

Student Resistance in a Fifth-Grade Mathematics Class

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Abstract. Educators are constantly seeking the underlying reasons behind student actions and understanding. The purpose of this study was to observe and analyze the use of resistance methods by four fifth-grade Latino/a students in response to classroom environment and teacher practice. Elements of resistance observed were compared to the study findings of Solorzano and Bernal, (2001), Yosso (2000) and Spaulding (2000) to determine possible trends and relationships that exist in student interactions within the classroom mathematical activities and participation in classroom discourse. The case studies showed that communication between the teacher and students is critical to providing a quality education while not suppressing cultural values or experiences that can be useful in understanding resistant behaviors.

Introduction

Mathematical spaces created within the everyday routines of classrooms in the United States often confine young people within parameters that are devoid of connections to their real social worlds. Relationships between students and teachers are developed from adult-centric views that fashion the process of learning in approximation to the adult experience (Andrade, 1994; Cahan, Mechling, Sutton-Smith & White, 1993). The lack of attention paid to the understanding and knowledge of children's lives can create spaces that suppress student learning. Students of "minority or low socio-economic status are especially vulnerable because they are alienated within educational spaces for extend periods of time with no cultural connection to bridge their learning into dominate social parameters and their intellectual abilities deteriorate"

(Trueba, 1998). In an effort to maintain engagement with their education some students have found a means to remap themselves onto the culture of the educational space; students have created resistant behavioral forms (Giroux, 1992). These forms of resistance vary from space to space and can transcend between multiple spaces. The purpose of this study was to observe and analyze the use of resistance methods by one set of fifth-grade students in a mathematics classroom.

This study was conducted in conjunction with the continued work developed through the Center for the Mathematics Education of Latinos (CEMELA)¹. In keeping with the goals of the center, this study maintained the sociocultural perspective as its guiding conceptual framework. Creating a supportive environment for learning is both a social and cultural process. In this process knowledge is constructed as a result of personal experience gained in classroom activity that incorporates mental reflection. Socio-cultural theorists see learning as a function of environmental social interaction based in classroom activities. Therefore, teachers mediate mathematical concepts students will use to solve tasks. Social actions are more broadly based than social interactions. The interactions of children in classroom activities are a small part of their induction into the required social actions. The teacher performs a conscious role of learning for both the student and themselves (Bruner, 1985, Lave & Wenger, 1991, Cobb et al., 1996). These theories are crucial to this study because it is the methods of interaction and roles students take to manipulate classroom activities in favor of their interests. The social structure and classroom norms are the catalyst for student acceptance or resistance.

As Latino students in the U.S. school system are continually labeled as not meeting their educational goals because of increased drop-out rates, grade repetition, overrepresentation in special education, it becomes critical to understand how students interact within the educational

spaces that are continually failing them. A growing numbers of studies have shown that the appropriateness of current educational practices for Latino students and the mis-education of Latino children may indeed be the norm (McNeil & Valenzuela, 1998; Reyes, 1992; Valencia, 2000). It is this norm of educational spaces not meeting student needs that has given rise to the current rates of failure. Current figures suggest that Latino students have the highest annual high school dropout rate (7.1%, nearly double that of non-Hispanic White students) of any ethnic group and the percentage of Latino adults age 18–24 who are no longer enrolled in school and who have not completed high school (34%) is more than double that of any other ethnic group measured by the census (U.S. Census Bureau, 2001). Student who seek to counter low-achieving labels and resist dominate thinking of educational spaces, resistance becomes a double edge sword. On one side, resistance provides students with a means to gain control and connection to educational spaces. On the other side, resistance is seen as a threat by educational leaders and often is considered an attribute of student failure. It is important for educators and researchers to understand why and how students use resistance as a means to gain education freedoms that are continually denied them so the cycle of labeling students as low-achieving and uncaring can be stopped.

Research Goals and Questions

The goal of this study was to determine the ways in which elementary students demonstrate resistance in a mathematics classroom.

The guiding question was: in what ways do students in an elementary mathematics classroom demonstrate resistance? To answer this question four sub questions were created:

1. What forms of resistance are utilized by students?

2. What experience, activity, or social engagement prompted students to apply resistance forms?
3. Why did students select these forms of resistance?
4. What are the behavioral and academic consequences for students who resist?

Literature Review

Mathematical spaces or contexts are historically structured and ritualized places where mathematical knowledge can be obtained, applied and produced. Within its layers are competing contexts of knowledge that are rule governed and taught in a similar fashion. Learning mathematics in an already segmented educational setting for students can in itself be an enormous challenge. Context without continuity or communication pathways between them can be difficult or not possible to successfully navigate; especially when considering the interaction of content with the social learning environment. Mathematics in itself is a culture that requires students to engage within a process of dominant knowledge acculturation (Bishop, 1988; 1994). This can cause students to experience levels of cultural and social conflict that can disrupt or inhibit mathematical learning.

According to the work of Moschkovich (1999), “Latino students share some common needs with other “minority” students; such as “access to curricula, instruction, and teachers that have proved to be effective in supporting the success of minority students. The general characteristics of such environments are that the curricula provide, “abundant and diverse opportunities for speaking, listening, reading and writing” and that instruction “encourage students to take risks, construct meaning, and seek reinterpretations of knowledge within compatible social context” (p.6). For many students coming to the United States, their mathematics content knowledge is above that of their majority peers; however, access to

mathematics curriculum that supports their needs is limited by current English immersion practices that focus only on the access to language and not content. Current mathematics reforms in education are now reflecting mathematics learning that emphasize discourse and communication (NCTM 1989). However, this shift brings with it new challenges for Latino/a students.

According to Crosnoe, Lopez-Gonzalez & Muller (2004), “Native-born Mexican-American students have had lower math/science enrollment than their peers, especially after differences in family and school contexts were taken into account. Mexican-American immigrants have had lower achievement when enrolled in such classes, but this was explained by their greater level of family and school disadvantages” (p.1220). Immigrant students are often advanced in mathematics and science when entering American schools but resources and classroom environments are limited to meet their needs, resulting in lower educational achievement. Current educational programs and resources do not meet the needs of minority students. According to Garrison & Mora (1999), the major dilemma educators of Latino students face is how to teach mathematics so that the curriculum is both meaningful and accessible to Latino students.

Resistance in Classrooms

In her ethnographic work with Mexican Youth and the state of their educational experience, Valenzuela (1999) found that: “All people share a basic need to be understood, appreciated, and respected. Among many acculturated, U.S.- born, Mexican American youth at Seguin, however, these basic needs go unmet during the hours at which they are at school. The students’ culturally assimilated status only exacerbates the problems inherent in an institutional relationship that defines them as in need of continuing socialization” (p. 108). She found that the

subtractive school experience increased the disassociation students felt due to their lack of control of their education. Students in general have the ability to create sound argumentative statements they experience but lack argumentative skills to do so. Working-class or poor children are often not given the opportunity to develop the skills needed to experience the benefits of educational spaces. According to Lareau (2003), working-class and poor children are given boundaries for their behavior and then allowed to grow; where as their middle-class peers are treated as a project to be developed. This leaves students frustrated and “unable to articulate their frustration and alienation effectively, and inexperienced with the idea of collective action, most regular-track students settle for individual level resistance. They engage in random acts of rebellion, posture and pose, mentally absent themselves, physically absent themselves, or attend and participate only in those classes that interest them” (Valenzuela, 1999, p. 109).

According to Kohl, (1994) schools have taken students who have shown a willed refusal to learn and categorized them as failures in learning. Kohl states that:

“Learning how to not-learn is an intellectual and social challenge; sometimes you have to work very hard at it. It consists of an active, often ingenious, willful rejection of even the most compassionate and well-designed teaching. Deciding to actively not-learn something involves closing off part of oneself and limiting one’s experience (p. 2).

For Kohl, not learning is when a student willingly rejects their classroom and its context. This behavior is seen by educators as a failure to learn and not as a form of resistance. The rejection of learning is often overlooked and produces very different outcomes for students. Resistance provides students with a strong self identity and satisfaction with their new role in the classroom; the role of advocate.

Kohl suggests “not-learning was a strategy for students to function on the margins of society instead of falling into madness or total despair. Not learning played a positive role and enabled them to take control of their lives and get through difficult times. Students want to live free of institutional control and to restore some peace and sanity to an earth they see pulled apart by greed and competition; and for any youngster who refuses to perform as demanded is treated as a major threat to the entire system” (p. 10-12). Students resisted the classroom at the cost of being marginalized and labeled as failures; they empowered themselves to take hold of what they were learning and how they would learn it.

Valenzuela (1999) also found that “on the surface, Mexican students’ resistance does not appear to be evidence of a working-class consciousness rooted in the experience of wage labor. My portrayal of students’ disruptive actions point more strongly to the current theoretical discussions of resistance by describing situations in which students affirm precisely that which is denied through the subtractive elements of schooling.... the immigrant and U.S.-born youth can and do achieve in resistance. Their implicit critique of the relations of domination comes through in their actions that upset the normality of difference and a mutual sense of alienation that Seguin ordinarily fosters” (p. 227). This assimilation involves a subtraction of class-based identities and the adoption of an ethnic minority identity by the students. This also suggests that strong pressures from peer groups push immigrant youth to adopt racialized identities against the current school practices that they identify as part of the oppressive educational state (Olsen, 1997).

Suggested in many resistance theory accounts, there is a tendency toward romanticizing nonconformity. However, not all misbehaviors are resistive against political beliefs; which helps explain the individual level where students’ actions are often ambiguous (Mehan and et al.,

1996). Resistance in whole is a spectrum with “students who are simply acting out in class without any critique of the social conditions that may contribute to their disruptive behavior” on one end and students “who are strong critiques of their oppressive social conditions but who ultimately help re-create these conditions through their own self-defeating resistant behavior” on the other end (Solorzano & Bernal, 2001, p. 316). Resistance does not always have to be self-defeating, it can be as simple as hiding a library book amongst others in order to have the ability to read it, speaking Spanish in class when it is not the norm, persistence in escaping the grasp of English immersion programs that pigeonhole students into dead-end education tracks, or even going beyond the standard set forth in your curriculum and learning content beyond what is provided in class.

Solórzano and Bernal (2001) remark that resistance theories differ from many forms of socio-cultural reproduction and stereotype threat theories because the concept of resisting emphasizes that the individuals are not simply acted on by societal structures. They are instead involved in negotiations and struggles with the structures when creating their own meaning from interactions. Resistance theory also acknowledges that individuals have agency within educational spaces. Human agency is the ability for individuals to make their own choices and to impose them on their world. Agency is affected by the social, cultural and economic conditions an individual is placed in and their motivation to participate in the correction of social wrong doings.

Solórzano and Bernal (2001) place resistance into several interrelated themes: reactionary behavior, self-defeating, conformist, transformational, and resiliency. Reactionary behavior refers to students who lack a critique of the oppressive conditions in which they are placed and are not motivated to action to correct these conditions. For example, a reactionary student is

someone who may challenge their teacher or act out just for the fun of doing it. They offer no aid or reason for their behavior in relation to their educational setting. Self-defeating resistance is categorized as students who have an opinion on the oppressive social conditions but have no motivation to participate in the correction of these conditions. This form of resistance does offer an acknowledgement of human agency however it is limited because student behaviors can be destructive to themselves or others. Conformist resistance suggests that students are motivated to participate in social justice struggles but have no opinion of the systems that are acting to oppress them. For example, this form would refer to students who may develop a tutoring program to help peers at risk of dropping out of school yet not challenge the institutional and social programs that lead to the students being categorized as at-risk. Transformational resistance refers to students who are motivated to participate in social justice movements and offer their own critique of their oppressive situation. For students with a deeper level of social justice comprehension, transformational resistance provides the strongest possibility for creating change.

As part of transformational resistance, Yosso (2000) examined some of the many manifestations of Chicana and Chicano students' transformational resistance, including their push to "prove others wrong." The act of proving someone wrong seems to be a process in which students "confront the negative portrayals and ideas about Chicanas/os, are motivated by these negative images and ideas, and are driven to navigate through the educational system for themselves and other Chicanas/os" (p. 109). Further commentary was also offered by Yosso's work on the vast amount of strategies students utilized during the process of transformational resisting and has come to include resilient resistance. Resilient resistance refers to the constant survival or succeeding throughout the oppression of educational systems and the strategic

responses used to resist. According to Peter MacLaren (1993) “resistance among working-class students rarely occurs through legitimate channels of checks and balances that exist in educational organizations. Rather, resistance among the disaffected and disenfranchised are often tacit, informal, unwitting and unconscious” (p.147).

It is clear that some students taking positive courses of action to achieve their goals can be just as resistant as those who self-destruct with their flagrant, insupportable challenges to the system (Mehan et al. 1994, 1996). According to Valenzuela, the work of O’Connor (1997) illustrates this in the “case studies of urban, African American adolescents suggest that youth may also respond constructively and express great optimism in the face of oppressive, exclusionary forces in society. To this, I would add that “positive resistance” is a subjective call, depending a great deal on the eyes of the beholder. Acts of resistance from youth located in privileged rungs of the curriculum are seen differently by school officials when committed by regular-track youth” (Valenzuela, 1999, p. 229). This work shows how students’ educational cultural model of schooling impacts their critique of and expectations concerning schooling. For Latino/a students to be successful in education they require the trusting, respectful relations with adults who are there to teach and guide them, and a curriculum that supports their cultural identity as Mexicans that schools currently do not provide.

Methodology

Site and Participant Selection

This study was conducted at Agave Elementary School², a public school settled in a primarily Mexican/Mexican-American neighborhood of the Southwest in the United States. The neighborhood maintains many characteristics of Mexico, such as the small bungalow-style houses, signs in Spanish, and local businesses selling Mexican products, reflecting the history of

the area as being a part of Mexico (Gonzalez, 2001). Agave serves a 90% Hispanic student body of 272 student with an estimated 95% of the student body qualifying for free or reduced lunch, and 38.4% of the students are classified as English Language Learners (ELL) with 92% reporting that they speak Spanish at home (Greatschools.net, 2007). The percentage of students eligible for the federal free and reduced-price lunch program is one indication of the low student economic level (or family income level) of the families the school serves. The school makeup is a reflection of the surrounding community of low income families of predominantly Latino heritage.

Due to recent changes in Arizona's educational policies and legislation concerning bilingual education, all ELLs are now placed into Structured English Immersion (SEI) classrooms rather than bilingual classrooms. The goal of this is for students to be immersed into the English language if they test below a certain level on an English language test. Agave currently serves grades kindergarten to sixth grade.

The classroom selected for study was one of two fifth grade classes headed by veteran teacher Cynthia Paterson. Mrs. Paterson grew up in a small Northwestern town. She came from a working class family and determined at an early age that she would be a teacher. She pursued education in college and finished her Bachelors' degree in Education after relocating to the Southwest with her husband in the late eighties. She earned her Masters' degree in Education and she continues to take courses through her district and local university. She has taught at Pioneer for several years, moving between third grade and fifth grade. She participates regularly in professional development opportunities and after school activities with her students.

The fifth grade class is composed of thirty students; fourteen males and sixteen females. Students were arranged in cooperative working groups throughout the duration of mathematical

lessons. The students' endeavors for discovery and exploration are encouraged by their teacher. Students are also active in their ability to navigate classroom discourse and progress through their cooperation or lack of it.

Methods of Data Collection

The timeline for this study was 9 months, or one academic year for the elementary school. Interviews, field observations and student work were the main three forms of data collected.

Interviews

Interviews were conducted with both Mrs. Paterson and her students. They were both formal and informal in nature.

Mrs. Paterson

The interviews were conducted as informal meetings that consist of semi-structured with open-ended questions. Guiding questions were determined prior to the initial interview. These interviews were conducted face to face in her classroom and did not have pre-determined time limits. There were two purposes for these interviews. The first was to establish a rapport with Mrs. Paterson and develop a baseline understanding of her classroom philosophies, student perspectives, and ideology of learning mathematics, general classroom structure, and routines. The second was to discuss with her more specifically her perspectives on the issue of resistance and how she as an educator defines, interprets and deals with it each day. Perceptions of resistance are varied, and for the purposes of this study, needed to be placed within the context of the classroom and the teacher's perspective in order to make sense of the student actions.

Students

Four students were selected to be case study students and were informally interviewed individually. The reason for interviewing and selection of four cases was to understand the variation that exists in the classroom, provide the students an opportunity to interact and ask questions of the researcher and provide a baseline of comparison. Interviews were conducted during designated student work times or during lunch. Interviews lasted roughly 10 to 15 minutes. Observations were done prior to first interviews to establish background and rapport with students. Cases were selected based on teacher feedback, on student performance and from their participation in classroom activities during initial observations.

Observations within the Classroom

Observations were conducted twice a week during the mathematics block, roughly a 75 minute period of time. Field notes were taken at each observation and interview. Observations were held on Tuesdays and Thursdays. These days were selected because of both scheduling limitations and school activities. The purpose of these classroom observations was to look for instances of student resistance as they occur during mathematical tasks.

Lunch Observations

Observations were conducted on Thursdays during the designated lunch period for the fifth graders. The lunch period offered an opportunity for both the researcher and cases to interact with one another outside of the academic activities as a means to triangulate classroom behaviors with other settings of educational interaction; as well as, to observe how the teacher and students interact with one another during unstructured time. Lunch time was also an opportunity for students to engage in school clubs, sports and work on group projects. For example, students participating in the fifth grade chorus often practice with the music teacher during lunch or use the time to coordinate after school activities.

Student Work

Student work was collected throughout the study for predetermined lessons to gauge which activities are able to maintain student interests and those which students were unable to connect with. Students also had journals for each academic subject and were allowed to write reflections on activities, concerns and thoughts about content and personal concerns. Reflections allowed students to elaborate on their feelings toward activities or other issues that may affect their classroom behavior or content learning. Student work and reflections helped create a greater picture of the classroom.

Methods of Data Analysis

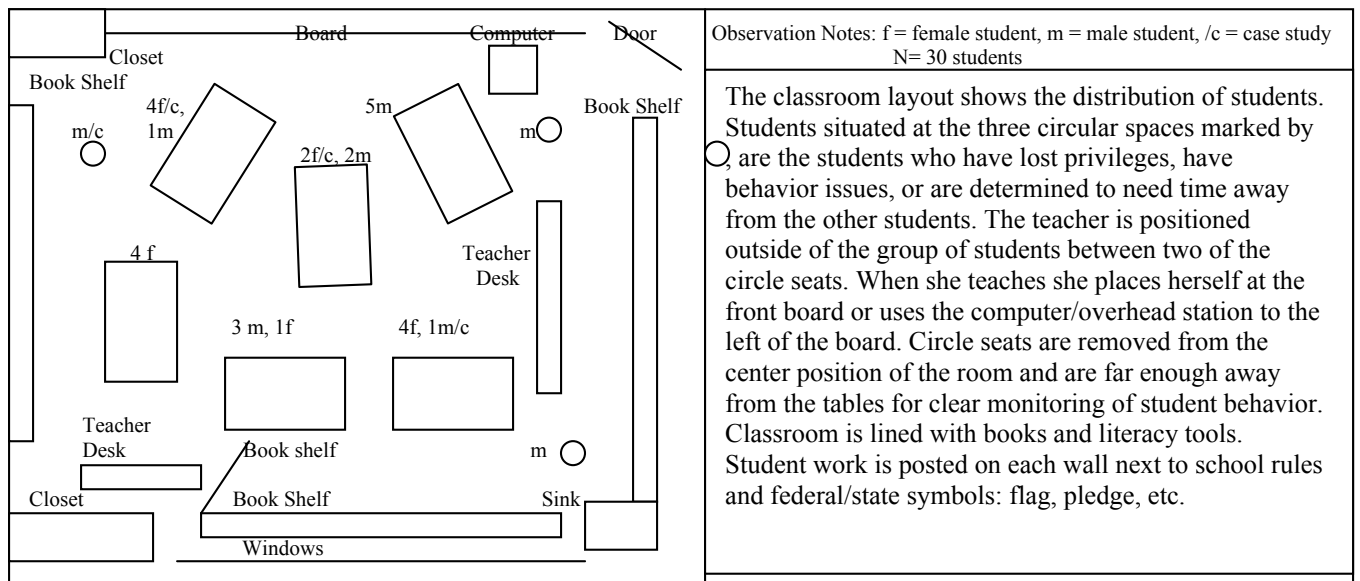
Once data was collected in field notes and interview transcripts, an ethnographic and constant comparative analysis of both descriptive and categorical development was conducted. Data was analyzed throughout data collection to identify possible relationships and categories inherent in the information. The elements of avoidance or resistance were compared to the findings within previous literature and observations made outside of the classroom to determine possible trends and relationships that exist in student interactions within the classroom mathematical activities and participation in classroom discourse. In keeping with the constant-comparative foundations of grounded theory, alternate phases of data collection and analysis were utilized (Glaser, 1992; Merriam, 2001; Glaser & Strauss, 1967; Strauss, 1987). New data collected from observation, interview and discussion was constantly compared to information collected to continually refine and guide observations, interviews and activities.

Findings

The Mathematical Space

The class is distributed into cooperative learning groups that are composed of both high and low-level learners. Mrs. Paterson remarked that the high level learners are an important aid to the learning of her lower level students. Peer activities and groups are essential to her instructional practice; however the focus on group work does at times conflict with her classroom management. Rules, norms and expectations are posted throughout the room and support the larger school policies. Typical of any classroom, moments of instability are caused from daily conflicts between groups of students and lesson transitions between academic subjects. The students maintain a cliquish scheme that leaves many students socially isolated. To combat this and to ensure certain groups are dispersed to keep conflict suppressed, seating was composed of five to six desks arranged to form tables and to allow students to face one another. Three desks are separated away from the six group tables. Figure 1, below illustrates the classroom layout.

Figure 1: Mrs. Paterson's Classroom Layout



These desks usually house students who have lost their privilege to work in groups, who have been absent and need more focused attention, students who elect not to sit with others, or those who need to focus on a task different than the activity taking place at that time. There are three to four students who generally fill these seats routinely, while the other students are organized into new working groups weekly. Three of these students usually have lost their privilege to work with others or select to sit by themselves; it is always the same three students with a potential fourth that varies.

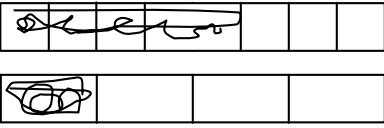
Physically the classroom space is somewhat difficult to navigate through. The room is very crowded and the grouping of desks and chairs limits movement. Students have difficulty walking to classroom resources without bumping into each other or tables. Banners cover the windows and almost all walls. Grouping of tables also has students facing many different angles away from the board or teachers desk. Transitions between lessons requires can be difficult because of the physical space and lessons often require rearrangement of chairs and teaching materials. The front board is also covered with school flyers, content posters, performance objectives and detention lists. This limits board space to a small three by two space for writing. Desks are also cluttered with name tags, books, papers, writing materials and folders. Overall, there is a strong feeling of confinement throughout the classroom.

Another conflicting item within the mathematics space is how tasks were often introduced by Mrs. Paterson to her students. Tasks are generally presented to students in terms of student ability. It was come to hear, “this is too easy for many of you because you were in the advanced classes last year and the rest of you are going to struggle with them. She went as far as stating the students’ names to the class and which teacher they had in the previous year; often

providing details of the teacher’s difficulties in teaching certain tasks. Figure 3 illustrates a typical example of this practice and its impact on students.

Figure 2: Framing of Mathematical Tasks

Classroom Observation Field Notes	Observer Comments
<p><u>Task:</u> Understanding Fractions. <u>Students:</u> Seated in cooperative working groups <u>Mrs. Paterson:</u> Beginning lesson on new topic- fractions</p> <p style="text-align: center;">Introduction/Framing of Task</p> <hr/> <p>Teacher (T) states:</p> <ol style="list-style-type: none"> 1. T: Okay boys and girls today we are going into a new math topic. 2. T: We are going to talk about fractions. 3. T: Now, fractions may be very familiar to some of you, especially those of you that Mrs. [Name omitted] last year. 4. T: But for those of you who had Mrs. [Name omitted] this will be very difficult. 5. T: So, I am going to need those of you who this is a review for to really help me out to get the others of you to understand. 6. T: Who had Mrs. [Name omitted][Advanced mathematics] last year 7. Students raise their hands and many shout: I did Mrs. 8. Okay, then who had Mrs. [Name omitted] [Regular mathematics class] 9. Some students raise their hands and reply: I did Mrs. 10. T: Okay, so let’s start with this problem (teacher turns on overhead) 	<p style="text-align: center;">Observer Comments</p> <hr/> <p><i>In response to question 8 (Student behavior):</i> Other students begin to shuffle in their chairs and start paying attention to their desks and other items around them. Others seemed confused whether they should answer.</p>
<p style="text-align: center;">Classroom Observation Field Notes</p> <p><u>Task:</u> Understanding Fractions. <u>Students:</u> Seated in cooperative working groups <u>Mrs. Paterson:</u> Beginning lesson on new topic- fractions</p> <p style="text-align: center;">Student Interaction after Framing of the Task</p> <hr/> <p><i>-After the teacher presented example problems that students worked as a class on. She handed on fraction bars and a worksheet for tables (or pairs) to work on independently. The worksheets asked students to compare two fractional quantities. This activity was to prepare them to play a fractions game in the next mathematics lesson.</i></p> <p>Table 1: (S = Student, S1= Female/Latino, S2 = Male/Latino)</p> <ol style="list-style-type: none"> 1. S1: I don’t know how to do this one (Student points to sheet: $\frac{1}{4}$ $\frac{5}{8}$) 2. S2: Yes yo□do 3. S1: No I don’t, I wasn’t in [Name omitted – reference to the identified mathematically advanced student at the table] class last year 4. S2: So, just look at the numerators 5. S1: What about them 6. S2: How many pieces are used up, just draw a picture 	<p style="text-align: center;">Observer Comments</p> <hr/>

<p>7. S1: Oh, is that what smart people do</p> <p>8. S2: Just do it</p> <p>(S1 complies with):</p>  <p>(00:02:30 time to make picture)</p> <p>9. S1: Okay</p> <p>10. S2: So which was bigger</p> <p>11. S1: 5/8</p> <p>12. S2: Yeah you see</p>	<p>S1 her eyes to the female student seating across from her. S1 turns her chair to face her partner and shifts her papers to the edge of the desk so she does not have to look at the other female student.</p>
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It is clear this practice is conflicting to the notion of cooperative learning that is the foundation to this space which in turn adds to the conflicting classroom norms. It also presented to the students the concept that they are not equal in terms of their mathematical ability. While most students in this class would jokingly state they agree with it, a division is drawn between students of high and low academic ability. Student (S1) demonstrated both a physical reaction to her identified advanced mathematical peer and then allowed this designation to determine how she tackle the problem. She even identifies herself in opposition to being a smart person, *Is that what smart people do*, even though she was completely capable of finding the answer. This division caused many students feeling very detached from what they were doing, they preferred to sit and wait for the high achieving students, or whoever was closest to them, to finish so they could simply copy the answers. Students expressed defeat and frustration during mathematics lessons on a daily basis and even fear of testing. Almost daily they were reminded of the Arizona Instrument to Measure Standards (AIMS) test and its implications for student success.

Resistance Practices

Passive Resistance

Within this mathematical space, there were many avenues, both conscious and unconscious, for students to utilizing resistance practices. Students overall selected common

passive forms of resistance like sitting quietly and not paying attention, ignoring the task or writing notes to a friend. This happened routinely during the mathematics class activities; especially during worksheet driven activities. Students were most engaged in discovery learning activities. This method was not often used in mathematics or other content lessons. Students generally did group work that was handout driven or workbook driven. For high level students these tasks were often the same or very similar to tasks they had done the previous year. High achieving students would generally speed through tasks and sit waiting for everyone else to catch up. Academic challenges for these students were often left to subjects outside of mathematics; like reading or writing.

Penny, for example, is a case study student who often finds herself as the intermediary in group settings. She is an average student who spends a lot of her time taking care of her younger brother. Most of her writing is about experiences she has had with him. For example, the following excerpt highlights a moment where she was able to help him learn to do a task.

Figure 3: Penny's writing activity

Classroom Observation Field Notes	Observers Comments
<p><i>Task:</i> Write about an a time where you had to teach someone to do something</p> <p><i>Students:</i> Working individually on writing prompts</p> <hr/> <p><u>Penny's writing prompt:</u> I remember when I had to help my brother learn to ride a bike. He had to wear his helmet and I tried to show him how by riding my bike so he could see me do it. Then I told him to just keep pushing his peddles. My parents watched and my dad held his bike seat while he practiced. Then I said okay and my dad let go. My brother went a little ways and he fell. I laughed really loud. He was okay. He did not want to ride again. But a few days later he was back on his bike. He fell again but made it farther. But I kept helping him and he got it.</p>	<hr/> <p>This example shows the same helpful attitude she uses in class. Even though she has difficulty with mathematics she still is not afraid to try it herself and once she has it, she then models it for her group members. She is not afraid to take charge when she needs to.</p>

Penny enjoys school and often participates in after school activities, like a math club hosted by CEMELA. She is a very caring student that is concerned with the progress of her fellow students. She takes time to make sure everyone at her table has completed their mathematics tasks and understands what they need to do. She is a quiet student during structured time but is very happy and energetic during group activities and free time. She is not afraid to ask questions but does prefer to try out her own ideas before seeking assistance. She is very rooted in her family and friends. She likes school and has expressed that mathematics is a chance to be creative and active in learning. Penny is unique amongst her peers in that her positive disposition allows her to act as a referee in classroom discourses with her peers.

Mathematics is a challenge for her but a challenge she does like. According to CEMELA after school researchers, Penny is a very insightful student who sees mathematics as a time to be both creative and active. During her time in the after school mathematics club Penny participated more actively in the many social justice mathematics projects that involved analyzing issues in her community than she did in her classroom based mathematics tasks. Penny is very focused in class however she stated to researchers:

Figure 4: Penny's Interview

Student Interview	
1.	Researcher: So how is your mathematics class different from your math club?
2.	Penny: Its easy because the math club shows you more math and here [in class] its shows you a little bit of mathematics.
3.	Researcher: You learn more mathematics in math club?
4.	Penny: But in here [class] they show you the same way you do, but in the math club it shows you different.
5.	Researcher: How do you feel about math now?
6.	Penny: Its fun
7.	Researcher: Yeah
8.	Penny: Its good... the way of showing your learning... it's the way to show people how you learn and you care to take away.

It is clear that learning is important to Penny but the classroom does not always offer authentic means for learning mathematics. Even though Penny is aware of the distinction between how learning varies between her classroom and outside of the classroom spaces she does not feel comfortable asking for changes to be made in her classroom. Penny maintains a respectful attitude that has stated that “in the classroom the teacher is in control and you have to give her your attention; you have to be respectful” (Classroom observation, October 17, 2006). For Penny this took the form of being a very passive student who maintained quiet and followed directions. The following highlights Penny’s as a passive student during a mathematics lesson on finding patterns in sequences.

Figure 5: Penny as a Passive Member of the Classroom

Classroom Observation Field Notes	Observer Comments
<p><i>Task:</i> Finding Patterns in a sequence <i>Students:</i> Working in pairs <i>Mrs. Paterson:</i> Helping a group of students at her desk</p> <hr/> <ol style="list-style-type: none"> 1. Group Member: Penny just write the pattern out like this (pointing to his paper) 2. Penny: No that is not how she [Mrs. Paterson] said to do it. 3. Group Member: So, just do it 4. Penny: No, I want to do it right 5. Group Member: You get the same answer but you don’t have to write it all out 6. Penny: She wants it all written out so she knows what we did 7. Group Member: It will take to long 8. Penny: Do what you want to do, I am going to ask her <p><i>Penny asks for clarification and was told she was writing the problems out right.</i></p>	<hr/> <p>Like many other students Penny was very passive. She was aware that there were simpler means to solving the problems but preferred to follow directions then take the initiative to try the problems in another way. She simply wanted to make sure she received full points for the problem. Through observations Penny remained strict to the classroom rules and made sure she was following directions.</p>

Penny followed the same procedures and routines without question. When she did disagree with the mathematical task or other classroom events she remained quiet. This quiet disposition was

in itself resistance; if not to the content or teacher, which she accepted, it was to the social structures of her peers. Figure 7 explores this further.

Figure 6: Penny and her Group Members

Classroom Observation Field Notes	Observer Comments
<p><i>Task:</i> Using skip counting and repeated addition to explore multiplication <i>Students:</i> Working in groups on a worksheet <i>Mrs. Paterson:</i> Helping a student who had been absent the day before</p> <hr/> <ol style="list-style-type: none"> 1. Penny: Okay, can we each pick a problem and then we can compare. 2. Group Member 1: (Female) Let's just see what the other group comes up with and copy theirs 3. Group Member 2: (Male) Yeah, they have like six people in their group Mrs. won't know. 4. Penny: We can just do it ourselves 5. Group Member 2: But they have Carmen [Advanced student] in their group 6. Penny: So, just do it and we will be finished too 7. Group Member 1: Come on Penny it is just a dumb worksheet 8. Penny: I know, but...huh, I will do it myself then 9. Group Member 1: Fine we will do it 10. Penny: Its okay, I will just do it by myself 	<hr/> <p>Penny completed the task herself and double checked her answers with her teacher before she turned it in. Something she did with almost every assignment. Penny was capable of resisting her peers influence to take the easy way out of the task. She agreed with their dislike of the task but she still was not going to take answers from the other group.</p>

Passive forms of resistance were often paired with conformist attitudes. Many displaces of passive resistance did not receive many consequences. For example, case study student Luis is a fifth grader who spends the majority of his class time reading while he waits for his classmates to finish a task his has completed in mere moments. Luis is also a bilingual GATE participant and excellent student. Mrs. Paterson often places him in leadership roles and seeks his help to aid other students. He enjoys being called on and explaining his reasoning in detail. During group projects he takes charge in order to make sure things are done to his standards. This can cause conflict with his fellow group members. He has many friends and enjoys competing with fellow classmate Carmen when doing academic tasks. His classmates regard him as very intelligent and

a great resource when experiencing difficulties with concepts. The following excerpt highlights Luis use of passive resistance and his teacher’s response to his behavior.

Figure 7: Passive Resistance by Case Study Student – “Luis”

Classroom Observation Field Notes	Luis’s Puzzle Paper (Recreated from field notes)	Observer Comments																																																								
<p><i>Task:</i> Modeling situations with multiplication, division and other opportunities</p> <p><i>Students:</i> Working individually on a worksheet</p> <hr/> <p>While students work on their mathematics worksheet Luis sits quietly reading his Language Arts book.</p> <ol style="list-style-type: none"> Mrs. Paterson: Luis you need to finish your math. Luis: I’m done Mrs. Paterson: You are Luis: Yeah I am just reading the next store Mrs. Paterson: Okay <p><i>Luis begins scribbling in his book and then pulls a small piece of paper out of the text and passes it to his neighbor. His neighbor selects the box he wants and passes it back. This happens repeatedly until Mrs. Paterson walks over to check the group’s progress.</i></p> <ol style="list-style-type: none"> Mrs. Paterson: Luis you have done nothing <p><i>Luis smiles at her and she looks at the puzzle in the middle of his book.</i></p> <ol style="list-style-type: none"> Mrs. Paterson: Please finish your worksheet and then you can keep reading. 	<p>Puzzle: To connect the dots and create a box. Once the box is created the person who created it gets to write the first letter of their name in it. The person who gets the most boxes wins. (S = Luis’s Neighbor)</p> <table border="1" data-bbox="690 871 1026 1255"> <tbody> <tr><td>L</td><td>L</td><td>L</td><td>S</td><td>S</td><td>L</td><td>L</td></tr> <tr><td>L</td><td>L</td><td>S</td><td>S</td><td>S</td><td>S</td><td>S</td></tr> <tr><td>L</td><td>S</td><td>S</td><td>S</td><td>L</td><td>L</td><td>L</td></tr> <tr><td>S</td><td>S</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td></tr> <tr><td>S</td><td>S</td><td>S</td><td>S</td><td>L</td><td>L</td><td>L</td></tr> <tr><td>S</td><td>S</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td></tr> <tr><td>S</td><td>S</td><td>L</td><td>L</td><td>S</td><td>S</td><td>S</td></tr> <tr><td>L</td><td>L</td><td>L</td><td>S</td><td>S</td><td>L</td><td>L</td></tr> </tbody> </table>	L	L	L	S	S	L	L	L	L	S	S	S	S	S	L	S	S	S	L	L	L	S	S	L	L	L	L	L	S	S	S	S	L	L	L	S	S	L	L	L	L	L	S	S	L	L	S	S	S	L	L	L	S	S	L	L	<p>Luis spends his mathematics time playing a game with his neighbor. When he is caught he is not punished just asked to finish the worksheet. Which is does in just a few moments, but receives no consequences. Mrs. Paterson actual allows the puzzle over the reading.</p>
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Luis has a reputation as an intelligent and helpful student which provides him with an opportunity to make suggestions to the teacher that other students did not have access to. Luis was treated as an authority; for example, students were first referred to Luis for his explanation of a mathematics task prior to the teacher helping them and when presenting solutions to the

class, Luis would also be consulted with for alternative solutions. The following conversation highlights one such episode.

Figure 8: Luis as an Authority.

Classroom Observation Field Notes	
<i>Task:</i>	Equivalent Fractions
<i>Students:</i>	Working individually on a worksheet
<i>Mrs. Paterson:</i>	Working with a student at her desk
1.	Student 1: (Male) Mrs. Paterson I am having trouble with this.
2.	Mrs. Paterson: Okay, Luis will you help your group member please
3.	Luis: Okay, what is the problem
4.	Student 1: I am not sure what is equivalent to $\frac{4}{16}$.
5.	Luis: Okay, what can go in both 4 and 16
6.	Student 1: 2
7.	Luis: Okay, what about 4
8.	Student 1: Yeah 4 can too
9.	Luis: Okay how many times does it go into 4
10.	Student 1: Once
11.	Luis: Okay, what about 16
12.	Student 1: 3, no wait... 4
13.	Luis: Okay so what is that as a fraction
14.	Student 1: _
15.	Luis: Yeah, you get it
16.	Student 1: Okay
<i>---A few minutes later</i>	
17.	Student 1: Mrs. Paterson I am done
18.	Mrs. Paterson: Okay, check your answers with Luis
<i>----Later that lesson</i>	
19.	Mrs. Paterson: Okay let's go over this. Luis why don't you go to the overhead and explain what you did to find equivalent fractions to $\frac{1}{8}$.
20.	Luis: Do I have to
21.	Mrs. Paterson: Yes, please go to the over head
<i>Luis goes to the over head and describes his steps correctly.</i>	

This is a small incidence but one only shared by a small fraction of students, yet highly acknowledge by the rest of the class.

Due to Luis's designated role in the class, he took on the form of a conformist resister. He was aware of the suppressive conditions that were apart of the school environment but preferred to maintain his reputation by supporting his teacher and classroom practices that

treated him with high regard. He made sure to follow guidelines but was not afraid to practice the same passive methods his classmates used. He passed notes, played coding games on small pieces of paper that could be covered when Mrs. Paterson came by, and kept children's comedy joke books in his desk that he would read rather than the assigned text. The examples below highlight Luis's awareness of the suppressive nature of the school environment and his use of conformist resistance.

Figure 9: Conformist Resistance - "Luis"

Student Interview	
1.	Researcher: Luis, tell me about your everyday mathematics class.
2.	Luis: It is not fair, we have to do the same work and some can't keep up. I am bored so I find other ways to spend my time so I can move on. I don't say much so I don't get in trouble and I get my work done.
3.	Researcher: Why are you bored?
4.	Luis: Most of what we do is review. It helps some students but I don't get to do harder problems unless I look for other ways to do things.
5.	Researcher: What do you mean by other ways to do things?
6.	Luis: I just look for other patterns or different ways to solve problems
7.	Researcher: Do you ask your teacher for harder problems?
8.	Luis: No, she give them to me sometimes though
9.	Researcher: What are the other ways you spend your time?
10.	Luis: I read, play games or puzzles. I like puzzles.
11.	Researcher: How often do you get to do puzzles?
12.	Luis: Almost everyday. Mrs. Paterson doesn't know I do them most of the time. She is busy with the others.
13.	Researcher: Do you do the puzzles with other students too?
14.	Luis: Sometimes but if we get caught them have to go back to their work.

These passive and conformist forms of resistance, like Luis's puzzles, are safe avenues for students to negotiate their educational space without too much fear of receiving any punishments. It is clear that Mrs. Paterson paid less attention to the passive student which left a large portion of their content comprehension to be gained through their social interactions with advanced students, like Luis. The cooperative grouping used in the class offered these students opportunities to talk about mathematics and to hear how other students were solving tasks. If they had questions they would just pose them to their classmates. By the end of the year, the

students identified by Mrs. Paterson as low achieving generally stopped asking her questions because they referred to their peers for clarification or explanation of what they should be doing. Many students also selected the passive form because they referred to themselves as failures. They were afraid to ask questions because they thought this would show that they were not sure how to solve the task. Individuals with passive attitudes toward mathematics seemed to share low self-confidence even though their feelings were not realistic assessments of their ability. Often the students found the self-defeating attitudes to be easier to deal with than actually trying and not succeeding.

Aggressive Resistance

Students who selected more aggressive forms of resistance, like proving the teacher wrong, verbally confronting peers or the teacher, walking out of class, yelling, or voicing their disdain for a task were met with more stern consequences. Often detention was assigned, privileges were taken away, and students were verbally reprimanded in front of the class. These behaviors were classified as mis-behaviors because they often interrupted lesson activities, put Mrs. Paterson on the spot in front of the class, or brought up criticisms of other teachers, school regulations or students. For example, Alberto is a case study student who looks forward to his transition to middle school. He lives with his mother and spends most weekends with his father. Alberto spends most of his time during the mathematics block alone at his desk set outside the group tables. Alberto generally selects to sit alone but exercises his ability to speak with whoever is closest to him at his convenience. The following figure highlights one such incidence.

Figure 10: Alberto and his New Pen.

Classroom Observation Field	Student Worksheet	Observer Comments
Notes <i>Task:</i> Review for AIMS: Reading the	<u>Problem # 7:</u> <i>(Recreated from field notes)</i> Based on the following clock faces help Carlos figure out his daily schedule.	

clock face.
Students: Working in pairs

Mrs. Paterson: Helping a group of three students at her desk

Alberto is working alone at his assigned seat (a desk seat alone behind a table of six other students). He has skipped some assigned worksheet problems and is working on a world problem asking him to order a set of events based on the times given in the corresponding clock faces.

As he works on problem 7, a student asks him to if he can borrow a pencil. Alberto responds, "no" and then proceeds to tell him about his new pen. He goes through his backpack and pulls out a bright red sharpie pen. The student takes Alberto's pen and writes on his paper. [He writes: Alberto paper] They both start laughing and Mrs. Paterson responds by telling the other student to turn around and get to work. Alberto replies to her: "He is just looking at my new pen" Mrs. Paterson: "Not right now, you have work to do, get started" Alberto: "I have started" Mrs. Paterson ignores this and turns to answer

- Event 1: Carlos has lunch at 11:15
- Event 2: Carlos arrives at school at 7:35 and the day begins with a lesson on fractions.
- Event 3: Music lesson at 9:23
- Event 4: Soccer during PE at 2:10
- Event 5: Group reading project for English at 1:13
- Event 6: Science lab at 11:58
- Event 7: Carlos goes home at 3:12.

a. Where does Carlos need to be?



— : —

b. Where is Carlos?

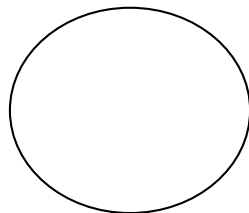


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c. If Carlos is in Music, what time will he need to leave for his next activity?

Activity _____

Time: _____



d. Put the events of Carlos's day in order from morning to afternoon.

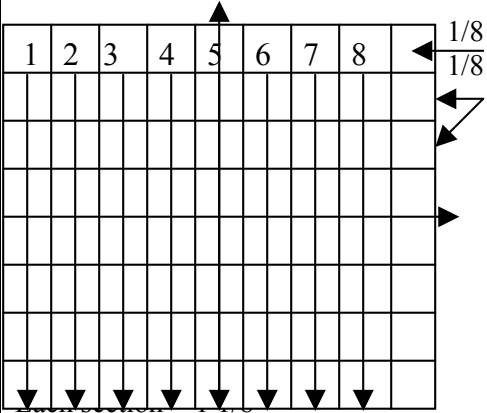
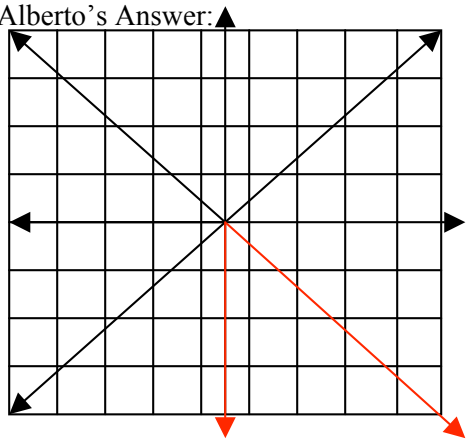
Alberto shows signs of self-defeating behavior. He had selected not to complete his assignment and draw on it instead. Redirection attempts to talk to him about the problem were met with the same attitude. Review exercises like this seem to spark this same behavior. His verbal statements in response to his teacher were not punished, Mrs. Paterson was busy with the group of students at her desk and selected to focus her attention on them and let this incident of talking back go. This incident was heard/witnessed by the whole class. *Past moments like this were dealt with by Mrs. Paterson with punishment. Punishments being: detention, new seating (usually next to her), placement in another class, or verbal reprimand in front of the class.

<p>this and turns to answer another student's question.</p> <p>Alberto takes the red pen back from his classmate and writes all over his paper. He then spends the rest of the class period [10 minutes] drawing on his name tag with his new pen.</p> <p>At the lunch bell, Mrs. Paterson asks the students to turn in their work. Alberto crumbles his paper and tosses it in his desk. A student working at the computers behind him states: "<i>You are going to lose points.</i>"</p> <p>Alberto responds: "<i>I don't care</i>"</p>		
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Alberto has a very dominating personality and can be heard yelling in the hallways to friends and teachers throughout the days activities. His intelligence is often over shadowed by his raucous behavior. He does often take on a supportive role with his classmates and tries his best to help them with their work. His work is generally left incomplete or completed with as little effort as possible. He can become agitated and verbally standoffish in class, especially if his opinion is not heard. He does not hesitate to offer his opinion to anyone on any topic that comes up in conversation. Yet, while he takes a center stage role in class he thinks of himself quite differently. In a dialogue with a classmate he stated "I can't wait until I am dead so I can be a shadow" (Classroom Observation, October 17, 2006). He went on to describe how being a shadow will allow him to participate without others infringing on him.

Throughout the months of observation and discussions with Alberto it was very clear that he maintained a passive-aggressive and self-defeating resistance scheme. On average he would begin his day very passively. Depending on his mood he would respond to the mathematics tasks either very self-defeatingly by remarking he was stupid and refused to complete the problem, or he would rush to complete the task and demand to present his findings to the class. The following highlights one such instance.

Figure 11: Alberto and the Area Problem

Classroom Observation Field Notes	Student Work	Observer Comments
<p><u>Task</u>: The class was asked to break square grids into equal pieces.</p> <p><u>Teacher</u>: Monitoring behavior from her desk.</p> <hr/> <p>The class was asked to divide the area of a graph into eight equal sections. While the majority of the class divided the area into eight rectangles and then again divided the remaining area into eight smaller rectangles, Alberto tried to use triangles. Estimating the area within each triangle to be roughly equal, he drew out his picture and presented it to his teacher. Mrs. Paterson told that him his solution was not what she was looking for and to try again. He became very upset and remarked to her in front of the class that she was wrong. He was very sure that his method was just as valid. He became very loud and tried to convince her over several minutes that he was correct by describing the area within the triangles as equal. Mrs. Paterson told him to return to his seat or he would face detention. He returned to his seat upset and sat quietly</p>	<p>Class answer (as presented):</p>  <p>Alberto's Answer:</p>  <p>Each Triangle has an Area = 8</p>	<p>It was clear that in that one moment Alberto transitioned from motivated transformationalist to a passive conformist when faced with the consequence of detention. He was sure his method was valid and he wanted the teacher to confirm that for him. Today, he backed down when he heard he would get detention. This is not something he generally feared in other incidences. It is not clear why today he selected to take on the passive state and change his answer. [He did not want to discuss the incident at lunch]</p>

staring at the computers stationed near him. As the class moved on to their writing lesson Alberto erased his solution to the problem and drew in his classmates' answer		
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Mrs. Paterson was very aware of these resistance patterns and was very capable of catching many incidences before they began. Mrs. Paterson stated that she identified her “problem students” at the beginning of the year and catered a lot of her attention to making sure they were on task and separated from each other.

Alberto liked to help students who were also aggressive self-defeating resisters. He enjoyed challenging them to beat his time to complete a problem or helped them with concepts they were not sure about. He was very aware of the reasons behind his and his classmates' aggressive behavior and why they were experiencing academic difficulties, but never challenged the structure of the classroom in these situations. Figure 13 highlights a classroom episode where Alberto challenges another classroom resister.

Figure 12: Alberto and his Challenge.

Classroom Observation Field Notes	Classroom Dialogue	Observers Comments
<p><i>Task:</i> The class was asked to complete an equivalent fractions task.</p> <p><i>Teacher:</i> Monitoring behavior from her desk as she worked with other students.</p> <hr/> <p>When another student, like Alberto refused to do his mathematics assignment and he was told he would be tossed out of class. He is also a very dominate self-defeating and reactionary resister. Often never doing assignments or homework. He is very withdrawn and often intimidating to other students. He would often tell Alberto his</p>	<ol style="list-style-type: none"> 1. Student 1: Alberto lets play basketball at lunch 2. Alberto: Yeah, we can get Carmen to play. 3. Mrs. Paterson: Student 1 and Alberto get to work 4. Student 1: I'm done 5. Mrs. Paterson: Then bring it to me 6. Student 1: No 7. Mrs. Paterson: (<i>Mrs. Paterson gets up and walks to the students desk</i>) You have not even started Student 1, you need to sit down and get to work 8. Student 1: I don't want to do this. This is stupid. 	<p>Alberto commented later in an interview that the rules were unfair in the class and school. He stated that his friend was always getting in trouble for things others could get away with. He was picked on because everyone thought of him as a trouble maker.</p> <p>When asked why Alberto did not let Mrs. Paterson know that Student 1 was having trouble or let her know that he thought the class was unfair, he responded: “I don't want to get in trouble. They [adults] don't listen to us any way. I just want to get out of here.”</p>

<p>frustrations with not understanding the assignments and that he was afraid to ask for help.</p> <p>In this incident, the student was frustrated and Alberto stepped in to keep him from getting tossed out of class.</p> <p>So, Alberto made it a game. A race to see who could answer the worksheet problems correctly the fastest.</p>	<p>9. Mrs. Paterson: Get started or you are going next door.</p> <p>10. Student 1: Fine with me</p> <p>11. Alberto: Student 1 just sit down</p> <p>12. Mrs. Paterson: Alberto get to work, Student 1 what is going to be</p> <p>13. Student 1: <i>(Sits down)</i> Fine I will do it</p> <p><i>(Teacher returns to her desk)</i></p> <p>14. Alberto: <i>(gets up and sits next to Student 1)</i> Just finish it and we will compare answers</p> <p>15. Student 1: I don't get this</p> <p>16. Alberto: Ok, look. You just need to look at the denominators. See this one (pointing to $\frac{1}{2}$), if you multiply the bottom by 2 what do you get</p> <p>17. Student 1: four</p> <p>18. Alberto: Where do you see four</p> <p>19. Student 1: right there (pointing to $\frac{2}{4}$)</p> <p>20. Alberto: Okay, so does the top work too</p> <p>21. Student 1: yeah, 2 times 1 in 2.</p> <p>22. Alberto: See that is all it is. Let's see who finished first</p> <p>23. Student 1: I'm going to beat you</p> <p>24. Alberto: No your not, I'm almost done</p> <p><i>(The two students work on the paper continuing to challenge one another verbally until Student 1 gets stuck and Alberto helps him again. This continues until they finish and compare answers. Student 1 and Alberto both seem pleased with their papers)</i></p>	
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Alberto often remarked about how unfair classroom and school policies were and how he “can’t wait to go to middle school to get away from here” (Classroom Observation, December 14,

2006). It is clear that the motivation to communicate with the teacher or other adults was weak for the students. The classroom space is frustrating for Alberto and other student like him. Alberto was to the point where he felt that his only option is to just push through this experience in order to escape to middle school.

Carmen, another case study student shared Alberto’s view of the classroom. Carmen is an outgoing student who enjoys being in the spot light. She is a very intelligent fifth grader who participates in sports, chorus and a variety of other activities. She takes on leadership roles in both academic tasks and in social networks. Her need to be upfront often places her at odds with others but she gives this little attention. She prides herself on completing her work before her classmates and often is given alternative tasks to do when the rest of the class is working. Unlike Luis who prefers to read or play a quiet game outside of the attention of others, Carmen enjoys making herself known. Figure 14 highlights one classroom example of this.

Figure 13: Carmen’s Ribbons of Achievement

Classroom Observation Field Notes	Observers Comments
<p><i>Task:</i> The class was asked to play the factor game with a partner and record the outcomes for further discussion</p> <p><i>Teacher:</i> Navigating through the class to help students</p> <ol style="list-style-type: none"> 1. Carmen: Hey, hey...(to student at adjacent table) 2. Student 2: (Female student) What Carmen, we are trying to work 3. Carmen: So, we are already done 4. Student 2: So 5. Carmen: Look, look at these 6. Student 2: What are they 7. Carmen: My ribbons, they are all first place 8. Student 2: So, let us work 9. Carmen: Fine, Mrs., Mrs., look 10. Mrs. Paterson: Carmen you need to keep working 11. Carmen: I am done, look at these Mrs. 12. Mrs. Parson: Those are nice, good job. Why don't you and your partner play the game again and see if anything changes 13. Carmen: But I already know this, you said I could work on my paper today 14. Mrs. Paterson: After this Carmen 	<p>Carmen continues to highlight her achievements to her classmates. While she is very popular, she does run into conflict with her classmates when she attempts to show off. This example shows Carmen’s ability to get out of tasks by simply arguing with her teacher in front of the rest of the class. When other students are met with harsher responses, Carmen is allowed to work on the computers to type her paper. Carmen is an advanced student and this provided her with an advantage in this classroom.</p>

15. Carmen: No you said I can work on it and I am done 16. Mrs. Paterson: Carmen you [need 17. Carmen: [but you said 18. Mrs. Paterson: Fine Carmen but work quietly 19. Carmen: Ok (<i>laughing</i>)	
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The advantage illustrated above for Carmen also helps her even when she is wrong. Her ability to communicate her reasoning often overshadows her mistake. She spends the majority of her lunch time in the classroom doing tasks for Mrs. Paterson or organizing activities for her and her friends. For Carmen, academics are a competition in the classroom and in the social settings associated with it.

Carmen does her best to conform to her teacher’s needs in order to receive high marks, while at the same time she is able to vocalize her dislike for a task or that she prefers not do complete a task. When she applies “prove them wrong” strategies with Mrs. Paterson or other students she is not met with the same reactions as others, like Alberto. Instead she is treated like Luis; her opinion treated like an authority. Many times Carmen was able to argue her way out of doing a task or even changing the requirements of a task.

Figure 14: Carmen and Status.

Classroom Observation Field Notes	Observers Comments
<p><i>Task:</i> Create appropriate stem and leaf plots for a given set of data (AIMS review) <i>Teacher:</i> Monitoring behavior from her desk as she worked with other students.</p>	
<ol style="list-style-type: none"> 1. Carmen: Mrs. Paterson I did this activity last year. 2. Mrs. Paterson: Yes, I know but this is review for the AIMS 3. Carmen: Yeah, but you know I know how to do this, do I really have to do the questions, I have the data and made the graph 4. Mrs. Paterson: Yes, Carmen you need to be able to do this 5. Carmen: I already can, you know that. Here look, this is the outlier (Pointing to her plot), the mean 	<p>Although this dialogue took place between Mrs. Paterson and Carmen, like most incidences, it took place in front of the whole class. It was very clear to the students that Carmen was able to aggressively argue her way out of the task. It also confirms that there are certain perceptions of student ability in this space that separates the students. Mrs. Paterson, by giving in to Carmen, simply for the need to get her out of the way so she could turn her attention to students who need her help, she confirmed that Carmen maintains a</p>

<p>and median. See I already know this.</p> <p>6. Mrs. Paterson: We are almost done Carmen, just work on the questions</p> <p>7. Carmen: No, can't I just sharpen the pencils until their [the class] done</p> <p>8. Mrs. Paterson: Fine, just do it quietly in the back of the class</p>	<p>different level of status.</p>
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The example highlighted above is especially true during group activities were Carmen takes great pride in helping restructure tasks by arguing with Mrs. Paterson over instructions, tasks procedures, or final task products. Carmen's strategies are not completely individualistic. She will do her best to include whoever is in her network of friends in the benefits of her actions. Figure 16 shows one such event.

Figure 15: Carmen and Choir Practice

Classroom Observation Field Notes	Observers Comments
<p><i>Task:</i> Science Lab: Analyzing project data for reports</p> <p><i>Teacher:</i> Helping groups organize and make sense of their findings</p> <hr/> <p>Carmen and her group members are working at one of the classroom computers typing up their findings. Mrs. Paterson walks over to check their progress:</p> <ol style="list-style-type: none"> 1. Carmen: Mrs. Paterson we are finished. 2. Mrs. Paterson: Let me see. (<i>She reads over their findings</i>) You haven't touched on all of the discussion questions. 3. Carmen: But you said just to talk about what we thought. 4. Mrs. Paterson: I told you to answer the discussion questions and use them to guide your findings. 5. Carmen: But you said we did have to. 6. Student 3 and 4: (Female group members) Yeah Mrs. 7. Carmen: Yeah, and you said we could go practice for choir while the others finished. 8. Mrs. Paterson: I said you could practice at lunch. 9. Carmen: But we need to organize and ask Mrs. (Choir teacher) to come here for lunch. 10. Mrs. Paterson: You will have to do that at lunch. 	<hr/> <p>The four girls leave the classroom to talk to the other teacher and return in time for the lunch bell. They let Mrs. Paterson know that the other teacher is on her way to help them practice. She nods and tells them to stay in the classroom and what for the other teacher while she takes the rest of the class to the lunch room. When Mrs. Paterson returns the girls are practicing and nothing is said about their leaving.</p>

<p>11. Carmen: We won't have time. We need to do it now.</p> <p>12. Mrs. Paterson: You need to finish this.</p> <p>13. Carmen: We are finished, this is what we have. We don't have anything else to add. This is what you said.</p> <p>14. Mrs. Paterson: You need to be ready to present tomorrow.</p> <p>15. Carmen: We are, (Student 3 and 4: yeah Mrs.) This is the only time we have to practice</p> <p>16. Mrs. Paterson: Carmen you can go ask but you two need to keep practicing for your presentation.</p> <p><i>(Mrs. Paterson leaves to check on other groups)</i></p> <p>17. Carmen: Okay let's go, Student 5, come with us.</p> <p>18. Student 5 (Another female student): I can't, I have to finish</p> <p>19. Carmen: Finish when we get back, you're with me she won't say nothing.</p>	
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It is clear that this student was able to get what she wants with little to no consequences. This was a common occurrence that all of the students were able to witness each day. Carmen's resistance seemed to stem from her being unchallenged by mathematics tasks and many classroom activities. When tasks became more review and AIMS related the more Carmen reacted in opposition to the teacher. Mrs. Paterson seemed to pick her battles carefully with Carmen, selecting when to be more assertive with her but never reaching the disciplinary level she showed with Alberto and other students.

Discussion

After conducting observations and interviews with students it is clear that there are many levels to this mathematical space. On the content level, students are separated into intellectual ability. Students are aware if they are considered advanced, on level or behind their peers. On the social level students are confined by their intellectual marks and position themselves in accordance with advanced peers. Advanced students maintain a level of authoritative status in

this class. They are used to provide support, resource and the level of academic standard for peers. Advanced students are largely unchallenged and resist both passively and aggressively in order to remain focused on content and level of status amongst their peers. Low achieving aggressive resisters in general are afraid to ask questions and are made to feel out of place or unintelligent by both the social norms and classroom practices.

Overall students tended to be more conformist than transformational. There is an awareness of the difficulty to negotiate in the socio-cultural norms of the classroom however many students prefer to maintain these norms in order to avoid punishment from their teacher or ridicule from peers. Students who entered this space with prior labels as *disruptive* or *at-risk* were targeted in order to ensure they conformed to classroom procedures. This was difficult for students especially since the class norms and student-adult relationship was unclear for students. Expectations for students were mixed with intellectual levels and it became a divided space for learning. Students found alternate ways to engage that brought with it many different levels of punishment. This supports Solórzano & Bernal theories of resistance in that students, especially self-defeaters, acted as agents in the recreation of the conditions needed to perpetuate their resistant behavior.

One key element to student behavior was the use of labels, both directly from the teacher and indirectly from peers. Students were well aware of who was smart and who needed remediation. While cooperative grouping of mixed levels can be beneficial to students, when mixed levels are used to identify and divide students it creates a conflicting social system. Students today are under a flood of educational labels, from testing to academic placement. Students were constantly reminded of their testing failures and the repercussions their failures have for the labels of their entire school. For minority students who are historically labeled and

stigmatized, what will the added pressures of recent national measures do to their academic confidence? Thus far, performance levels have negatively impacted how these fifth grade students interact with each other and their teacher.

As far as classroom methods for teachers who work with resistant students, Mrs. Paterson created a classroom environment that helped her identify aggressive resisters as problem students and provide them with consequences that may in turn stifle their attempts to act out in class. This strategy is not uncommon and often supported by institutional guidelines. Mrs. Paterson preferred to deter resistive behaviors with punishment rather than provide alternative methods that might help her students use their resistance in constructive ways. Due to the fact that the school is predominately Latino and Mrs. Paterson's class was a clear representation of school demographics, it is not possible to determine if this is a practice restricted to Latinos given that there was no racial variation to suggest otherwise.

Significance/Implications

This study highlights a small portion of resistance factors that are being utilized by fifth grade Latino students and how one teacher is dealing with them. As stated previously, resistance is not an accepted policy, which makes working together a critical asset to making a difference in the nation's public educational system. Teachers need to make an effort to understand why students resist and what they can do to help keep students from being labeled and isolated as contrary to the norm.

As these case study students and their classmates leave Agave to move into middle school settings it is unclear how their transition will turn out or how their resistance techniques will factor into their academic successes or failures. More research is needed to understand how teachers can be more sensitive to students' use of resistance and how to help them use it in

constructive ways like activism. These students are capable of constructing informed commentaries on their educational experiences but lack opportunities to express them. Like Mrs. Paterson class, many educational settings elect to provide consequences to resistant behaviors rather than alternatives.

Conclusion

This study looked at one set of fifth grade students' experiences with resistance. Student experiences varied from non-resisters to transformational resisters. The classroom teacher established her classroom setup and teaching methods in order to monitor aggressive resisters and provide them with consequences for perceived wrongdoings. Their behaviors were seen as negative behaviors rather than reactions to the classroom setting or content. More research is needed to understand how teachers and educational leaders can communicate with students in order to provide them with a quality education while not suppressing cultural values or experiences that can be useful in understanding their resistant behaviors.

Endnotes

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2. The school, teacher and student names are all pseudonyms.

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