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Points of Leverage: Navigating Tensions between Socio-Culturally Relevant Teaching and Accountability Pressures

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Abstract

This qualitative study explores how an elementary teacher navigated tensions between accountability and bilingual learners' needs. Questions included: How did a teacher employ students' socio-cultural resources in content areas? How did accountability shape use of resources? What are points of leverage—i.e., promising instructional practices to be further developed and harnessed—to meet student needs? Findings show how Ms. Montclair briefly connected to students' resources, focusing on making content comprehensible, transmitting information, staying on pace, and practicing testing. Although familiar with project-based and family/community-oriented learning, accountability measures impacted instruction. Yet promising instruction integrates socio-cultural resources to promote innovation and meaning.

Ms. Montclair: When you go to these meetings some people will be sitting there like, “What page are you on?”

Researcher: Really, district meetings?

Ms. Montclair: Yah, they'll be like, everybody is in the theme dah, dah, dah. You should be in Theme 2 by now, right?

In this era of accountability, bilingual third grade teacher Ms. Montclair (pseudonym) described the pressure to keep up with other grade level teachers and to cover the content of the curriculum. District meetings took place within a context of control and fidelity to curriculum. Ms. Montclair made instructional decisions in part based on her own expertise from years of experience and higher-level decisions and pacing charts. She saw the importance of doing project-based learning, tapping into children's cultural repertoires, and adhering to curriculum mandates. Teachers in the 21st century, like Ms. Montclair, understand the worth of attending to students' linguistically and culturally diverse backgrounds while working within political and administrative contexts that shape curriculum and instruction.

Ms. Montclair recognized the importance of tapping into a family's socio-cultural resources, often marginalized or under-utilized. In an interview, she talked about past success with project-based learning, before curricular reforms, describing a unit about building machines. One year we did a project where they built bridges at home, using recycled materials. We did that a couple years in a row. They had to write about it, they had to bring it, show it and explain how they did it.... One kid brought in a bridge and he's like, “My bridge is so strong, you could even stand on it.” ... We're putting weights on it, lamps on it; he brought this little bridge and I could stand on it. All these kids, whose moms were usually the ones to help with homework, were out in the garage with dads or *tíos* making stuff. A lot of kids made them out of straws and scotch tape, but a lot of kids went to the shop.... Their dads work in construction.... That's the kind of thing you could do while still doing book work. But something's got to give because there's so much in there. While recognizing power in hands-on projects that connected children to parents' skills and

knowledge, Ms. Montclair also acknowledged the need to do “book work” to cover curriculum as specified by the district, describing tension with covering curriculum and doing meaningful projects. Work such as construction can provide important funds of knowledge, especially in Latino families that may have valuable employment-related intellectual resources like building and carpentry (Moll, Amanti, Neff, and Gonzalez, 2005). Relevant projects keep children engaged, especially those from marginalized groups (Moje, Collazo, Carrillo, & Marx, 2001).

Multicultural or bilingual teachers are caught in a double-bind in which they experience tensions when drawing on cultural resources as they try to engage in relevant and responsive instruction for their diverse student population (Achinstein and Ogawa, 2011). Teachers face demands of standardization, knowledge transmission, and test scores that may cause conflict when trying to teach with culturally-relevant, collaborative, and social justice approaches. In some cases, these conflicts can be turned into “productive tension” in which the teacher is motivated and given opportunities to develop professionally and create innovative instruction (Stillman, 2011). Teachers negotiate the in-between spaces to find middle ground between mandated requirements and their own expertise about effective instruction. Research needs to explore how teachers, even at beginning stages, create innovative spaces and find dynamic moments that lay the groundwork for productive practices.

To bring to light how cultural tools, social networks, and resources can be recruited as strengths in schools, this study uses the term *points of leverage*, which means that students’ own connections or meaning-making processes are leveraged or used as sites for learning. This study does not take a romantic view or assume that it is easy, effortless, or automatic to use students’ cultural and social practices as assets in the classroom. Yet, by examining these resources and a teacher’s ways of making use of them, these resources can be further leveraged by teachers to better serve the educational needs of 21st century learners in diverse contexts.

This article explores the tensions faced by an experienced teacher and how she negotiated staying on pace and employing students’ socio-cultural resources in social studies and science. Specifically, this study highlights *points of leverage*, potential sites to be further developed to enhance student learning. In-between spaces hold promise for allowing teachers to effectively negotiate tensions between utilizing student resources and staying true to the curriculum.

Theoretical and Empirical Perspectives

The next sections explore accountability contexts and teaching approaches for diversity.

Teaching Context: Accountability, Bureaucracy, and Testing

In this era of accountability, it has become typical to encounter standards-based curriculum, high-stakes testing, standardization of instruction, and administrative or bureaucratic control over teachers and school practices. Teachers with the best of intentions and who *know* what works with their students are being pressured into teaching in ways that are less than desirable (Sheldon and Biddle, 1998). The emphasis on student test performance and the increase in district, state, and federal control over *what* teachers do in their classrooms can lead to a narrow set of instructional practices. “When strong emphasis is placed on tests and how student performances ‘stack up,’ teachers may narrow their curriculum, teach to the test, or encourage students to focus only on knowing how to get the right answers to test-type questions” (Sheldon and Biddle, 1998, p. 174). With stricter mandates for how to teach content, teachers

may shelf hands-on activities, store away boxes of art and creative supplies, and bring forth practice sheets and test-like activities to enhance testing performance and evade sanctions. In this process, students' ability to think broadly and flexibly is stifled (Ovando, Combs, and Collier, 2008). And, visuals, kinesthetic or theatrical performance, and multisensory scaffolding (Herrell and Jordan, 2011) that greatly benefit not only English language learners (ELLs) but all students may become less commonplace as textbooks and restrictive curricula become the norm.

A number of types of accountability exist in education today (Darling-Hammond, 2004; McDermott, 2007). Darling-Hammond (2004) describes one type, *bureaucratic accountability*, as when "federal, state, and district offices promulgate rules and regulations intended to ensure that schooling takes place according to set procedures" (p. 1050). These rules standardize delivery of instruction, often with the purpose of achieving equitable educational contexts, but can be counterproductive when students have specific needs requiring differentiated instruction. Under certain mandates, teachers lack flexibility to organize and shape instruction to meet the needs of all their charges. Darling-Hammond describes how urban public schools have been especially affected by "educational procedures, prescribed curriculum and texts, and test-based accountability strategies..." (p. 1051). In this way, school systems are "the epitome of top-down, undemocratic bureaucracy" (Ingersoll, 2003, p. 7). Top-down mandates about what to teach, how and when to teach it, and how to assess what is learned leave little room for teachers to make informed and professional decisions about how to meet students' needs. Issues of accountability cannot be separated from understanding how teaching occurs within a larger institutional context and the appropriateness of student learning opportunities.

Teaching Approaches: Connection, Conversation, Culture, and Content

Most 21st century classrooms have significant cultural and linguistic diversity; thus, teachers need research-based approaches that provide rich learning opportunities for all students.

Connections to Real Life. Moll, Amanti, Neff, and Gonzalez (2005) suggest utilizing student, family, and community resources to transform the quality of instruction in schools, reducing rote-like instruction and promoting relevant teaching. These researchers focus on children usually considered to be "poor" and illuminate their socio-cultural affordances that would enhance teaching and learning. Participating families have substantial knowledge about construction and building, farming and animal management, cooking, and folk medicine linked to curricular areas such as science, math, or social studies. The researchers state, "We use the term *funds of knowledge* to refer to these historically accumulated and culturally developed bodies of knowledge and skills essential for household or individual functioning and well-being" (p. 72). Teachers make use of these funds to develop units of study involving inquiry, active learning, and strategic use of social relationships outside the classroom. Research shows that relevant teaching engages students by immersing them in authentic topics and bolstering identity.

Conversations. In first grade, Gallas (1995) holds "science talks" in which the whole class regularly discusses science, theorized about nature, and wondered about the world. These inclusive talks let them gain entry to the discipline and invite all to join the conversation. Through dialogue, children come to own scientific language and "take control of a new way of thinking and being" (p.2). Children question, wonder, and imagine about how their personal narratives relate to the natural world. The talks are dynamic and flexible rather than

predetermined or limited by notions of what might be appropriate subject matter or fit developmental expectations. A science talk is multi-voiced in that it is “messy and sometimes chaotic in its style and content, but reflecting the vitality of children’s lives and ideas” (p.3). In first grade, Gallas (1995) shows the richness of ideas and appropriation of language that occurs when a teacher dedicated time to lively and frequent dialogues for children to explore their socio-cultural worlds, scientific theories, and ways of naming phenomena and experiences.

Storytelling. Michaels (2005) shows that some children come to class unfamiliar with school discourse styles that expect them to use academic language in specific ways, such as in math to “explicate the mental processes with which they engaged—in pictures, figures, or in words—to arrive at their answer” (p. 139). She documents students’ reliance on narrative accounts to articulate their reasoning, provide evidence, or challenge others’ thinking. During these moments, when students rely on storytelling instead of school genres in math or science, teachers struggle to recognize students’ thinking or acknowledge it as logical. “Working-class children—new to the school speech genre that calls on students to ‘explain how you got that answer’—will justify their answer by explicating the experiences that led up to or substantiate their intellectual expertise” (p. 139). The author suggests that children from working-class families value personal storytelling, construct artful narratives, and frequently use stories. Often, these stories privilege dramatic language and are used to defend one’s own point of view. This research views working-class storytelling, not as deviation from middle-class standards, but as powerful and meaningful in its own right. It helps to discredit myths about working-class families and highlight intellectual resources of working-class storytelling. Furthermore, it calls for educators to consider ways that working-class students can gain membership and experience with new speech genres by explicitly connecting to and capitalizing on affordances they bring.

Translating. Students must learn not only general school language but also “specialized conceptual language” in subjects like science to reason, solve problems, and follow scientific procedures in labs and the natural world (Lemke, 1993, p. 1). This specific disciplinary language is different than ways of talking in everyday life, and students who are novices with academic specialized language should have explicit instruction. Lemke (1993) suggests, “Students should regularly have oral, and occasionally written, practice in class in restating scientific expressions in their own colloquial words, and also in translating colloquial arguments into formal scientific language” (p. 173). Following this approach, teachers could have students write variations on a topic, taking up disciplinary language and also utilizing everyday ways with words (e.g., cartoon movie, family recipe, and personal stories). Students could explore various genres and the discourses employed by each. Ciechanowski (2009) explains, “The power in this approach comes from how the teacher guides students in understanding the nuances in language and the values or purposes underlying language differences” (p. 567). In this way, teachers would show how scientific language utilizes specific forms of grammar and argumentation, involves abstract concepts instead personal actions, and eschews fiction, comedy, imaginary or figurative images. Studies should explore how to explicitly instruct students to navigate across these discourses.

Data Collection and Analysis Methods

This qualitative study took place over six months in two third-grade science and social studies classes taught by a Spanish/English bilingual European-American female teacher. Ms.

Montclair (all names are pseudonyms) had taught bilingually in California for 4 years and had been teaching at this school for 9 years at the time. Her native language was English but she was highly fluent in Spanish, having majored in Spanish and lived in Mexico for six months. She had recently moved into a house in the school's neighborhood and described profound respect for her community. Ms. Montclair valued students' everyday lives and family resources and wished the district would pay teachers in August for a week to visit student homes and families. Visits would fortify connections between home and school and impart useful insights about students.

The school was a Spanish/English Bilingual school of choice in a large urban center in the Midwest. The K-8 school was situated in the southwest area of the city, which had a predominantly Latino population. Some students were recent immigrants to the U.S. but others had lived in the country for most or all of their lives; thus, the population demonstrated quite a range in bilingualism and varying levels of connection to their home countries.

Data were gathered using observations (recorded as field notes), interviews, and artifact collection (of student writing and the curricular texts). I collected data from November to June ranging from 2 to 5 times per week (during the focal units I visited more frequently), resulting in approximately 22 weeks of observation (i.e., 67 visits and 134 hours of observation). The teacher alternated between social studies and science units, switching back and forth throughout the year. I not only observed the official instruction and teacher-student interactions but I also informally interviewed both students and the teacher throughout the class during pauses in whole class instruction. I interviewed the teacher in an on-going way during and after class in addition to a two-hour interview off school grounds in June. I talked with students about literacy and sources of socio-cultural knowledge as it related to their *in-situ* reading of texts. Additionally, I collected a variety of artifacts (i.e., student work, official curricular texts, and pacing chart).

In collaboration with Ms. Montclair, I chose twelve focal students to represent high, middle, and low literacy and engagement levels and the social and demographic characteristics of the general school population. Observations focused more heavily on these focal children and additional artifacts were collected from them. For years, Ms. Montclair had given end-of-unit tests based on each chapter, to prepare students for multiple choice standardized tests, and she agreed to include a pre-test that was identical to each post-test, which provided additional data.

Analysis methods included Constant Comparative (CCA) (Glaser & Strauss, 1967) and Discourse Analysis (DA) (Gee, 1996, 2000; Fairclough, 1992). CCA provided the tools for coding and re-coding field notes and interviews and documenting themes around use of student resources, curricular demands of the content areas, teacher decisions, and instruction. With DA, I closely analyzed the language used in instruction and written texts. These methods allowed for analysis of overall learning during units, how students drew on socio-cultural and linguistic resources in content areas, and how the teacher took up these resources in her instruction.

Findings and Discussion

Ms. Montclair made brief connections to socio-cultural resources and focused on making content comprehensible, transmitting information, staying on pace with coverage of curriculum, and providing practice for testing and accountability measures. She valued students' socio-cultural resources and made space for them; thus, there were momentary glimpses of "third space" (Gutierrez, et al., 1999) when her instructional plans noted and integrated resources in ways that led to innovation and deeper meaning. Ms. Montclair discussed how students' resources could move their learning to a new level, demonstrating how these *points of leverage*

had potential, with further exploration and refinement, to enhance content learning. The initial section provides a snapshot of the instructional context and pressures Ms. Montclair faced. The following sections discuss: (1) connecting to culture and everyday life, (2) storytelling, (3) conversing about content, and (4) navigating across disciplinary ways of thinking.

Context of Curriculum, Resources, Pacing, and Testing

Ms. Montclair was given restrictive content area curriculum that included a science and social studies textbook as a singular source of information and that was not geared towards bilinguals or ELLs. The third grade science textbooks called *Harcourt Science* (Frank, *et al.*, 2005) were new in fall of that year and the class set was provided in English, with only a few copies in Spanish, despite the Spanish/English bilingual program and a number of Spanish-dominant students. The social studies textbooks called *Communities: Adventures in Time and Place* (Banks, *et al.*, 1997) were only available in English at the school. Although the newly adopted science textbooks included a hands-on science activity at the beginning of each chapter, Ms. Montclair did not receive any supplies (e.g., shells, chalk, clay, beakers) and found it difficult to get the needed materials and set up for two classes without preparation time. To complicate matters, she was explicitly directed in *how* to organize teaching the science textbook, as evidenced by the pacing chart from the district, showing a specific order and time frame when content should be covered. Ms. Montclair felt accountable to some degree for how students performed on 5th grade mandated district science tests; thus, one of her regular practices was to administer post-unit tests after each unit, consisting of multiple choice and short answer response questions drawn directly from textbook chapters. Amidst demands for coverage of content, lack of Spanish resources, pressure to perform on tests in English, and challenging unmodified texts, the teacher decided that the English-language textbook should be read aloud together as a class with discussion in Spanish and note-taking on the chalkboard afterwards. Much of class time was spent in whole-class conversations, as depicted in the sections below.

Connecting to Culture and Everyday Life

To help students connect content to their lives, Ms. Montclair often asked, “Have you seen...?” or “What are examples of...?” She provided open-ended questions for students to make connections and interrogate relevance to everyday life. These questions not only generated concrete mental images of scientific concepts but also assessed student understandings by asking for appropriate examples. Ms. Montclair typically initiated the question (although sometimes the student provided an example first), received a response, and then evaluated the example (in an Initiation-Response-Evaluation sequence; Mehan, 1979). She at times approved of an example and restated it, extended talk about it, or drew it on the board. Fitting examples moved lessons forward in alignment with lesson objectives but less-accepted examples were often corrected or refocused in line with her goals. Generally, this questioning stance provided support and time for students to think about connections between their school subjects and their everyday life.

Ms. Montclair praised appropriate applications between content knowledge and everyday life and affirmed fitting examples of natural phenomena. In a weathering lesson, Adriana offered an apt example about how rock gets worn and weathered, as shown in the excerpt below:

Adriana: [At the museum] There’s a donkey made of stone and he tells kids “don’t touch it” because it can wear away stone. It used to be gold, now it’s

black and chipped off.

Teacher: Good example. The statue at the museum... [She describes it]. Have you been to church and the pews have smooth spots where people put their hands? Or, in the stairs, it dips. Or, have you seen handrails that are worn down? All people did is touch them, and your hands are soft, but over time it wears down.... Have you seen water drip in the same spot over time it makes a big hole? That's weathering.

Ms. Montclair praised Adriana for a real-life connection and continued along these lines by questioning students with, "Have you seen...?" interrogating whether they had noticed worn spots in church pews, stairs, handrails, or under water leaks. These questions regularly promoted thinking about where and when students experienced scientific phenomena in daily life.

In the next exemplar, Ms. Montclair took up students' resources that tightly matched the focus of the lesson as students drew examples came from family and popular culture:

Teacher: On paper here, draw what sand dune looks like. *Se llaman dunas pero voy a poner "dunas de arena" para que sepan.* [They are called dunes but I'm going to put "sand dunes" so you know it.]

Teacher: What about water? Could water move soil and sand?

Students: Yah

Teacher: What are examples of when that happens?

Alexis: Like on *Sponge Bob*. They made a castle on the beach and a wave came and knocked it down

Teacher: Have you ever seen waves keep coming and coming?

Nina: There was one time when waves kept on coming and coming

On the board, Ms. Montclair drew a sand castle in Box 2...

Lucas: My family went to Mexico and we built a castle of sand and it fell down then my dad had an idea to build out of rocks and it didn't fall....

Teacher: What happens after the wind hits the sand?

María: When I went to Mexico...

In response to Ms. Montclair's question, "What are examples of...?" Alexis supplied an example from *Sponge Bob*, describing how a sand castle got destroyed by waves. It directly answered Ms. Montclair's question about when water moves sand or soil and, thus, Ms. Montclair took up Alexis's example and drew a sand castle on the chalkboard to illustrate erosion caused by water. Students connected to stories from transnational family trips to Latin America and from popular cartoon series, which the teacher took up and used in class, keeping focus on instructional goals.

The teacher requested examples that connected scientific content to the places, cultural artifacts, social spaces, and family experiences that were meaningful for students. Experiences with local trips (i.e., family visits to museums), transnational Latino culture, and popular culture (i.e., *Sponge Bob*) were relevant points of connection for students. Yet, as Ms. Montclair negotiated pressure to cover material, connections were momentary and surface-level so she could keep on pace. The *point of leverage* is the questioning stance that interrogates how students link content to everyday life and draw from broad repertoires of cultural practices relevant to learning in content areas. Further questions then have to do with the *depth* of connection to everyday life, applicability of student exemplars, and types of questions. What if teachers moved beyond in-the-moment exemplars and *planned* for integrating connections to students' resources? How could teachers activate a range of student resources even when they seem to detract from instructional goals? What types of questions would lead to deeper thinking

levels?

Storytelling

Storytelling and personal narratives were widely evident in the empirical data, as young children often connected to stories and some created vivid and artful narratives to make sense of everyday life. The third graders had life experiences related to content that they wanted to share, particularly about time spent in Mexico or Puerto Rico. In the following exemplar, Lucas and Edy tell stories related to the passage on earthquakes.

Teacher: A little pressure causes a small earthquake—a small vibration like people moving in gym. You can feel the room move when someone jumps in the gym upstairs above us.

Lucas: When I was seven, there was an earthquake in Mexico

Teacher: What did it feel like?

Lucas: A little like moving in the chair, I looked around to see if someone did it.

Teacher: Did it damage the house?

Lucas: No.

On the board the teacher draws a broken bridge with a car falling down and a building leaning over, and underneath these pictures she writes “*daños/damage*.”

Edy: My mom said that when she was 21 she went to Puerto Rico and the earth moved for like an hour. A piece of the roof fell off and it was raining and raining for like 3 days.

Teacher: *¿Qué va a pasar si hay un terremoto al fondo del mar?* [What will happen if there is an earthquake at the bottom of the ocean?]

Teacher drew a giant wave above the ocean and a rupture on the floor beneath the ocean. When Lucas recalled his firsthand experience with an earthquake in Mexico, he was connecting to his transnational experiences in which he related not only to local spaces but also to the climate, flora and fauna, and events in his country of origin. Lucas, like other students, often talked about science-related contexts in Latin American countries like Mexico, such as shell-collecting at the beach, work in the desert, animals like scorpions, and the hot climate. For students whose cultural practices involved time spent in two countries, it was important to make content relevant to multiple social and geographic locales. Ms. Montclair questioned Lucas about how the earthquake felt, perhaps wondering if his encounter felt like vibrations, then questioned him about whether the earthquake damaged his house. Lucas’s story tightly matched her instructional objectives, and she validated his storytelling. Her questioning shaped his storytelling to keep the account on track with the specific goals of the lesson. Yet in another student’s account of an earthquake that was vivid and dramatic, Ms. Montclair did not take up his story at all, most likely because of timing or his ways with words that did not seem to take up a logical or fully realistic school genre for reporting information.

Stories revealed important insights about students’ thinking about content, but their logic or immediate relevance sometimes eluded the teacher’s highly-focused lessons, as shown below:

Teacher: Most of the water on earth is salt water. Do we use it to drink? To bathe? To wash clothes? For plants to drink?

Students: [After each question] No!

Angelo: Where salt water is located?

Teacher: Oceans

María: Can you swim in it?

Dana: I went to Florida, Sea World, and whales splashed salt water and it got on everybody nearby.

Teacher: Okay, let's read more and then we can take notes and hear stories.

The teacher directed students to page D8 and they choral read "Fresh Water."

In this case, Dana's recounted a story about a Sea World vacation that may not have seemed directly and immediately applicable to the topic at hand. However, Dana and her classmate were thinking about creatures that swim in oceans, possibly focused on text that reads: "Many plants and animals live in the ocean. But salt water isn't good for the plants and animals that live on land or in fresh water" (Frank, *et al.*, 2005, p. D7). Perhaps students wondered about the vague term "isn't good" and the outcomes when salt water contacts fresh-water or land animals/people. With tension to cover the textbook, the teacher overlooked some of the storytelling and possibly significant concepts that underlay their wondering. Stories were often logical and followed naturally from the text, but the reasoning may have eluded the teacher or been dismissed as distraction (as in Michaels, 2005). *Points of leverage* include the importance of student stories, opportunities to share their logic, and explicit guidance to navigate use of stories in school.

Conversing about Content

Ms. Montclair saw the importance of students conversing with each other about everyday life and school texts. When students linked content to their lives and had small group time, they talked about socio-culturally relevant examples that held meaning for them. For example, in social studies unit on government and taxation, Ms. Montclair asked, "how many people, if their parents go to work for 10 hours and get \$100, does the boss give them a check for \$100?" During small group work about *taxes*, students talked to each other about their own lives and family work, as follows.

Adriana: My grandparents own a Mexican restaurant and gave me a job of working the cash register. When people gave money, I added the taxes. They showed me how to do it.

Nicolina: When you buy something, is it on a receipt and says, "+tax"?

Alexis: [She tells about her mom teaching English to Spanish-speaking people at church. Alexis and her sister babysit during the class. They pay taxes.]

Through opportunities to converse about content, students revealed socio-cultural resources that reflected their Latino heritage and family work, such as ownership of a Mexican restaurant, bilingual translation at church, and child apprenticeship and participation in parents' workplace. These were valuable experiences and knowledge sources that helped students engage with abstract concepts such as *taxation* and make sense of the academic textbook.

In addition to family and community culture, Ms. Montclair noted that several movies were popular and drawn upon by students but represented inaccuracies that contradicted information provided by the textbook. The students' pervasive use of popular culture represented opportunities for discussion, analysis, and engagement by a wide range of students. On one occasion, Ms. Montclair provided an opportunity to discuss a popular movie about which students talked frequently, indicating how its larger narrative shaped thinking in science class. As Gallas (1995) claimed, time to talk gives students a way to further their understanding of scientific concepts. During study of glaciers, Ms. Montclair allotted two minutes at the end of class for talk with peers about *Ice Age*, as depicted in the following excerpt:

Teacher: So many people saw *Ice Age*. Take 2 minutes to talk to a neighbor about the movie and glaciers.

Mona: That's not how it really happened...the movie says...the squirrel put the nut in the ground....

Mona and Andy tell me about *Ice Age*—that a piece of ice pops up, which makes the glaciers start to move so the squirrel has to run fast. Somehow the nut saves him.

Mona: It's not true because it moves so fast and how can he stick a nut into ice?

During brief conversation, Mona questioned the fictitious aspects and accuracy of *Ice Age*. In science class, she learned precise glacier speeds (e.g., one foot each day) thereby realizing that the cartoon glacier moved too fast to be real. And, in a unit on states of matter she learned that a glacier is ice, which is a hard solid, therefore likely too dense for an acorn to pierce. Thus, the two minutes for discussion provided opportunity for Mona to integrate what she learned in science class and what she saw in the movie. Opportunity for classroom conversation—even without guidance—led to more sophisticated insights about popular culture and science content.

Likewise, the teacher noted that the movie *Pocahontas* was ever-present in the talk and minds of the students during a unit on Jamestown and the Powhatan natives. The teacher's voice can be heard, as depicted in the excerpt below, as she showed an awareness of the differences between Disney's and the curriculum's portrayal of history.

The teacher says that in the movie (Disney) *Pocahontas* marries John Smith instead of John Rolfe as in reality. The teacher plans to engage the kids in some kind of discussion surrounding the inaccuracies of the movie and also show the movie to give them a sense of the larger “narrative” and how it all fits together. She acknowledges that she doesn't know enough about historical details to engage them in an intricate and detailed analysis of the movie. The teacher talks about helping kids bring it all together.

The social studies textbook contained a brief discussion (i.e., three short paragraphs) of John Rolfe and Pocahontas, and Ms. Montclair wanted students to hear the larger narrative of how the figures fit into history and why they were important. She planned to show part of the Disney movie to help students gain a fuller picture of history and to engage students in critical analysis of the movie's inaccuracies. Yet she admitted to her own lack of historical knowledge and discomfort leading deep analysis of the movie, perhaps due to little teacher preparation to do critical analysis. Although the teacher never did this analysis or discussion, she wanted to merge popular culture with social studies to enhance student learning, by using multiple narratives to pull together pieces of information into a larger story. This fits with research on youths' disciplinary knowledge shaped by popular cultural historical narratives (Wineburg, et al. 2007).

Through *science talks* or *history talks* to analyze socio-cultural resources and content, students could make deep connections and engender critical use of resources. Further questions center on how much *time* for classroom conversations would promote extended negotiations of language, content, and student knowledge of everyday life. Additional questions revolve around teacher preparation and specific methods for guiding these critical conversations.

Navigating Ways of Thinking

Ms. Montclair used students' resources to demonstrate that not all texts were alike or

valued equally across settings. Indeed, there are particular ways of using words, communicating values, and thinking that differ across discourse communities (Gee, 1996). In general, scientific ways of thinking are powerful in Western society, including schools, and serve as a type of cultural capital that allows greater access to social positions in society (Bourdieu, 1984). For example, animated movie discourses (such as for Disney) can lead to economic and social power in certain Hollywood communities, but may not lead to success and power in scientific worlds. Ms. Montclair's remarks about "modes of thinking" or acting "like a scientist" could be springboards for further practice navigating across academic and everyday discourses.

In an exemplar from social studies, the teacher described incongruence between popular cultural resources and official discourses of social studies (although she did not use the term *discourse*). On unit assessments, the teacher expected a particular way of evaluating information garnered from a Disney film and from their instruction, as described in field notes:

The teacher told me that it was funny how several students—mostly girls—answered the question on the test, "Why was it important that Pocahontas married John Rolfe?" with the answer "because she loved him so much." The teacher commented, "They're not thinking in the social studies mode."

Several girls wrote on their unit test that *love* was the reason why Pocahontas and Rolfe's marriage was important in history. The popular Disney movie exaggerated the importance of romantic love in the historical union, and students seemed to focus on this exaggeration when answering the test question. The teacher claimed students were not thinking like social scientists because, in her evaluation, romantic relationships did not matter much in "social studies mode."

In this classroom, doing science or social studies meant following the textbook's language, structure, activities, and content. Part of this framework focused on non-fictional and realistic portrayals of phenomenon. In science, Ms. Montclair juxtaposed realistic and comical renditions in an example about how to draw like a scientist. When students had to create models of shell fossils, she said, "*Tienen 2 minutos. Dibuja A, B y C—la concha—tal cómo hacen los científicos. No una caricatura... lo más real que puedan.*" [You have 2 minutes. Draw A, B, and C—the shell—how scientists do it. Not a cartoon... the most real possible.] She modeled her talk by doing two drawings, one of a cartoonish figure and another of a precise informational sketch. Ms. Montclair used cartoons as a counterpoint to demonstrate inappropriate scientific drawing by taking up a popular resource with this age group as a tool to clarify how students should draw in science to work within the expected discursive framework.

Points of leverage are Ms. Montclair's notice of different "modes" or ways of thinking, grasp of academic consequences of unskillful navigation across them, and explicit instruction in translating across cartoons and science. There is potential and importance in explicitly teaching how to negotiate the ways of talking and thinking of different discourse communities that are more or less powerful and appropriate in different contexts (Lemke, 1993).

Implications

In spite of the pressure to cover curriculum and stay on pace, Ms. Montclair used points of leverage to help students make real-life connections, although she clearly had to rush past some students' stories. Within these teaching contexts riddled with tension, there are practices that show promise for effective instruction of children from diverse backgrounds. Twenty-first century classrooms exhibit diversity and, thus, require teachers to take up approaches that harness the potential of children's socio-cultural and linguistic repertoires. These approaches not

only respect and utilize children's cultural practices but also purposefully provide space for ample talk and speech styles. They explicitly instruct students to navigate across academic and everyday ways with words. Twenty-first century teachers value the range of cultural tools (e.g., transnational cultural experiences, bilingual practices, family funds of knowledge from work, popular movies and cartoons) that children bring to bear on their learning (Moll, Amanti, Neff, and Gonzalez, 2005). They also are tuned in to demanding school expectations that require focused, planned, and thoughtful instruction on academic language and speech genres. Teachers who *deeply* take up students' socio-cultural affordances move beyond momentary and surface-level uses of these resources to develop extensive and planned uses of students' assets. Additionally, they embrace multiple speech genres from everyday life and scaffold students' socialization into academic speech genres. This article has identified *points of leverage* that serve as springboards for further thought and development of ways to harness assets that students bring to bear on their learning in school subjects. Even with tensions from accountability reforms, teachers demonstrate promising practices that can be further articulated and reflected upon as we continue to strive to meet the needs of all 21st century learners.

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