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A Metropolitan Perspective on Mathematics Education: Lessons Learned from a "Rural" School District

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In this article, the authors examine the historical and contemporary conditions of two school districts—one urban and the other rural. Despite the surface differences between the districts, this comparison reveals several historical and contemporary similarities and connections between the two settings. The authors describe the implications of these relationships for future directions of urban mathematics education scholarship. Specifically, they posit the need for a "metropolitan" perspective that would take into account the interrelationships between cities and their suburban or rural neighbors.

KEYWORDS: critical race theory, mathematics education, metropolitan perspective, opportunity to learn

In a commentary that appeared in the inaugural issue of this journal, William Tate (2008) noted an ongoing lack of attention to geospatial considerations on the part of educational researchers. In response to this inattention to the unique features of urban contexts, he argued for the need to "[put] the 'urban' in mathematics education scholarship" and outlined a more expansive vision of the theoretical and empirical traditions that are relevant to urban mathematics education. Like Tate, we are deeply interested in what putting the "urban" in scholarship on mathematics education might look like and believe that such scholarship must push beyond the traditional paradigmatic boundaries of mathematics education. To further explore the meaning of urban mathematics education, we seek in this article to trace our own intellectual journey with respect to this issue and our developing understanding of a specific urban setting. Strangely enough, however, this intellectual journey began in what, at least on the surface, would appear to be a distinctly non-urban (in fact, rural) locale. After describing the historical context and contemporary conditions of both the rural and urban settings in which we

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were working, we explore the implications of what we learned from these settings for scholarship in urban mathematics education.

Our Introduction to the Rural Setting

In 2005, we became involved in a project to work with the Fayette County Schools in the state of Tennessee. The Delta Project,[1] which was funded by a grant from the U.S. Department of Education, targeted three areas in the Mississippi River delta and had as its goal the improvement of student achievement in the participating districts. While the particular focus of the Delta Project differed by implementation site, the Fayette County project targeted mathematics. The Fayette County Schools had been plagued by low overall achievement in mathematics and a substantial achievement gap[2] between white and African American students. During the first year of the project (2005–2006), for example, the "grade" for the district (based on achievement data for grades K–8) was a "D" in mathematics, compared to a "B" for the state as a whole. Moreover, a black-white achievement gap was evident in mathematics at all levels. For example, the 3-year average of students scoring "proficient" or "advanced" on the state assessment in grades K–8 was 85% for white students and 69% for African American students. Similarly, at the high school level, the 3-year average of students scoring proficient or advanced on the state-mandated Algebra test was 72% for white students and 52% for African American students. This data indicated a need for improvement of mathematics education for the district as a whole.[3] In addition, insofar as African American students made up 61% of the district population, the gap also pointed to a specific need to improve the mathematics opportunities provided to the substantial African American student population.

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[1] The Delta Project was funded by a grant from the U.S. Department of Education awarded to Arkansas State University (Award No. U215K050343). The conclusions reported in this article do not necessarily represent the positions or policies of the Department of Education or Arkansas State University.

[2] We point out the differences in achievement for two reasons. First, the Delta project in Fayette County was explicitly intended not only to improve overall student achievement but also to address these achievement gaps. Also, we posit that these differential outcomes are tied to the historical inequities in the district which are the focus of later sections of this article. Thus, we wish to be clear that our focus is not on the gaps themselves, but on the opportunity-to-learn factors that they likely reflect.

[3] It is important to note that these outcomes have improved since the time the project was initiated. In this article, however, we describe the 2005–2006 data for both districts (as opposed to the most recent outcomes) to set the context for our developing understanding of the relationships between the two settings.

While these data provide some indication of the need for intervention, they shed little light on the factors shaping the district's current status in mathematics. As we began to spend time in Fayette County,[4] we learned more about the factors influencing students' opportunity to learn mathematics. In particular, the findings of an external audit report,[5] commissioned by the state, pointed to several opportunity-to-learn factors previously outlined by Tate and Rousseau (2007) as important for student learning and achievement. As described by Tate and Rousseau, factors related to time and quality influence students' opportunities to learn, ensuring that students of color and students from low-income backgrounds often receive fewer opportunities to learn high quality mathematics than others.

The findings from the external audit report of Fayette County raised several concerns related to opportunity to learn, including issues of curriculum quality, lack of quality materials, and concerns over teacher quality. For example, one key finding of the outside audit report involved the failure of the district to implement a curriculum aligned with state standards. A second factor noted by the audit team was a lack of quality materials and resources. According to the auditors, this lack of resources and materials has a particular impact on traditionally underserved students in the district. Finally, the authors of the audit report pointed to concerns related to teacher quality. In particular, they noted the high teacher turnover in the district and the fact that few of the district teachers lived in the county. According to the auditors, the large number of non-local teachers meant that students were being taught by persons who were likely to have little understanding of the community and the students' lives.

Our awareness of these and other opportunity-to-learn factors shaping the outcomes in Fayette County was important, as it helped not only to provide some insight into the conditions of mathematics education but also to shape the nature of our intervention in the district. Yet, despite this deeper understanding of opportunity to learn in this case, we would argue that our insight into this district was still limited without further examination of the historical and contemporary conditions that impact education in Fayette County. We did not know, for example, the factors that might explain the apparent lack of investment in instructional materials and a high quality curriculum. In the next sections, we examine the history of this area and the broader contemporary conditions that are likely related to opportunity to learn in the district. From this deeper understanding of Fayette County, we were also able to recognize relationships between the conditions in Fayette and those of the nearby urban district.

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[4] Our involvement included providing professional development and instructional support to middle and high school mathematics teachers in the Fayette County Schools. This involvement continued over a 2-year period, from 2005–2007.

[5] The report was prepared by Millennium Learning Concepts.

Initially, those relationships were anything but clear to us. The local district with which we typically work—Memphis City Schools (Memphis, Tennessee)—is a large, urban district with approximately 180 schools serving over 100,000 students. In contrast, the Fayette County district serves fewer than 4,000 students in 10 schools. In addition to the difference in size, we also were immediately cognizant of the geospatial differences. For example, Fayette County has a population density of 41 persons per square mile. In contrast, the population density of Memphis is 2,327 per square mile (U.S. Census Bureau, 2009). Moreover, the drive from Memphis to the district high school in Fayette County highlights the ongoing role of agriculture in the county, as the highway is lined on either side with fields of cotton and other crops. As a result of these differences, we initially viewed our work in these two locations—urban and rural—as occurring in two distinct and largely unrelated settings. Over the course of the time spent working in Fayette County, however, our gaze shifted and we began to recognize that our initial view obscured several similarities and interrelationships of importance for understanding opportunity to learn mathematics in both Fayette County and Memphis City Schools.

A Critical Race Theory Lens

A description of the change in our view would be incomplete without a discussion of the perspective that shaped our thinking. In particular, our approach to understanding the educational conditions in Fayette County, and subsequently Memphis City Schools, was shaped by Critical Race Theory (CRT). Critical race theory originated in legal studies in the 1970s and has come to influence the work of many scholars of education since its first introduction to the field in 1995 (Dixson & Rousseau, 2006; Ladson-Billings & Tate, 1995). Although critical race theory in legal studies is an eclectic movement, there are several key characteristics of scholarship within this perspective:

> (1) Critical race theory recognizes that racism is endemic to American life; (2) Critical race theory expresses skepticism toward dominant legal claims of neutrality, objectivity, colorblindness, and meritocracy; (3) Critical race theory challenges ahistoricism and insists on a contextual/historical analysis of the law…Critical race theorists…adopt a stance that presumes that racism has contributed to all contemporary manifestations of group advantage and disadvantage; (4) Critical race theory insists on recognition of the experiential knowledge of people of color and our communities of origin in analyzing law and society; (5) Critical race theory is interdisciplinary; (6) Critical race theory works toward the end of eliminating racial oppression as part of the broader goal of ending all forms of oppression. (Matsuda, Lawrence, Delgado, & Crenshaw, 1993, p. 6)

This perspective on race and opportunity shaped our thinking about the conditions of education in Fayette County. In particular, we explored not only the contemporary educational conditions in Fayette County but also the historical and contextual backdrop.

Fayette County

Historical Context

Fayette County has a long history of farming and cotton production. As a result of the focus on cotton, it had one of the largest concentrations of slaves in the state of Tennessee during the antebellum era. Following the Civil War, the influence of this history of cotton could be seen in the predominantly African American population, as former slaves and their descendants became tenant farmers or sharecroppers in Fayette County (Hunt, 1981).

Despite the relatively large numbers of African Americans in the county, however, little political or economic power was held within the African American community in the first part of the 1900s. In fact, there were 16,927 African Americans in Fayette County in 1959, comprising 68.9% of the population. However, only 17 African Americans voted in elections between 1952 and 1959. As a result of these disparities, the Fayette County Civic and Welfare League was founded in 1959 "to promote civil and political and economic welfare for community progress" (Hamburger, 1973). One of the league's first projects was to encourage voter registration. These efforts, however, were perceived as a threat to the white power structure. In 1959, African American registered voters were turned away from the Democratic primary, told that it was "whites only." In addition to threats of physical violence and intimidation, whites used economic power to punish those who registered. Registered African Americans lost insurance and credit in local stores and were unable to get farm loans that had been readily available in the past. In 1960, black tenant farmers who registered to vote were evicted from the land that they farmed. Nearly 300 people were thrown off their farms. As the economic pressure grew, a list of registered African American voters was distributed to white businesspeople. Those registered voters on the list were unable to purchase anything anywhere in the county. Individuals on the list were forced to drive 50 miles one way to purchase staples in the nearest big city (Hamburger, 1971; Hunt, 1981).

In an oral history of this time in Fayette County, Hamburger (1973) interviewed several of the key leaders involved with the Civic and Welfare League. One of the leaders analyzed the reaction of whites in Fayette County to efforts on the part of African American citizens to gain economic independence: "Back then I didn't know that when a Negro in the South goes into business and tries to make substantial gains he is violating the white man's civil rights'" (p. 8). Another

leader described a similar perspective on the reality of African American status in the county. Reflecting on the process of blacklisting by white shop owners he stated, "I think that really is the psychology of the white man in Fayette County—just keep the Negro hungry, keep 'em on their knees, don't allow him opportunity" (p. 8). The voices of these men reflect the challenges that African Americans faced in Fayette County in the effort to secure even basic civil rights.

The struggle for economic opportunity represented in the image of displaced farmers was connected to larger issues of rural poverty that characterized Fayette County. A 1969 newspaper article described Fayette County as the third poorest county in the United States. During the 1960s, more than three-fourths of the county's residents lived in poverty and the per capita income was approximately $700 (Charlier, 2005). Moreover, little economic growth occurred over the next decade. In 1978, 43% of the households in Fayette County were below the poverty line. In 1981, Fayette County was the second poorest county in the state. At that time, 55.5% of county residents qualified as low-income (Hunt, 1981). Fayette County has been described as "the very essence of wrenching rural poverty" (Charlier, 2005).

The examples of white resistance to African American efforts to assert the right to vote were repeated with respect to education. Although de jure segregation was outlawed with the *Brown v. Board of Education* decision of 1954, it was 1966 before the Board of Education of the Fayette County schools instituted a desegregation plan involving voluntary transfer (Hunt, 1981). Only a small number of African American students, however, chose to transfer to the all-white schools. According to the school Superintendent at the time, the Board of Education made a conscious effort to try to prevent African American students from wanting to transfer. This effort included making concessions to improve conditions at the all-black schools: "We felt we could delay desegregation if we made the black schools more equal" (Hunt, 1981, p. 146). Similarly, an African American educator noted that the Board of Education, "started going along with black schools….See they wanted to keep 'em separate, so what they would try to do was to please you as much as possible to keep you from wanting to go to the white school" (Hamburger, 1973, p. 182).

Nevertheless, despite these tactics, the all-black schools were not "separate but equal" in Fayette County. Parents and students protested the fact that white and black students had different school calendars (the black calendar was still based on a farming schedule). In addition, the quality of facilities, materials, services, and teachers were not the same within the de facto dual system (Hunt, 1981). In 1969, students from the all-black high school, reacting to the differences in schooling conditions and educational opportunities, marched to the predominantly white high school in order to register. They were met by the sheriff and a deputized mob. Several students were beaten (Hamburger, 1973). The student

march was one example of the protests that took place in Fayette County during the era of desegregation (Hunt, 1981).

One of the results of school desegregation was the growth of private schools in Fayette County. For example, Fayette Academy was founded in 1965 when, according to its Website, "a few parents felt that the education of their children should be of higher quality." Fayette Academy enrolled approximately 100 students before the 1970–1971 school year. After the 1970 federal court desegregation order in Fayette County, however, the enrollment of the Academy jumped to 700. In fact, in 1971 Judge Robert McRae, the judge presiding over the federal case, referred to Fayette Academy as "a monument to segregation in Fayette County" (Hunt, 1981).

Although the number of private schools is not large, their impact on the public school system has been profound. Whereas the African American population in the county was decreasing in the years immediately following desegregation, the percentage of African American students in the Fayette County school district dramatically increased over the same time period. By 1980, 39% of the white school-aged population was enrolled in private schools (Hunt, 1981). According to Hunt, the disengagement of many white students from the public school system compounded the difficulties of improving the Fayette County Schools: "The white power structure has given the majority of its support and loyalty to the private schools which were founded after court-ordered desegregation" (p. 4).

The lack of support for the public schools was also related to the perception of poor quality. According to Hunt (1981), "the legislative body [was] reluctant to support education financially in the county because of the white community's opinion of public education and poor teachers" (p. 251). However, it was not only white citizens who lacked confidence in the quality of public education. In Hamburger's (1973) oral history of Fayette County, one of the African American respondents described the schools in the following way: "The education system is poor. That's all there is to it. They just don't know better. The quality is real low."

Contemporary Conditions

Fayette County has changed in several ways from the time of school desegregation. One sign of change has been a shift in the demographics of the county. Whereas Fayette County was once predominantly African American, 2005 census estimates place the percentage of African Americans in the county at 28.2%. Whites now make up 69.6% of the overall population. In addition to this shift in demographics, the county has been rapidly growing in recent years. The 2005 census estimates reflected a population change of 19.7% from 2000 to 2005. In fact, Fayette County has led the state in rate of growth (Charlier, 2005; Waters, 2005).

This growth, however, is not occurring evenly throughout the county. The fastest growth is taking place on the western side of the county (Charlier, 2005; Sparks, 2007). Areas that were previously farmland are being turned into high-end residential projects (Charlier, 2005), as people move into Fayette County from Memphis. In fact, some observers have characterized the change as making the western end of Fayette County more suburban than rural (Sparks, 2007; Waters, 2005). Sharp increases in property values have been witnessed in the western part of the county as large homes go up in exclusive developments (Charlier, 2005).

This transition from rural to suburban brings with it the need for the county to provide additional services. As Orfield (2002) notes, some rural areas that grow into suburbs do not have a resource base strong enough to invest in infrastructure improvements which come with the transition. How well Fayette County handles this transition remains to be seen. One area that has already been cited as a liability to growth, however, has been education. The perception of poor quality public schools in Fayette County has shaped the housing market in the process of suburban growth. Those moving to the county are primarily retirees or upper-class professionals who place their children in private schools (Charlier, 2005).

While the overall perception of education in Fayette County is largely negative, the picture is not monolithic. Differences between the east side, which is still largely rural, and the changing west side of the county can be seen in the data on education. For example, Table 1 displays 2006 school-level achievement data from the Website of the State Department of Education. Jefferson and East are on the east side of the district, whereas Oakland and West are on the west side. The high school is adjacent to Jefferson and East. The data in the table shows not only the relatively low performance of the district as a whole in relation to the state, but also the achievement disparities that emerge when school location is considered.

These disparities in achievement related to location also mirror racial disparities in the district. Table 2 shows the demographic information for the same schools. This data from the state's Website reflects the bifurcation of the schools along geographic and racial lines. A predominantly white (69.6%) county has public schools that are predominantly African American (demonstrating the ongoing significance of private schooling in the county). Within the predominantly African American district, however, the schools with the highest proportions of white students have the highest achievement and are located in the western (more affluent) part of the county.

Table 1
Mathematics Achievement in Fayette County

Mathematics Achievement 2006	District	Jefferson Elem	Oakland Elem	East Jr. High	West Jr. High	Fayette-Ware High	State
Grades K–8 Criterion Referenced Academic Achievement (3-year average)	D	D	C	F	C		B
Grades K–8 Criterion Referenced Test (% proficient or advanced; 3-year average)	74%	65%	80%	65%	79%		87%
Grades 9–12 Algebra Test (% proficient or advanced; 3-year average)				68%	74%	57%	82%

Table 2
Fayette County Schools Demographic Data

Demographics	District	Jefferson Elem	Oakland Elem	East Jr. High	West Jr. High	Fayette-Ware High
White	36.1%	6.8%	69.6%	21.1%	46.5%	24.9%
African American	61.1%	89.3%	25.4%	76.2%	50.5%	73.4%
Hispanic	2.3%	2.9%	3.9%	2.3%	2.3%	1.4%
Asian	0.5%	1.0%	1.1%	0.4%	0.7%	0.3%
Native American	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%

Memphis

Historical Context

While it is beyond the scope of this article to provide a thorough historical account of either Fayette County or Memphis, there are at least two critical components of the history of Memphis that are significant with respect to understanding the relationship to surrounding rural counties, such as Fayette. The first involves the nature of the Memphis economy. For much of its history, the cornerstone of the Memphis economy has been cotton. As a result, the fate of the city was closely tied to the surrounding rural areas. While the early years of the twentieth century saw the city's economy expand to include hardwood lumber, the reliance on agricultural products continued (Pohlmann, 2008). As Green (2007) notes, the city depended not only on the products of the surrounding rural areas but also on its labor force. Although eventually expanding into new manufactur-

ing industries based on cotton by-products and hardwood, the city's "reliance on a regular influx of migrants and a racially segmented low-wage labor force belied its ties to the rural Delta" (p. 7). In fact, growth in the city of Memphis from the late nineteenth through much of the twentieth century came largely from the rural areas surrounding the city (Pohlmann, 2008).

Green (2007) also notes, however, that the movement was not always one-way. During the first half of the twentieth century, the boundaries distinguishing urban from rural were porous, particularly for African Americans. Some worked in Memphis while still living in rural areas. Other residents of the city worked as day laborers in the cotton fields. In fact, according to Green, "thousands of black migrants who arrived in Memphis found it difficult to avoid seasonal work in the region's cotton fields and discovered that they were considered field hands even after relocating to the city" (p. 79). Thus, the economic and human interrelationships between urban and rural make up a key part of the historical landscape of Memphis.

Also significant to an understanding of the history of Memphis is the worldview that emerged as a result of these interrelationships. Pohlmann (2008) asserts, for example, that the lack of industrial diversification in Memphis and the subsequent reliance on agricultural products ensured that the political culture of the city remained largely traditional, more closely resembling that of the surrounding rural areas. Green (2007) points to the racial basis of this traditionalism in the form of the "plantation mentality." This mentality encompasses the "racist attitudes that promoted white domination and black subservience… reminiscent of slavery and sharecropping" (p. 2). According to Green, black migrants from the rural areas surrounding Memphis found a city in which the plantation mentality was manifested in countless ways: police harassment; job opportunities that were limited to domestic work and unskilled labor, including seasonal work in the cotton fields; poor housing; political disenfranchisement, and so on. Moreover, "migrants encountered racial practices that appeared to recreate, albeit in specifically urban forms, aspects of plantation culture" (p. 18). In fact, in the mid-twentieth century, as local and national leaders called for greater freedom and equality in Memphis, such calls often referenced a plantation history. As a result, Green argues that an understanding of the black freedom struggle in Memphis requires acknowledging both the "urban-rural matrix" and the racial equation reflected in the plantation mentality.

One manifestation of the plantation mentality can be seen in the history surrounding school desegregation in Memphis. The president of the Board of Education was quoted in the local newspaper at the time of the Supreme Court decision in *Brown v. Board of Education*: "We have been expecting this to happen for a while…we believe our Negroes will continue using their own school facilities since most of them are located in the center of Negro population areas" ("City

schools," 2004). As was the case in Fayette County, this de facto segregation was accomplished initially by focusing on building projects to enhance and expand black schools (Green, 2007). In fact, the first black students did not begin attending historically white schools in Memphis City Schools until 1961. Through new school construction and school zoning, the Board of Education of the Memphis City Schools was able to maintain de facto segregation for several years after the original *Brown* decision. By 1971, fewer than 4% of black students attended predominantly white schools (Herenton, 1971; McRae, 1996).

Nevertheless, court-ordered busing for the purposes of desegregation began in Memphis in 1973. In anticipation of these changes, whites in Memphis established an organization called Citizens Against Busing (CAB) and began to set up several private schools. The CAB schools typically leased space from local churches. In 1972, there were 40 private schools in Memphis. That number increased to 90 in 1973 as court-ordered busing began. Private school enrollment climbed to 33,000 in 1973 and increased to 35,300 the following year (Biles, 1986). Students not only enrolled in the newly-formed CAB schools but also in other existing private and parochial schools (Egerton, 1973). According to Biles (1986), the "private church-affiliated schools mushroomed across the landscape" (p. 480).

The impact of "white flight" at the time of busing was substantial. In 1970, just a few years prior to the start of busing, the Memphis City Schools district was 55% black. While there is some question as to the exact number of students who left the system in response to desegregation, the percentage of white students had dropped to approximately 33% by 1973 (Egerton, 1973; McRae, 1996; Terrell, 2004). One author who wrote at the time that busing began characterized the white flight from the Memphis City Schools in the following manner: "The school system has already lost many thousands of white students, and in all probability it will lose more. The school system is powerless to control that exodus" (Egerton, 1973, p. 34). After a dramatic drop when busing began, the percentage of white students in the Memphis City Schools continued to decrease at a steady pace over the subsequent decades (Terrell, 2004). By 1981, white students made up only 24% of the enrollment in the Memphis City Schools. At the same time, the city had one of the largest private school enrollments in the nation (Biles, 1986).

Contemporary Conditions

Data reported for the 2005–2006 school year list the following percentages as representative of the racial demographics of the Memphis City Schools: 85.1% black, 4.6% Hispanic, 8.9% white, and 1.3% Asian or Native American. As in the days immediately following desegregation, the demographics of the district do not mirror those of the city itself. According to the Memphis Chamber of Commerce, the city's population is 34.1% white, 61.2% black, 2.1% Asian, and 2.6% "other

races." In part, this difference reflects the ongoing role of private schools in Memphis. There are currently more than 100 private schools serving nearly 30,000 students in the Memphis area, and the vast majority of students in these schools (95–97%) are white (Pohlmann, 2008). Thus, like Fayette County, Memphis reflects patterns of public-private segregation.

Moreover, the "minority" populations in Memphis City Schools (Hispanic, white, and Asian/Native American) are not spread proportionately throughout district schools. For example, 18 schools (or 10% of the total number of schools) serve over 50% of the Hispanic students in the district. Nine schools (or 5% of the total number of schools) serve nearly 50% of the Asian and Native American population. Nearly 75% of the white students in the district are served by 18 schools (or 10% of the total number of schools). And 101 of the 180 schools have populations that are at least 95% African American.

Like Fayette County Schools, district-wide outcomes in Memphis City Schools are below state averages. For example, the 2006 graduation rate was 67.2%, compared to a state goal of 90%. The 2006 district grade in K–8 mathematics achievement was a "D," compared to a "B" for the state. Similarly, the 2006 3-year district average on the high school Algebra test was 65% proficient or advanced, compared to a state 3-year average of 82%. In addition, like Fayette County, black-white achievement gaps are evident in district mathematics scores. The 2006 3-year district average for the high school Algebra test was 89% proficient or advanced for white students, compared to 61% for African American students.

Similarities and Connections between the "Rural" and "Urban" Contexts

As we began our work with Fayette County Schools, we were aware of certain similarities between the two school districts—Memphis City and Fayette County. We knew that both districts had demonstrated poor academic performance in mathematics relative to state averages and benchmarks. We were also aware of other similarities in outcomes, including racial achievement gaps and graduation rates that do not meet state targets. As we spent time in Fayette County schools, we also became cognizant of the racial bifurcation between schools on the two different sides of the county. This racial bifurcation is similar, in many respects, to the concentration of students in Memphis City Schools, where more than half of the schools are 95% African American and 75% of white students are concentrated in 10% of schools. These similarities were more easily recognizable. It was only when we began to explore the history and broader contemporary conditions that we recognized additional connections and similarities—relationships that shed some light on the similar outcomes that we had already identified.

For example, the historical account makes clear that the boundaries between "urban" and "rural" have been porous in this case. As a city, the fate of Memphis has been tied to the surrounding rural counties, including cotton-producing Fayette (Green, 2007). Economically, the city has relied on the rural areas in terms of both human and material resources. Perhaps as significant was a shared worldview grounded in the plantation mentality—a worldview that shaped the opportunities available to African Americans who left the rural counties to come to Memphis (Green, 2007). Thus, the history of these two settings makes clear that the distinction between urban and rural was not as clearly defined in this case as initially perceived, given the surface differences between the two locations.

A second similarity between the two settings can be seen in the desegregation histories of the two school districts—histories that demonstrate the salience of the plantation mentality. In both school districts, the historical record documents conscious efforts on the part of the white power structure to maintain a dual education system, even after the *Brown* decision. While both districts did eventually take steps toward desegregation, the resulting white flight from public schools has left both districts with significantly larger proportions of African American students than the populations of the respective city or county. Moreover, the physical removal of white students from the public schools has impacted the districts in similar ways. For example, Kiel (2008) notes that the response to busing and the divestment of white students from the Memphis City Schools led to a loss of public support (and, therefore, funding) for education. Similarly, Fayette County Schools lost the support of white state legislators following desegregation and white flight from the district (Hunt, 1981). This process of withdrawal of political and economic support as a result of white flight is certainly not unique to these two districts. Nevertheless, this pattern reinforces the ongoing salience of the racial dynamics captured in the plantation mentality—perhaps suggesting a new manifestation of this mentality. As legal scholar, Charles Lawrence (2005) notes,

> [Segregated schools] build a wall between poor black and brown children and those...with privilege, influence, and power. This wall denies them access to the resources we command: social, political, and economic….The genius of segregation as a tool of oppression is in the signal it sends to the oppressors—that their monopoly on resource is legitimate, that there is no need for sharing, no moral requirement of empathy and care. (p. 1377)

The histories of these two districts suggest that the denial of access to a variety of resources and lack of concern on the part of the powerful have played significant roles in the construction of contemporary conditions.

A third connection that was not immediately obvious to us as we initially considered the conditions in these two systems is the ongoing relationship be-

tween urban and rural that continues today. Upon closer examination, we found that the rural setting is intricately intertwined with the conditions in the urban center. For example, city-zoning ordinances and subdivision regulations adopted in the 1980s began the shift from the city to the suburbs (Waters, 2005). Fueled by high city taxes and other urban strains (Charlier, 2005), that suburban growth has begun to significantly change the landscape of Fayette County. As a result of the growth, property values in the western portion of Fayette County rose 21% between August 2002 and November 2003. Over the same time period, total appraised values in Memphis dropped more than $145 million (Waters, 2005). Thus, the changes that are transforming Fayette County from rural to "suburban" are related to conditions in the city. The "pull" conditions that contributed to movement from Fayette County to Memphis a century ago have now been replaced with "push" conditions that have changed the direction of the population flow.

Lessons Learned

At the beginning of this article, we noted our interest in what it might mean to "put the 'urban' into mathematics education scholarship." Our goal in this article has been to use the cases of these two settings (urban and rural) to explore what it might mean to take mathematics education scholarship in this new direction. In particular, we sought to outline how our thinking regarding the differences between the two districts shifted as we began to recognize several similarities and connections. We now seek to outline the implications of these cases for the future development of urban mathematics education scholarship.

First, we suggest that the cases of these two settings and the relationships between them point to the critical significance of context. While Memphis is decidedly urban, the historical context highlights the salience of the urban-rural interface. We would not expect this urban-rural matrix to manifest itself in the same ways in other urban areas. In fact, what is clear from the historical record is that the nature of this urban-rural connection was shaped by conditions that were specific to this context (Green, 2007; Pohlmann, 2008). Thus, as we seek to put the urban into mathematics education scholarship, we must be aware that urban spaces are not monolithic. There are different trajectories of urban history and development with implications for understanding the contemporary conditions of education in general and mathematics education in particular. As we learned from the examination of these cases, educational researchers take on assumptions (perhaps incorrectly) when we identify an area as urban without fully explicating its history and contemporary context. What this case taught us was the importance of understanding the specific context that we were defining as urban.

A second lesson that we learned from these cases was the important role that paradigms beyond mathematics education might play in putting the urban in ma-

thematics education scholarship. In particular, we examined these cases through the lens of critical race theory. This framework allowed us to recognize two key elements of the overlap between these two cases. First, CRT demands attention to the role of race in constructing contemporary social and educational conditions. In this case, this orientation highlighted both the historical conditions (e.g., the plantation mentality and response to desegregation) and the contemporary status of education (e.g., ongoing segregation both within district schools and across public-private sectors) that reflect the past and current salience of race. In addition, the CRT framework requires attention to the historical context. It is not enough to simply examine conditions as they currently exist. Those conditions must be understood within the historical dynamics that shaped them. Green (2007) points to the importance, for example, of "discerning the significance of history for today" (p. 294). We assert that these elements of the CRT framework were critical not only in the examination of these two settings but also offer important directions for future scholarship on urban mathematics education. Thus, one lesson learned from this case is the need to take a more expansive view of the research traditions and literature, including CRT, that can inform our understanding of opportunity to learn mathematics.

Finally, we submit that another potentially important point made by this case is the need to consider the changing nature of cities and their relationships to the areas that surround them. Our goal has been to illustrate the need to look beyond the surface descriptors to examine the interrelationships between cities and the surrounding communities. The growing suburbanization of the west side of Fayette County has yet again tied the fate of the formerly rural county to that of the nearby urban area. Moreover, the historical similarities, particularly with respect to education and race, point to underlying conditions that should also be considered when examining what it means for an area to be rural versus urban.

The connections between Memphis and Fayette County reflect the need, in this case, for a more "metropolitan" perspective. According to Rusk (2003), the real city is the total metropolitan area, both the city and its suburbs: "Any attack on urban social and economic problems must treat suburb and city as indivisible parts of a whole" (p. 7). To understand the potential for the improvement of education in the metropolitan area requires consideration of this relationship between city and suburb. In fact, the Memphis mayor pointed to this relationship. He said, "You know when the [school] funding mechanism [for the city schools] is going to change—it's when the education of white students in the suburbs begins to suffer" (Sparks & Dries, 2005). Similarly, observers have noted that the future of growth in Fayette County is not simply tied to the conditions in Memphis but also to the quality of education. According to one newspaper editorial ("Fayette's growth offers a lesson", 2005), "public education in Fayette County could limit the community's growth eventually, unless county officials decide to invest more

in schools." How this interdependence will shape school funding in the metro area remains to be seen. The interconnectedness of educational opportunities between Memphis and Fayette County seems clear, however. It is this interconnectedness that we assert should inform future research in urban mathematics education in the form of a metropolitan perspective. This metropolitan perspective represents a significant shift in our thinking about the relationship between Memphis and its rural neighbor. We now recognize the historical and contemporary connections between the cotton fields of Fayette County and the conditions of urban Memphis.

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