate your initial research findings,*" or the teacher can provide additional scaffolding and guidance by using process feedback. For example, the teacher can say: "*you have analyzed three different types of documents and you have begun analyzing the information each provides, find some of the similar information presented across the documents. This will help you determine whether these documents corroborate the same information*." A well-structured learning environment that provides specific feedback on the tasks students are completing motivates students and helps

develop self-efficacy (Shute, 2008; Krijgsman et al., 2019). Students also learn to monitor, think about, and explain what and how they are learning.

8. Students' Voice in the Learning and Teaching Process

Equally important in the learning process are the student's voice and experience. Students' meaningful participation in and dialogue about their learning is fundamental to democratic education and requires apprenticeship, modeling, and practice. Rogers (2006) describes the practice of Descriptive Feedback as a "reflective conversation between teacher and students wherein students describe their experiences as learners, with the goals of improving learning, deepening trust between teacher and student, and establishing a vibrant, creative community daily. It is also distinct from student self-assessment because it is, by nature, descriptive rather than evaluative" (p. 209). Using descriptive feedback grants students agency in their learning; it provides the space and structure for them to engage in self-reflection about their learning experiences and helps them become aware of their learning processes. It also develops their metacognitive thinking as they explain what and how they are learning. Using descriptive feedback helps teachers gather information about what students have learned, how they have learned it, what helped them learn, and what hindered their learning. Teachers use this data to reframe their teaching, make changes to curricular materials, reteach learning strategies and revisit thinking processes. Listening to students' experiences about their learning provides teachers with insight that guides their instructional decision-making. It creates true partnerships in the classroom. For the classroom community, descriptive feedback makes visible multiple ways of learning.

To incorporate descriptive feedback in disciplinary literacy instruction, teachers can ask the following questions: 1) *What did you learn?;* 2) *How do you know that you learned it?;* 3) *What helped you learn it?;* 4) *What got in the way of your learning?;* and 5) *How did you feel*? Interspersing these questions during a lesson and modeling how to think about what each question is asking is a necessary first step for students to learn how to reflect upon and describe their learning experiences. There may be times when students will not respond or will not know what to say in response to these questions. Teachers need to welcome all answers and teach students how to reflect upon their experiences. Some students may experience the learning process as being too slow or too fast and may feel inhibited in sharing their experiences with the teacher, especially in front of their peers. Teachers can create an environment that welcomes this type of input and feedback to learn how students experience schooling in their classrooms. Remaining open to students' experiences will model for students the type of community that is valued. We all have experiences that matter and that are important. As adults, we can express our opinions and we know how to share our experiences with others. Students, too, need to learn how to express themselves and share their experiences in our classrooms. Descriptive feedback then is the tool that provides students with the language to discuss and assess their learning and that shapes the type of dialogue and collaboration that promotes just, equitable, and inclusive learning.

9. Conclusion

Earlier in the article, I stated that teachers and the curriculum are key to creating a culture of learning that develops the gifts and talents of their students. I have described the work that teachers need to engage in to develop ideological clarity and address the negative impact of the hidden curriculum. Teachers have the power to create new curricula free of biases that positively shape and develop students' identities and intellectual development. A culture of learning that makes use of students' cultural and linguistic backgrounds and apprentices students to the disciplinary language and thinking processes develops a positive self-identity among students. When they see themselves in the curriculum (Ladson-Billings, 1995; Yosso, 2016) and actively participate to construct new knowledge, students experience success in the classroom and their learning is enhanced. This can be a direction for future research. Teacher educators, teacher preparation, and professional development programs can prepare teachers with the dispositions, and tools, but most importantly with the knowledge to engage in the work to develop ideological clarity, to understand the impact of the hidden curriculum, and to work collaboratively to change the status quo.

In closing, I ask teachers to consider, examine, and evaluate their classroom culture. What kind of identity does the culture of your classroom nurture? Knowledge is an economic asset, and our skills and experience are human capital (Schwab, 2017). We need to consider and deeply examine how our students, particularly students from diverse cultural and linguistic backgrounds, are provided with opportunities to develop the knowledge required to participate in and contribute to a competitive 21st-century society.

References

Archer, A. L., & Hughes, C. A. (2011). Explicit Instruction: Effective and efficient teaching (what works for special-needs Learners). *Journal of Special Education*, *36*(4), 186-205.

Alfaro, C., & Bartolomé, L. (2017). Preparing ideologically clear bilingual teachers: Honoring working-class non-standard language use in the bilingual education classroom. *Issues in Teacher Education*, *26*(2), 11-34.

https://doi.org/10.4324/9781351204231-4
Atwater, S. (2007). An investigation of teacher's 'color-blind' racial attitudes and diversity training experiences: Implications for teacher education. Journal of Education and Human Development, 1(2), 1–15.
Bartolomé, L. (2002). Creating an equal playing field: Teachers as advocates, cultural border crossers, and cultural brokers. In Z. Beykont (Ed.), The power of culture: Teaching across language differences (pp. 167-191). Cambridge, MA: Harvard Education Publishing Group.
Bernhardt, P. E. (2022). Hidden Curriculum: Definitions and Examples. Routledge.
Castellano, J. A., & Francis, E. M. (2022, March). Identifying and Educating Gifted English Language Learners (ELLs). In *Identifying and Serving Diverse Gifted Learners: Meeting The Needs of Special Populations in Gifted Education* (Vol. 2013, p. 8). Routledge. https://doi.org/10.4324/9781003265412-17
Chacón-Díaz, L. B. (2022). A textbook analysis to uncover the hidden contributors of science and mathematics. *Science & Education*, *31*(1), 193-211.
Colwell, J., Hutchison, A., & Woodward, L. (2022). Digitally Supported Disciplinary Literacy in Elementary Instruction. *The Reading Teacher*, *75*(4), 463-474.
https://doi.org/10.1002/trtr.2070
De Felice, S., Hamilton, A. F. D. C., Ponari, M., & Vigliocco, G. (2023). Learning from others is good, with others is better: the role of social interaction in human acquisition of new knowledge. *Philosophical Transactions of the Royal Society B*, *378*(1870), 20210357.
Dinsmore, D. L., & Hattan, C. (2020). Levels of processing. In D. L. Dinsmore, L. K. Fryer, & M. M. Parkinson (Eds.), *Handbook of strategies and strategic processing* (pp. 29–46). Routledge.
Facione, P. A., Facione, N. C., & Gittens, C. A. (2020). What the data tell us about human reasoning. In D. Fasko & F. Fair (Eds.), *Critical thinking and reasoning: Theory, development, instruction, and assessment* (pp. 272–297). Brill Sense.
Ford, D. Y., Davis, J. L., Whiting, G. W., & Moore III, J. L. (2021). Going Beyond Lip Service When It Comes to Equity: Characteristics of Equity-Minded, Culturally Responsive Allies in Gifted and Talented Education. *Gifted Child Today*, *44*(3), 174-178. https://doi.org/10.1177/10762175211011210
Ford, D. Y., Wright, B. L., Sewell, C. J., Whiting, G. W., & Moore III, J. L. (2018). The Nouveau talented tenth: Envisioning WEB Du Bois in the context of contemporary gifted and talented education. *The Journal of Negro Education*, *87*(3), 294-310. https://doi.org/10.7709/jnegroeducation.87.3.0294
Freire, P. (1978). *Pedagogy of the Oppressed.* New York: Continuum, 1970. https://doi.org/10.5958/2231-458x.2015.00027.5
Florea, N. M., & Hurjui, E. (2015). Critical thinking in elementary school children. *Procedia-Social and behavioral sciences*, *180*, 565-572. https://doi.org/10.1016/j.sbspro.2015.02.161
Flynn, A. (2023). Black Minds Matter: A Longitudinal Analysis Of The Persistent Underrepresentation Of Black Students In Gifted Education Programs. *Journal for Leadership, Equity, and Research*, *9*(1).
Foshay, R., & Kirkley, J. (2003). Principles for teaching problem solving. *Technical paper*, *4*(1), 1-16. https://doi.org/10.4324/9781315003535-17
Gee, J. P. (2006). What is literacy. *Relations, locations, positions: Composition theory for writing teachers*, 29-39. https://doi.org/10.4324/9780203929124-38
Giroux, H. A. (1984). *Ideology, culture and the process of schooling*. Temple University Press.
Giroux, H. A., & Penna, A. N. (1979). Social education in the classroom: The dynamics of the hidden curriculum. *Theory & Research in Social Education*, *7*(1), 21-42. https://doi.org/10.1080/00933104.1979.10506048
González-Pérez, L. I., & Ramírez-Montoya, M. S. (2022). Components of Education 4.0 in 21st century skills frameworks: systematic review. *Sustainability*, *14*(3), 1493. https://doi.org/10.3390/su14031493
Gordon, J. (2005). Inadvertent complicity: Colorblindness in teacher education. Educational Studies, 38(2), 135–153. https://doi.org/10.1207/s15326993es3802_5 Gorski, P. C. (2018). Poverty Ideologies and the Possibility of Equitable Education: How Deficit, Grit, and Structural Views Enable or Inhibit Just Policy and Practice for Economically Marginalized Students. *Counterpoints*, *523*, 95-120.
Gorski, P. C. (2011). Unlearning deficit ideology and the scornful gaze: Thoughts on authenticating the class discourse in education. *Counterpoints*, *402*, 152-173.
Gray, A., & Gentry, M. (2023). Hispanic and Latinx Youth with Gifts and Talents: Access, Representation, and Missingness in Gifted Education Across the United States. *Journal of Latinos and Education*, 1-17.
Gray, A. Meeting the Needs of American Indian and Alaska Native Youth with Gifts and Talents. In *Identifying and Serving Diverse Gifted Learners* (pp. 134-149). Routledge. https://doi.org/10.4324/9781003265412-12
Grissom, J. A., & Redding, C. (2016). Discretion and disproportionality: Explaining the underrepresentation of high-achieving students of color in gifted programs. AERA Open, 2(1), 1-25. https://doi.org/10.1177/2332858415622175
Hattie, J., & Timperley, H. (2007). The power of feedback. *Review of educational research*, *77*(1), 81-112.

https://doi.org/10.3102/003465430298487
Iordanou, K. (2022). Supporting strategic and meta-strategic development of argument skill: the role of reflection. *Metacognition and Learning*, *17*(2), 399-425. https://doi.org/10.1007/s11409-021-09289-1
Krijgsman, C., Mainhard, T., van Tartwijk, J., Borghouts, L., Vansteenkiste, M., Aelterman, N., & Haerens, L. (2019). Where to go and how to get there: Goal clarification, process feedback and students' need satisfaction and frustration from lesson to lesson. *Learning and Instruction*, *61*, 1-11. https://doi.org/10.1016/j.learninstruc.2018.12.005
Kuhn, D. (2018). A role for reasoning in a dialogic approach to critical thinking. *Topoi*, *37*(1), 121-128. https://doi.org/10.1007/s11245-016-9373-4
Ladson-Billings, G. (1995). Toward a theory of culturally relevant pedagogy. *American educational research journal*, *32*(3), 465-491. https://doi.org/10.3102/00028312032003465
Ladson-Billings, G. (2008). Yes, but how do we do it?": Practicing culturally relevant pedagogy. *City kids, city schools: More reports from the front row*, 162-177.
Ladson-Billings, G. (2021). I'm here for the hard re-set: Post pandemic pedagogy to preserve our culture. *Equity & Excellence in Education, 54*(1), 68-78.
https://doi.org/10.1080/10665684.2020.1863883
Love, B. J. (2004). Brown plus 50 counter-storytelling: A critical race theory analysis of the "majoritarian achievement gap" story. *Equity & Excellence in Education*, *37*(3), 227-246.https://doi.org/10.1080/10665680490491597
Margolis, E. (Ed.). (2001). *The hidden curriculum in higher education*. Psychology Press.
Martin, N. M., Stefanski, A. J., & Martin, L. E. (2021). Addressing Disciplinary Literacy: An Examination of Teachers' Instruction in First Grade. *Mid-Western Educational Researcher*, *33*(2).
McGee Banks, C. A., & Banks, J. A. (1995). Equity pedagogy: An essential component of multicultural education. *Theory into practice*, *34*(3), 152-158.
Moje, E. B. (2008). Foregrounding the disciplines in secondary literacy teaching and learning: A call for change. Journal of Adolescent and Adult Literacy, 52(2), 96-107. https://doi.org/10.1598/jaal.52.2.1
Moll, L. C., Amanti, C., Neff, D., & Gonzalez, N. (1992). Funds of knowledge for teaching: Using a qualitative approach to connect homes and classrooms. *Theory into practice*, *31*(2), 132-141. https://doi.org/10.1080/00405849209543534
Mun, R. U., Ezzani, M. D., & Lee, L. E. (2020). Culturally relevant leadership in gifted education: A systematic literature review. *Journal for the Education of the Gifted*, *43*(2), 108-142.
National Center for Educational Statistics. (2019). Indicator 4 snapshot: Children living in poverty for racial/ethnic sub-groups. https://nces.ed.gov/programs/raceindicators/indicator_RADS.asp
Ndura, E. (2004). ESL and cultural bias: An analysis of elementary through high school textbooks in the Western United States of America. https://doi.org/10.1080/07908310408666689
Novak, J. D., Gowin, D. B., & Bob, G. D. (1984). *Learning how to learn*. Cambridge University Press. https://doi.org/10.1017/cbo9781139173469
Nystrand, M., Gamoran, A., Kachur, R., & Prendergast, C. (1997). *Opening dialogue* (pp. 30-61). New York: Teachers College Press.
Öztürk, B., Kaya, M., & Demir, M. (2022). Does inquiry-based learning model improve learning outcomes? A second-order meta-analysis. *Journal of Pedagogical Research*, *6*(4), 201-216.
Peters, S. F. (2022a). The challenges of achieving equity within public school gifted and talented programs. *Gifted Child Quarterly*, *66*(2), 82–94. https://doi.org/10.1177/00169862211002535
Plummer, K. J., Kebritchi, M., Leary, H. M., & Halverson, D. M. (2022). Enhancing Critical Thinking Skills through Decision-Based Learning. *Innovative Higher Education*, *47*(4), 711-734.
Powell, W. W., & Snellman, K. (2004). The knowledge economy. *Annual review of sociology*, 199-220. https://doi.org/10.1146/annurev.soc.29.010202.100037
Rubie-Davies, C. (2015). Teachers' instructional beliefs and the classroom climate. *International handbook of research on teachers' beliefs*, 266-283. https://doi.org/10.4324/9780203108437-24
Ragusa, G. (2013, June). Science Literacy and Text Book Biases. In *2013 ASEE Annual Conference & Exposition* (pp. 23-1055). https://doi.org/10.18260/1-2--22440
Ramos, E. (2010). Let us in: Latino underrepresentation in gifted and talented programs. Journal of Cultural Diversity, 17(4), 151-154.
Rodgers, C. R. (2006). Attending to student voice: The impact of descriptive feedback on learning and teaching. *Curriculum inquiry*, *36*(2), 209-237. https://doi.org/10.1111/j.1467-873x.2006.00353.x
Schwab, K. (2017). *The fourth industrial revolution*. Currency. https://doi.org/10.25073/0866-773x/97
Shanahan, T. (2019). Disciplinary literacy in the primary school. https://doi.org/10.1002/trtr.1257
Shores, K., Kim, H. E., & Still, M. (2020). Categorical inequality in Black and White: Linking disproportionality across multiple educational outcomes. American Educational Research Journal, 57(5), 2089-2131.

https://doi.org/10.3102/0002831219900128
Shuell, T. J. (1986). Cognitive conceptions of learning. *Review of educational research*, *56*(4), 411-436. https://doi.org/10.3102/00346543056004411
Shute, V. J. (2008). Focus on formative feedback. *Review of educational research*, *78*(1), 153-189. https://doi.org/10.3102/0034654307313795
Solórzano, D. G., & Yosso, T. J. (2002). Critical race methodology: Counter-storytelling as an analytical framework for education research. *Qualitative inquiry*, *8*(1), 23-44. https://doi.org/10.1177/107780040200800103
Szymanski, T., & Shaff, T. (2013). Teacher perspectives regarding gifted diverse students. Gifted Children, 6(1), Article 1.
The Civil Rights Data Collection (https://ocrdata.ed.gov)
Thomas, D., & Dyches, J. (2019). The hidden curriculum of reading intervention: A critical content analysis of Fountas & Pinnell's leveled literacy intervention. *Journal of Curriculum Studies*, *51*(5), 601-618. https://doi.org/10.1080/00220272.2019.1616116 Verkuyten, M. (2011). Assimilation ideology and outgroup attitudes among ethnic majority members. *Group Processes & Intergroup Relations*, *14*(6), 789-806. https://doi.org/10.1177/1368430211398506
Xu, E., Wang, W., & Wang, Q. (2023). The effectiveness of collaborative problem solving in promoting students' critical thinking: A meta-analysis based on empirical literature. *Humanities and Social Sciences Communications*, *10*(1), 1-11. https://doi.org/10.1057/s41599-023-01508-1
Yeh, C., & Otis, B. M. (2019). Mathematics for Whom: Reframing and Humanizing Mathematics. Occasional Paper Series, 2019 (41). Retrieved from https://educate.bankstreet.edu/occasional-paper-series/vol2019/iss41/8
Yosso, T. J. (2002). Toward a critical race curriculum. *Equity & Excellence in Education*, *35*(2), 93-107. https://doi.org/10.1080/713845283
Yosso, T. J. (2016). Whose culture has capital?: A critical race theory discussion of community cultural wealth. In *Critical race theory in education* (pp. 113-136). Routledge. https://doi.org/10.4324/9781003005995-8
Wells, A. (2020). Achieving equity in gifted programming. Prufrock Press. https://doi.org/10.4324/9781003232711

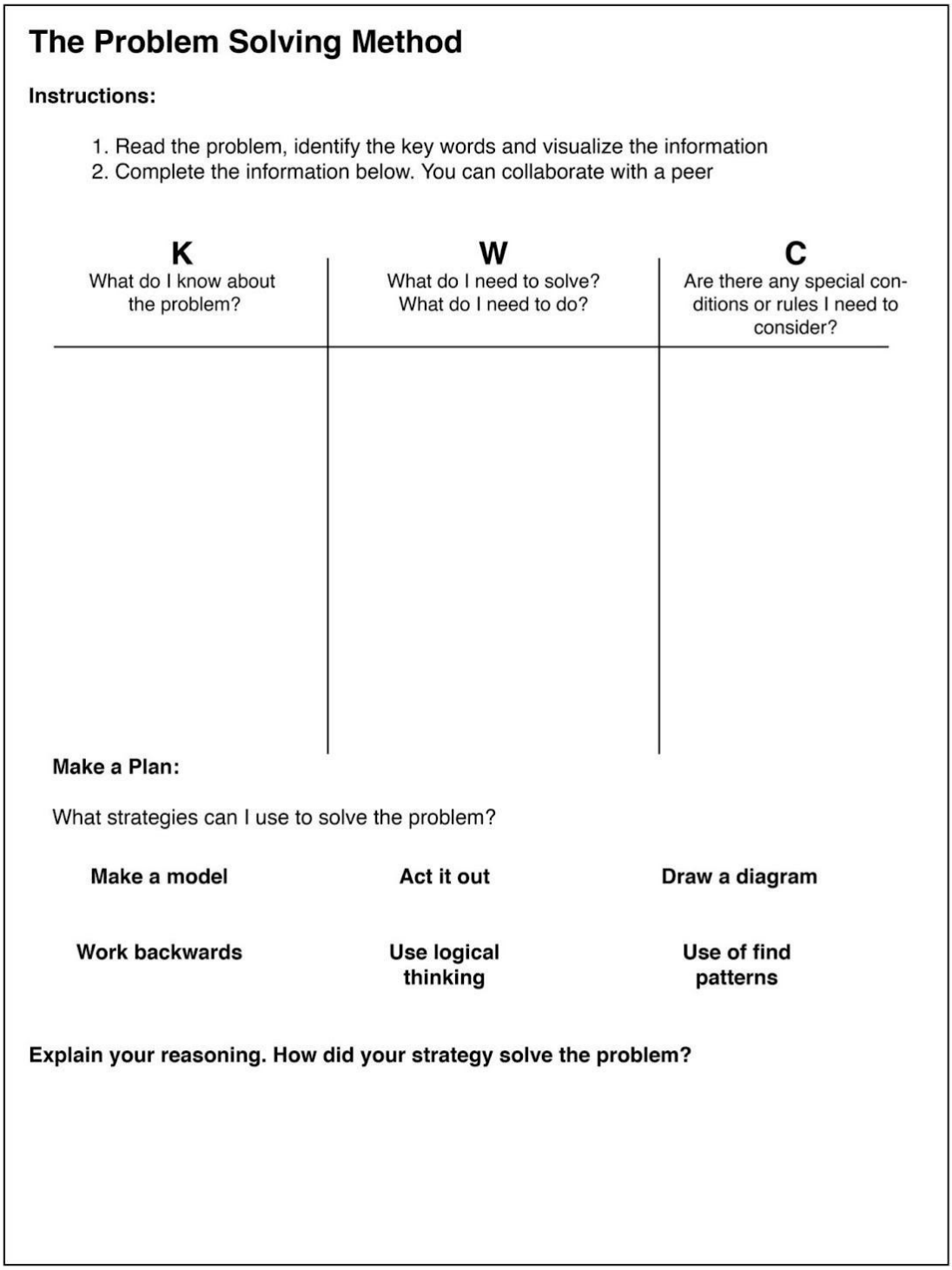
Appendix A -Evaluating Sources

Name Date

Evaluating Sources

Title:		Source (where was this found?):
This is a: __Primary source __ Secondary source		
Who is the intended audience?		
Who is the author? What are they credentials? qualifications?		
Who is the organization? What are its credentials and qualifications?		
Is the text edited?	Is the text sponsored?	
Is the information supported by other sources?	Are there references?	How reliable are these?
What is the purpose of the information?	__ Educate __Inform __Entertain __ Other	
Is the information supported by:	__ Facts __Opinion __ Other	
Is the information objective?		
Is there bias/conflict?		
Are there other points of view presented?		

KWC organizer (Know/What/Conditions)



The Problem Solving Method

Instructions:

1. Read the problem, identify the key words and visualize the information
2. Complete the information below. You can collaborate with a peer

K What do I know about the problem?	W What do I need to solve? What do I need to do?	C Are there any special conditions or rules I need to consider?

Make a Plan:

What strategies can I use to solve the problem?

Make a model	**Act it out**	**Draw a diagram**
Work backwards	**Use logical thinking**	**Use of find patterns**

Explain your reasoning. How did your strategy solve the problem?

Appendix B - Sentence Frames/Stems Aligned to the Thinking Processes of Experts
Using the language of Historians - Sentence Frames
Sourcing information

- The author of this text was_____. Their profession was _____.
- The purpose of this text is to _____.
- The author's intention is to _____.
- The author was from _____, that means that _____.
- The intended audience for this document was_____.
- When examining the bias of the author, I found_____.
- Some examples of bias in this document are _____, that means that the author was not

considering _____.
- The document represents the time period because _____.
- This is a (primary/secondary) source. That is important in my analysis because _____.
- This source is reliable because _____.

Contextualizing information
- When placing this event in the context of the time period, one discovers_____.
- During this time, _____ was happening. This is important because_____.
- _____ was a result of _____.
- There were economic, political, and social factors that led to _____.
- From this perspective _____ one can understand that _____.
- The evidence from _____ suggests _____.

Corroborating information
- Other sources of data, such as _____, _____, and _____ reveal that _____.
- These factors _____ contributed to _____.
- It is important to consider the time period when _____ was written.
- The _____ remains significant in history because _____.
- Cross-checking _____with _____ shows that _____.
- Other pieces of evidence show that _____.
- There are conflicting accounts of this event. The _____shows, whereas _____ reveals.

Analyzing problems to identify causes and develop alternatives
- One reason for _____ was _____.
- _____ was a result of _____.
- The _____led to _____, which then leads to _____.
- _____can teach us about _____. This has implications for the future. For example, _____.
- The _____ remains significant in history because _____.
- These actions _____ changed history in these ways _____.
- Analyzing the documents _____, _____, _____ helps us conclude that _____.
- One way we can interpret the _____ event today is _____. Back then, _____ this event meant _____.
- The opinions of the author reveal_____.
- This _____ is like our life because _____.
- Implicitly, I can read that _____.
- The information analyzed helps me infer that _____.

Using the language of Literary Critics - Sentence Frames

Seeking patterns
- The author uses the following symbolism to _____.
- The language used follows a pattern of _____.
- A close reading of the text reveals these patterns_____.
- The choice of words, phrases, and phrases show the following pattern_____.
- The word(s) _____ are intended to _____.
- The sentence, "_____ signifies/implies _____.
- In lines _____, the effect of the _____ is _____.
- The use of the word _____ on line number _____ suggests _____.
- The function of the _____ on line number _____ is to _____.
- The author's selection of text structure shows_____.

Identifying strangeness, surprise, or confusion
- I was surprised by_____.
- When reviewing _____and _____, there was some confusion that led the reader to _____.

- A strangeness found in the text indicates that_____.

Articulating an interpretive puzzle

- The theme of this work indicates_____.
- The author's intent is to _____.
- This work reveals a message of _____.

Considering interpretive possibilities

- When the author _____, s/he is _____.
- One can interpret that _____.
- It is possible that the reader needs to _____.
- The author is appealing to _____.
- The work challenges us to _____.

Making personal connections to the text

- This reminds me of _____.
- I made a connection to the character when_____.
- The theme of this work connects to humankind because _____.

Considering histories and other contexts

- Considering the historical context of this work, we can state that _____.
- Using a Marxist interpretation, the author is making the following social and political commentary_____.
- Using a feminist interpretation, this work reveals the [gender politics, power relations, stereotype, objectification, and oppression] of _____.
- Using a Freudian interpretation, this work presents the following conflicts of the author_____. Unconsciously, the author reveals_____.

Making original claims

- From this analysis, we can interpret that_____.
- The author carefully crafts _____ to convey _____.
- The author conveys the theme that _____ through _____.
- The author's use of _____ enhances _____.
- These examples work together to prove that _____ because _____.
- This is significant because _____.
- Using _____ the author develops the idea that _____.
- _____complicates the claim that _____ because _____.
- _____symbolizes _____.

Constructing new knowledge

- The overall message in this text is_____.
- Knowing the [historical/political] background, we can determine that_____.
- The author's call to action is _____.

Using the language of Scientists - Sentence Frames

Asking Questions

- I wonder_____.
- My questions are_____.
- What if_____.
- What would happen if_____.
- I would like to know_____.
- I still want to know _____.

Defining Problems

- The problem presented is _____.
- We need to find out _____.
- The experiment needs to answer _____.
- The investigation should help answer _____.

Creating and Using Models

- The model that will capture this investigation is _____.
- The benefits of this model are _____.
- The limitations of this model are _____.

Planning and Carrying Out Investigations

- The problem can be solved by _____.
- The plan to conduct the investigation needs to include_____.
- My hypothesis is _____.
- If the investigation is to determine _____, then the hypothesis for this study is _____.

Making Observations

- I expect to see _____.
- I observed_____.
- I noticed that_____.
- When I _____, I noticed that _____happened, which confirms/contradicts my hypothesis.
- The cause of _____was _____.
- The effect of _____was_____.

Analyzing, Interpreting, and Evaluating Different Forms of Data

- After analyzing_____, it can be concluded that_____.
- The result of _____, indicates that the phenomena_____, which means that _____.
- When comparing data results from _____, _____, and _____ it can be interpreted that _____.
- The similarities between _____ are _____.
- The differences between _____ are _____.

Constructing Explanations using Evidence

- My hypothesis was correct because _____.
- Some of the patterns noticed, include _____. One can conclude that_____.
- The problem can be explained by _____ the results show_____. The evidence supports _____.

Designing Solutions

- One possible solution can be _____.
- If the results from the experiment show that _____, then we can think about using _____ to _____.

Communicating Findings

- Based on _____, one can conclude that _____.
- Data findings show the following results_____.
- Of importance to the _____, is _____. These findings are supported by data analysis that indicate _____.
- These findings relate to _____.
- Scientifically speaking _____.
- Scientific research shows that _____.

Using the language of Mathematicians - Sentence Frames

Understanding "the problem" that needs to be solved

- To help me identify the problem that needs to be solved, I will _____.
- First, I need to _____to understand the problem that needs to be solved.
- When I read the _____, I can tell that the problem that needs to be solved is_____.
- This is the information I need to solve the problem _____.

Creating a problem-solving process to solve "the problem"

- To solve the problem identified, I need to_____. Then, I will _____. After,

I will _____. Then, I will _____. Finally, I will _____.

- I need to create a plan to solve the problem. I will do the following:
- First, I will select the _____strategy, because_____. Second, I will _____. Third, _____. I will check to see if I have used this correctly by _____. Finally, I will _____.

Explaining your reasoning (your process)

- I have solved the problem by doing the following _____.
- The process I used to solve the problem was _____.
- The strategy I selected was _____ it was helpful because _____.
- I added/subtracted/multiplied/divided_____.
- I noticed that _____.
- I discovered that _____.
- When comparing _____ to _____, it can determine that_____.

Attending to precision

- The answer can be checked by_____.
- I know the answer is reasonable because _____.
- It makes sense to use _____ because_____.
- I am confused at _____ because _____.
- I can double check my solution by _____.

Constructing viable arguments/articulating why the answer is true

- I can prove my thinking by _____.
- I know the answer is reasonable because _____.
- The strategy selected worked because _____.
- Following the order of operations, I can see that _____, which lets me know that _____.

Critiquing the mathematical reasoning of others

- I agree with _____ because _____.
- I disagree with _____ because _____.
- Can you explain why_____.
- I am not sure about _____.
- What is another strategy that could be used?
- Can you explain what you discovered?