Education inequity: a comparative analysis of Johannesburg and Chicago city schools

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EDUCATION INEQUITY: A COMPARATIVE ANALYSIS OF JOHANNESBURG AND CHICAGO CITY SCHOOLS

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Abstract: Variances in the quality of education between schools in the same metropolitan areas have been noted around the world, and researchers have speculated on several causes. In order to study the specific impacts of funding gaps, lower numbers and qualifications of teachers, and lack of resources for students learning English, the cities of Johannesburg and Chicago were compared and contrasted. Both cities contained areas with very high quality schools and isolated neighborhoods where schools generally had fewer resources and lower test scores. This research shows that the problems in both cities mirror one another to an extent. Schools systems in each city experience large gaps between the per student monetary allocations in suburban and urban/township schools. These differences affect the abilities of schools to hire teachers, provide supports to their students, and assist individuals facing unique obstacles, like those learning English proficiency. Overall, these similarities will show that inequalities in the school systems of both cities exist and produce similar results.
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I. Introduction

Equality is a value cherished by both the United States and South Africa, and each of their constitutions seek to promote equity in their societies and public services, including education offered by the state. However, both countries have huge differences between the qualities of their best and worst schools which is a serious issue as many scholars link education with better chances of securing a job and increased earnings potential. These differences are not just perceptible in the services provided, but also the test scores of students who attend these institutions. Two cities which exemplify this issue are Johannesburg and Chicago, both massive cities which dominate the areas around them socially and politically.

Chicago has a population of around 2.7 million, but when the entire metropolitan area is considered, that number grows to about 9.5 million.\textsuperscript{1} That makes it the third largest city in the country, and by far the largest in the Midwest. While Chicago is a major economic and cultural hub, its school system has consistently been rated poorly. In 1988, then Secretary of Education, William Bennett, publically cited Chicago Public Schools (CPS) as “the worst in the nation” and few could refute that claim.\textsuperscript{2} Bennett’s comments were made as concern was growing nationwide over the state of what were becoming known as urban or inner city schools. These schools, like the name implies, are located in large, urban areas with very dense populations, but also tend to be characterized by high rates of community poverty and low levels of funding in comparison to suburban schools in the same areas.\textsuperscript{3} During the latter half of the twentieth century, a great number of major US cities witnessed a decline in manufacturing jobs, a migration of wealthy residents to the suburbs which caused an increase in concentrated urban poverty, and growing inequity.

\textsuperscript{1} U.S. Census Bureau 2015. Page 1
\textsuperscript{2} Bryk et al 2010. Page 13
\textsuperscript{3} Ainscow & West 2006. Page xiii; Jacob 2007. Page 130
between schools that were within short distances of each other. Chicago became one of the most well known cities for this reason, and education continues to be a controversial topic at both the local and state levels.

Meanwhile, Johannesburg’s school system is also extraordinarily divided, although for much different reasons. Until 1990, South Africa was dictated by a system known as Apartheid, which translates from Afrikaans to literally mean “separateness”\(^4\). This system, instituted by the National Party (NP) in 1948 divided the country by race in every sphere of public life, from where an individual lived to what kind of education a person received. Two years later, the Bantu Education Act created nineteen education departments, each for a different racial or ethnic group in the country, and was specifically intended to “condition the African people to a predetermined position of subordination”\(^5\). Schools for non-white South Africans were provided, but with significantly lower financial means and strict curriculums. Black South Africans were forced to live in designated “homeland” areas throughout the country or segregated informal neighborhoods located in major cities. Even after the democratic transition in the early 1990s, these highly impoverished city neighborhoods remained prevalent in cities across the country and became known as “townships”\(^6\). These settlements tended to lack resources like electricity, running water, roads, and proper housing, and the schools within these townships were in similar states.

Township schools, like many inner city schools in the United States, tend to have poor funding bases despite intense efforts to improve the quality of education in these disadvantaged districts. Although the government has attempted to invest large sums of money into the education in these areas, it has been highly criticized as doing too little and allowing these schools to remain

\(^{4}\) Spaull 2012. Page 3  
\(^{6}\) Mestry & Naidoo 2009. Page 108
“essentially dysfunctional”.\textsuperscript{7} Johannesburg, a city of 12 million people, located in the Gauteng province of central South Africa, has struggled in addressing inequalities in its region. Even its local education department admits, “Progress has not been optimal and achievements have not taken place at the required scale”.\textsuperscript{8}

While Chicago and Johannesburg are very different in many aspects, they do share some very important characteristics. Both are large cities with similar population sizes and economic centers for surrounding areas. The governments each require children to achieve a minimum level of education. For Chicago, that age is seventeen, and for the Johannesburg school system, it is fifteen.\textsuperscript{9} Additionally, in both the United States and South Africa, an overwhelming proportion of the public, 91\% and 93\% respectively, are enrolled in the public school systems, rather than private education institutions.\textsuperscript{10} However, the quality of the public schools is not always identical across cities and districts. As will later be discussed, although both urban schools in the US and township schools in the Republic of South Africa (RSA) receive special funding through the national governments, there still persists large financial and achievement gaps between schools. The cities also both provide education to large populations of students for whom English is not their first language, due to both locations being a large center for migrants, which presents unique challenges for hiring teachers and providing proper learning materials. These students tend to be more heavily enrolled at urban or township schools, putting more pressure on these institutions. Throughout the course of this paper, the similarities and dissimilarities of the two cities’ education systems will be analyzed to determine if similar system features impact the education qualities in both urban and township schools. Specifically, my research will examine the funding mechanisms for schools,

\begin{itemize}
\item \textsuperscript{7} Webb 2006. Page 210
\item \textsuperscript{8} Gauteng Department of Education 2010. Page ii
\item \textsuperscript{9} Illinois School Code 105 ILCS; Veriava 2010. Page 12
\end{itemize}
the number of students per teacher in the districts, and the resources available for students learning English as a second language. If similar issues are affecting both regions, I hope to show not only do these factors undermine a key goal of both education systems, but provide increased evidence of the negative impacts that poor funding, and therefore lack of access to resources, have on the learning of children in urban and township communities.

II. Literature Review

Education inequality has been a popular topic of research, both as it occurs in the United States and how it exists in an international context. In research conducted by Ainscow & West in 2006, the two scholars defined urban schools as “mostly located in declining inner-city and suburban areas” and as particularly lacking in resources, both within a school district and as a local population. Many other scholars have used nearly identical definitions and several have discussed the concept of schools constituting a market. In this model, parents and children act as consumers, and those who have more resources attempt to sort their children into what are viewed as better schools. Trends like these further isolate impoverished communities where parents have less of an ability to choose where their children attend classes due to the costs of travelling to other locations. Maguire, Wooldridge, and Pratt-Adams (2006) support this theory and state in their study that US schools have become very hierarchical in nature. Within cities across the country, schools compete for increased funding for improvements and to attract more qualified teachers with greater experience to draw in students. In this system, the authors state that education becomes a system where, “‘Good’ schools become popular, other schools are seen as ‘acceptable’,

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11 Ainscow & West 2006, xiii
12 McUsic 1999, Page 128
while yet other schools are demonized”. These researchers show that many cities have divided school systems which means many poor families have little choice but to send their children to disadvantaged schools while middle and upper income parents are able to send their students to better performing or resourced institutions.

Meanwhile, in South Africa, a plethora of academics have condemned the government’s management of the education system, in particular how township schools have failed to quickly improve since the early 1990s. One study by Paul Webb, a professor at Nelson Mandela Metropolitan University in South Africa, states that 80% of schools in the country are not running effectively, especially those in rural areas and townships. Other scholars have addressed the issue, claiming that the current education system constitutes a new form of segregation based on wealth, although it is still highly tied to race and ethnicity. Finally, Arnetha Ball, a professor of education at Stanford University, published a book in 2006 detailing her research on education reform and teacher efficacy. She specifically draws parallels between the US and RSA, contending that lower average test scores for students living in extreme poverty, minority groups, and students who speak a first language other than English show that these groups do not receive the same quality of education as wealthier, white students whose first language is English. While Ball focuses on the manner of teaching as a contributing factor, my research will focus on institutional factors like teacher to student ratios, funding, and resource allocation.

13 Maguire, Wooldridge, & Pratt-Adams 2006. Page 105
14 Webb 2009. Pages 197;210
16 Ball 2006. Pages 4-5
III. Research Methods

Through comparing the school systems in Johannesburg and Chicago, I hope to show that similar mechanisms (funding measures, limited school choice, etc), drive education inequalities in both cities. These issues unfairly impact low income families, and in order to show that I will first conduct research to ascertain if school choice for certain populations is limited. This can be because of policy or financial restraints that impede access to other districts. After establishing whether or not this is accurate, I will then seek to show if there are major inequalities between the funds schools have per student, the ratio of students to teachers, and the resources available to English language learners. If historically advantaged schools in both Chicago and Johannesburg have comparable policies which result in significantly fewer resources than urban or township schools in the same areas, that will display serious differences in the abilities of some schools to provide a quality education for their pupils, especially when taken into account with lower average test scores for these low income community schools. However, if these differences are not seen in either city, or are only minute, then it would be unfair to draw these conclusions. Over the course of my research, I will seek to display if the character of education inequality is similar between these two cities.

In order to conduct my research, I will analyze past case studies and investigations on the education systems of both Chicago and Johannesburg as well as a number of government resources. Both the Gauteng Province Education Department, which oversees state primary schools in Johannesburg, and the Chicago Public School system have a large number of resources which can be accessed online. These include many curriculum guides, performance reports, past budget and future funding predictions, as well as recommendations and plans to improve the school system by officials. In this way, I can examine many of the policies that each city has for their
schools, specifically in the way they provide funding for certain institutions, how schools recruit and hire teachers, and the ability schools have of obtaining resources such as textbooks in second languages.

Also, I will gather past research by major scholars on both cities. Johannesburg, being the largest city in South Africa, has been the center of several studies, and there is an abundance of information on how regional and nationwide policies have impacted individual schools. Additionally, some of the most well known townships like Soweto are located in the boundaries of the city which have also been the topic of many research studies. Supplying more information on certain townships in the area. On the other side of the world, numerous studies have been conducted on the CPS and education policies in Illinois, especially because Chicago schools have been such a major source of news coverage. There are also resources through the Illinois Board of Education which provides information on individual school districts, which could prove valuable. By combining past research with government documents, I should be able to create a clear picture of both school systems to compare.

**IV. Findings**

Over the course of my research I found a large number of similarities and a few differences between the Chicago and Johannesburg public school systems. By examining a large number of primary and secondary sources, I was able to collect a great deal of information pertaining to isolated areas of poverty in both Johannesburg and Chicago. Geography has a major impact on both the resources available for education within a community and the choices families have in where their children attend school. These cities, which are divided between extraordinarily wealthy areas and tightly packed disadvantaged communities have built barriers making it difficult
for low income families to move their children from one district to another which makes the concept of school choice almost nonexistent for large portions of the population. The US and RSA have each put into place policies which draw funds to schools through local contributions. While the means through which they do so may not be the same, both policies allow wealthier districts to further advance their schools by giving them a larger pool of resources through which to work. Some attempts have been made in both countries to counteract the effects of local wealth through national funding, but these have been largely ineffective since per student spending between suburban and township/inner city schools remains disproportionate. These factors restrict the abilities of these districts to buy educational materials like textbooks, furnish libraries, update buildings, and provide a variety of classes for their student bodies. Also, these locations tend to find it more difficult to compete for qualified, experienced educators since these professionals tend to be attracted by the advantages a better funded school can offer. While these issues all impact the quality of education received by students, they are particularly harmful for non-English speakers who require specially qualified teachers as well as different reading materials and lesson plans. In schools already struggling, the additional supports needed by English Language Learners are many times neglected. All of these factors make it less than surprising that test scores from both urban schools in Chicago and township school in Johannesburg tend to be lower on average than students from the same areas who attend school in wealthier districts. The most important takeaway from all of this information, however, is that similar circumstances affect both of these cities' education systems and negatively impact students from low incomes families and eroding the values of education equality expressed entrenched in both the US and RSA.
Geography Impacts School Choice

One key trait that is shared by both Johannesburg and Chicago is that both cities have highly concentrated areas of poverty and very wealthy neighborhoods in close proximity to each other, but do not interact with each other to large extents. These socially isolated areas limit school choice for low income families by forcing them to choose the only schooling available rather than a different district they might prefer. While many middle and upper income families may choose to commute their children to other districts, these actions require parents to incur additional costs both monetarily and in lost time. For low income families, the costs are often not viable options for them, forcing them to choose the school closest to them by default.

Since the 1950s, Chicago, like many other cities in the United States, has seen an increase in the number and severity of high poverty areas in its boundaries. From the late 1960s to the early 1990s, the number of manufacturing jobs in the city decreased by more than 330,000 while non-manufacturing jobs only increased by just under 186,000. The average annual salaries for these jobs also dropped significantly from $37,000 to $26,000, when adjusted for inflation, meaning that not only did the number of jobs requiring little training drop, but so did the income for these jobs.¹⁷ This forced many people, disproportionately racial minorities, into areas of concentrated poverty with a large number of low income jobs.¹⁸ Meanwhile, the property values of homes and apartments in highly sought after areas continuing to rise steadily, especially at the turn of the century.¹⁹ By the early 1990s, Chicago, which was already known for having a large number of highly segregated neighborhoods due to restrictive housing practices, became one of the six most segregated cities for African Americans²⁰ These trends are particularly important as they relate to

¹⁷ Lipman 2002. Page 388
¹⁸ Jargowsky 2015. Page 2
¹⁹ Lipman 2002. Page 389
education. In 2012, sociology researchers Logan, Minca, and Adar found that in the US, minority children are on average more likely to attend schools in areas of poverty.\textsuperscript{21}

Social isolation is major issue in Chicago. What has become known as the “geography of opportunity” has stopped many low income families from exploring alternative schooling choices.\textsuperscript{22} Research by Pauline Lipman, an expert on urban policies at the University of Chicago, has shown that many there is a correlation between low income segregation areas of Chicago and underperforming schools.\textsuperscript{23} This relationship supports attitudes by many parents who feel that the schools in their areas are low quality and they therefore wish to send their children to other school systems for their studies. However, doing so can be difficult. Chicago, unlike some other major cities, only offers free public transportation to a small number of students in specific programs, meaning that parents who wish to enroll their children in a school outside of their neighborhood must pay these costs or find an alternative means to get their children to another school.\textsuperscript{24} Also, parents struggle with finding the time to transport their children longer distances when attempting to balance work and family life. All of these factors combine to create a system where higher income families have more access to wealthier and better performing schools.

Johannesburg, under Apartheid, was segregated by race and is still attempting to overcome the extreme segregation which was applied to the city. Since a tremendous amount of the country’s wealth was held by the small ruling white minority, progress has been slow in breaking down neighborhood barriers.\textsuperscript{25} Townships continue to be some of the poorest parts of the country, and while some schools have dramatically improved, most have continued to drag behind former white

\textsuperscript{21} Logan, Minca, & Adar 2012. Page 288
\textsuperscript{22} Logan, Minca, & Adar 2012. Page 296
\textsuperscript{23} Lipman 2002. Page 401
\textsuperscript{24} Baker 2014. Page 11
\textsuperscript{25} Yamauchi 2011. Page 147
schools in the quality of education provided, which is true nationally as well as in Johannesburg. National school rankings continue to place most former white schools in Quintile 5 (the top performing group) while township schools occupy lower ratings. According to Van der Berg, these schools tend to test 25% higher on reading and mathematics tests than the next Quintile below them. Former white schools have become less segregated than they were in the early 1990s which can be seen by the growing diversity in previously white schools, but institutions located in previously Black neighborhoods remain extremely homogeneous. Many policy makers and scholars have blamed the costs of commuting to school as a major deterrent to parents relocating their children to other districts.

Johannesburg uses geographical catchment to assign its students to primary schools, meaning that all students must be accepted by school in their community to which they are assigned. These divisions tend to cluster households in a very similar manner to Apartheid divisions. However, students can apply to schools outside of their neighborhood, and though they can be denied entry based on grades, the South African Schools Act of 1996 (SASA) forbids inability to pay to be a dissuading factor in a school offering a student a spot. While admittance to a school outside of one’s feeder zone is not guaranteed, it is an option pursued by many middle income families who have the ability to pay the fees and make the commute. Bell & McKay showed that in some schools situated in Sandton, an affluent Johannesburg area, more than half of students from middle class backgrounds travel from outside the district boundaries to attend class. Like in Chicago, parents must also pay the additional costs to transport their children to a

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27 Fiske & Ladd 2004. Page 71
29 Chaka 2008. Pages 12-15
chosen school, find a way to take them to a secondary location themselves, or allow their children to walk long distances by themselves.\textsuperscript{31}

What these issues show is that both Chicago and Johannesburg are very divided cities where high quality schools tend to be located in wealthier neighborhoods. These schools are geographically inaccessible to many families who live in concentrated poverty. The combined financial and time costs of commuting to these institutions make middle income families the most likely to attain spots for their children in these desirable school districts. Thus, a majority of low income students have little choice but to attend the school in their area, which can be facing many problems.

**Funding Gaps between Wealthy and Impoverished Schools**

In both the US and RSA, there exists a major funding gap between the average high performing school and urban/township schools. While the character of these inequalities is different for the two countries, both result from policies which give advantages to schools that serve wealthier communities by allowing portions of school budgets to come from local communities. In the United States, this results from a tax system which allocates resources, but in South Africa, this occurs through private fees levied by the schools themselves. Both countries’ national governments have system of funding which is meant to narrow the efforts of these local forms of funding. However, these attempts at correcting funding inequalities have failed in both cases, which will be discussed throughout this section. As will later be shown, these trends will impact the abilities of schools to hire teachers and provide needed resources to students.

Chicago, like much of the US, funds schools in part through local property taxes, which means that some school districts receive significantly more funds than others. In wealthier areas, property taxes naturally result in higher revenues for schools because the homes in those districts tend to have higher values.\[^{32}\] While federal spending on education has increased since 1952 to diminish the impacts of local wealth (or lack thereof), Bruce Baker of the Lincoln Institute of Land Policy stated in a 2014 report that almost half of local property taxes still go to fund education in the area. Local property taxes can add up to a significant amount, like in Illinois where these taxes make up over a third of the total taxes collected in the state each year.\[^{33}\] According to a report by *the Education Trust*, a non-profit organization which funds research on education, after examining funding gaps in all 50 states, it was found that Illinois has the largest gap between high poverty and low poverty schools in the country. Even though the average high poverty school receives $2,346 more per student in federal funding than a low poverty school, the same high poverty school will get around $4,887 per student less in local property taxes. That means that when looking at per student spending, a wealthier school will have on average $2,541 more per student, which can allow that school to hire significantly more teachers or purchase/improve more resources. However, the same study estimated that low income schools need 40% more funding than a high income school to handle the needs of more diverse learners, especially for those whom English is not the first language spoken.\[^{34}\] This makes the funding gap between high and low income schools even more significant.

On the other hand the Gauteng Education Department’s system of funding is much different than that of the CPS, but still relies on local funding to an extent. Under Apartheid, the

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\[^{32}\] Maguire, Woolridge & Pratt-Adams 2006. Page 144
\[^{33}\] Baker 2014. Page 2
\[^{34}\] Ushomirksy & Williams 2015. Pages 5-7
NP controlled funding for state sponsored schools and favored white children with over three times the funding per learner that the average Black African child received.\textsuperscript{35} During the democratic transition, the topic of free primary education was a popular idea, but one which was very difficult to achieve. The Hunter Committee, a group commissioned by the government and led by Professor Peter Hunter, issued a report in 1995 which discussed the massive inequalities which had allowed schools in townships to fall into such extreme states of disrepair, but stated that in order to fund all schools properly, the education budget would have to increase from R25.6 billion to R62.4 billion.\textsuperscript{36} This was plainly too expensive for the fledgling government which would have to take even more significant funds from the top performing schools in order to aid those which needed improvements. It was thought that doing so would create an out migration of students from upper class backgrounds into private schools.

In order to keep wealthy parents from taking their children out of the government’s education system, a compromise was reached between political parties to allow schools to charge fees, as long as exemptions were made for any child whose parents could not afford them. This point was determined by the South African Schools Act of 1996 to be if the fees were 10\% or more of the parents’ income; although for parents with incomes between 3.33\% to 10\% of the required fees, families could apply for a partial exemption.\textsuperscript{37} Since many former white schools were semi-privatized in the 1980s and 1990s, these schools transitioned easily, and an overwhelming of schools across the country followed suit by charging costs of attendance.\textsuperscript{38} The fees for each school would be decided upon by a School Governing Body (SGB) which would be made up of

\textsuperscript{35} Pampallis 2008. Page 9; Veriava 2010. Page 10
\textsuperscript{36} Pampallis 2008. Page 9-11
\textsuperscript{37} Pampallis 2008. Page 12
\textsuperscript{38} Pienaar & McKay 2014. Page 106
parent and teacher representatives in the district.\textsuperscript{39} Thus, schools were split by the national government into quintile groupings so that the poorest schools (Quintile 1) received the largest amount of state funding at 35\% of the budget and the richest schools (Quintile 5) received only 5\%.\textsuperscript{40} The rest of the school’s budget would be determined through decisions by local SGBs. In 2007, Quintiles 1 and 2 were made no fee schools nationwide and received additional funds to provide free education.\textsuperscript{41}

Like the additional federal funding given to inner city schools, the quintile system was meant to allow township and rural schools to improve the quality of their education while fees would maintain former white schools. However, as pointed out by researchers Edward Fiske and Helen Ladd in 2004, “the fee policy did little, if anything to help the historically disadvantaged schools”.\textsuperscript{42} While national targets for 2010 provided R$855 for learners in Quintile 1 as opposed to R$147 for Quintile 5, the vast majority of the previously white schools began to charge high fees for attendance which far outweighed the government’s additional funding. In Johannesburg, Quintile 1 & 2 schools of course pay no fees and many Quintile 3 or 4 schools paid modest amounts. Quintile 5 schools, however, the category into which nearly all former white schools fall, it is not out of the ordinary to encounter schools which charge thousands of rand a year. In 2007, John Pampallis stated that in many of these resourced schools “fees of R$12 000 or more were not unusual” although there were also several which choose not to charge these high amounts.\textsuperscript{43} Still, their fees are nearly impossible to pay for many families located in townships. Even if a family can obtain an exemption for these costs, many schools then require parents to

\textsuperscript{39} Chaka 2008. Pages 16-17
\textsuperscript{40} Pampallis 2008. Page 12
\textsuperscript{41} Hall & Giese 2009. Pages 37-40
\textsuperscript{42} Fiske & Ladd 2004. Page 76
\textsuperscript{43} Pampallis 2008. Page 16
provide additional resources for students which fall outside of the fees for the institution. These include items like textbooks, notebooks, stationery equipment, school uniforms, extracurricular activities, and possibly more. Many of these costs are included in the budgets of Quintile 1 and 2 schools, like textbooks and stationery. All of these costs add up and allow officials in schools which charge high fees to provide more resources to their students.

Schools are also allowed to raise funds outside of student fees through donations and fundraisers managed by SGBs, but many of these bodies in lower quintile schools find this difficult to do in addition to their other duties. All financial issues had by schools run through these groups, making their jobs like budget management quite large tasks. SGBs have struggled to function in many areas, partially because there is no training for these boards in financial management, and individuals who are already trained in budget creation and coordination are difficult to find. These groups often have problems managing the complicated governmental processes which are expected of them, while more advantaged schools have the resources to hire professionals.

It is undeniable that there exists a major funding gap between high poverty and low poverty schools in both the US and South Africa. While in Chicago, that issue is based off of the system of local taxes supporting local schools, private fees allow former white schools in the RSA to have thousands of more rands per student than many fee free schools in city townships. These gaps are multiplied by the number of students a school can attract, creating inequalities which can add up to be millions of dollars. Huge sums of money can contribute to increased staff and resources for these districts, giving them an advantage to preparing their students.

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44 Bell & McKay 2011. Page 38
45 Mestry & Naidoo 2009. Pages 108/123
Impacts of Funding on Teachers and Resources

The urban and township schools which face these financial constrictions often struggle to organize their classes and teachers amidst these constraints. Wealthier schools have the ability to offer teachers higher salaries, more resources, and fewer students per class which can be attractive qualities in an employer, in addition to the fact that these school tend to have higher performing student bodies. The same factors also give high performing school districts more choice over their teachers, allowing them to recruit more skilled workers. Less advantaged institutions must then compete with less money and greater needs when hiring personnel and providing them with the tools to guide a class. As will be shown, this situation generally results in schools hiring fewer numbers of teachers per learner and also teachers who are less qualified than those in more advantaged schools.

In U.S. urban schools, there is often significant difficulty in finding teachers compared to better funded districts. In 2004, the Schools and Staffing Survey stated that while only a quarter of suburban schools had difficulty in hiring a mathematics teacher, more than one third of central city schools struggled with the same task. The same report showed that urban schools found it much more difficult to hire science teachers and were 70% more likely to use a long term substitute to teach a class. What is surprising is that the CPS receives on average ten applicants for every one available position, but since many candidates are only interested in a few, often high performing schools, many positions in urban schools remain unfilled for extended periods of time. Issues like this can pressure schools to increase class sizes, a common practice in urban schools nationwide, in a system which already has one of the highest student to teacher ratios in the state.

47 Jacob 2007. Page 140
at 24:1.\textsuperscript{48} That may not seem like an exceptionally high number, but when compared to many of the surrounding districts which tend to have ratios of between 15:1 to 20:1, that number seems quite large.\textsuperscript{49} However, while the state allows for classes to have as many as 28 students in a class, during teacher shortages CPS institutions can often have as many as 40 children in a class until the school’s administrative officials can determine a way to reduce that number. It also tends to limit the number of courses offered at CPS schools, most commonly world language courses, fine arts, computer science, and science classes with laboratory elements.\textsuperscript{50}

Another common practice for schools struggling to fill teaching positions is to hire unqualified or underqualified educators.\textsuperscript{51} One of the most important statistics discussed in the 2004 Schools and Staffing Survey, was that was reported was that while suburban schools tended to only have 14.4\% of their classes taught by an under qualified teacher, the rate of urban schools was much higher at 19.2\%.\textsuperscript{52} Even if those teachers are fully qualified though, teachers in urban schools are much more likely than other educators to be teaching out of their area of expertise, meaning they lack either a major or minor in that area. Practices like these occur at both the primary and secondary levels of education, as shown by Richard Ingersoll’s 2002 report for the Consortium for Policy Research in Education Research.\textsuperscript{53} In general, urban schools tend to have a third of all core classes taught by underqualified teachers, but the most affected classes are math and science courses.\textsuperscript{54} Peske & Haycock discuss in their 2006 report for the Education Trust that,
“in high-poverty and high-minority schools about 70 percent of math classes….are taught by a teacher who does not even have a college minor in math or a math related field”\textsuperscript{55}

Finally, the CPS has a major problem with disadvantaged schools attracting large numbers of inexperienced educators and high turnover rates. According to Ingersoll, “In disadvantaged schools, twice as many teachers are beginners and fewer teachers are senior than in advantaged schools”.\textsuperscript{56} This trend is particularly problematic in Chicago where it was determined in 2006 that CPS students were nearly twice as likely as children in more affluent, suburban schools to be taught by a newly certified teacher.\textsuperscript{57} Teachers in their first three years of teaching have been shown to be at their least effective, but their ability to relay information improves after this period of time. However, Chicago continues to struggle with these young teachers because they tend to be the individuals with the highest turnover rates.\textsuperscript{58} Overall, urban schools in Chicago tend to have fewer teachers with less qualifications on average than schools which have higher funding bases.

Johannesburg schools tend to face similar issues. To begin, state funding generally makes up a majority of spending in township school, but student to teacher ratios remain high. Since the early 1990s, the number of students in a class had dropped slightly, but it is still widely recognized that former white schools still have a much larger rate of teachers in relation to learners. The Gauteng Education Department has specifically stated in its 2009 strategic plan, “We would also like to consider the reduction of class sizes in the foundation phase to ensure increase teacher-learner contact time”.\textsuperscript{59} The overall average teacher to student ratio in the Gauteng province is 31:1 and while many sources provide examples of classrooms with well over 40 learners to one

\textsuperscript{55} Peske & Haycock 2006. Pages 2-3
\textsuperscript{56} Ingersoll 2002. Page 15
\textsuperscript{57} Peske & Haycock 2006. Page 2
\textsuperscript{58} Allensworth, Ponisciak, & Mazzeo 2009. Page 4; Jacob 2007. Page 138
\textsuperscript{59} Gauteng Department of Education 2010. Page 31
teacher, it is difficult to find an exact average for the student to teacher ratio in any specific township. However there are ways to show the disparities between Quintile 5 schools and lower ranked districts. It is a common practice for schools which practice large amounts of fundraising or which charge fees to have their SGBs set aside a portion of those funds to hire additional teaching staff. In the Western Cape, Fiske & Ladd (2004) found that SGBs in former white schools generally raised enough funds on average to hire an extra 3.82 teachers while former native African schools could hire just 0.16, and these trends appear to be fairly common through the RSA. These SGB funded teachers have a significant impact on the number of teachers in the education system in the Gauteng as the same government report which listed the province wide teacher to student ratio said that without additional teachers hired by SGBs, the overall ratio would rise to 36:1. In order to have such a large impact on the province’s statistics, there must be a large number of teachers hired by local education authorities through private funds, and while not all of them belong to historically advantaged schools, it is safe to estimate that a very high percentage of these teachers are located in high income institutions. In fact, the best performing schools in the Johannesburg area tend to have ratios of 24-25 students per teacher, and the schools which are able to provide such environments generally gather the funds to hire these extra educators through school fees or donations to SGBs. What all of these statistics show is that while some schools have classrooms with around 25 students to a teacher, others may have around 40 students, if not more, for each instructor employed by the school. These ratios, however, are increasing as the city of Johannesburg continues to grow from migration within the RSA and

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63 Gauteng Department of Education 2010. Page 35
64 Pienaar & McKay 2014. Page 112/118
internationally.\textsuperscript{65} Overall, this information shows that there is a significant gap in the teacher to learner ratio between historically advantaged and disadvantaged schools, which impacts the abilities of students to learn and perform well on standardized tests. In addition, Johannesburg also witnesses a similar trend as Chicago where more qualified teachers, especially in science and math courses, tend work for wealthier school districts which have more resources and higher scores on standardized tests.\textsuperscript{66} Test gaps between township schools and wealthy districts tend to be most pronounced in these areas.

Overall, wealthy districts in both Johannesburg and Chicago tend to attract more competitive educators and are able to employ more of them due to their superior funding. While the ratios in both cities may not line up exactly, the gap between high resourced and low resourced schools is similar. Wealthier districts also tend to have teachers with higher average qualifications, especially in the science and math fields. These characteristics give students in high resources systems a major advantage to students who much larger class sizes and less effective instructors.

\textbf{Difficulties for English Language Learners}

As earlier stated, both the Gauteng Education Department and CPS have a large number of students whose primary language is one other than English. The US does not have an official language, despite the overwhelming use of English, and the country as a whole is seeing an increase in the enrollment of English Language Learners (ELLs) in the public school system.\textsuperscript{67} It is up to each state to determine the language policy of their education system, although previous court cases have determined that “appropriate action to overcome language barriers” (\textit{Castaneda

\textsuperscript{65} Gauteng Department of Education 2010. Page 32
\textsuperscript{67} Arroyo 2007. Pages 4-5
v. Pickard 1981) must be taken by a school to ensure children have access to public education.\textsuperscript{68} Illinois, however, specifically promises in its state Bilingual Education Policy a “transitional bilingual education program” for students with resources available in their native language.\textsuperscript{69} Likewise, Section 29 of the Republic of South African Bill of Rights promises every student an education in their home language as long as it is one of the 11 official languages of the country.\textsuperscript{70} The Gauteng province also states in their provincial language policy that a key goal of the region is, “to facilitate equitable access to provincial government services and information and participation in government processes”. However, a vast majority of schools primarily teach in English or less frequently in Afrikaans, a language related to Dutch, which can complicate schooling for children whose first language is a native African dialect. While both cities attempt to provide ELLs with a sound education, the burden falls disproportionately on poorly funded schools which struggle to provide the needed resources to students.

In Chicago, there are roughly 170,000 ELLs in the school system, according to a 2010 report by the Bilingual Education and World Language Commission, and the number of students entering the system whose first language is not English or who have only limited English proficiency has been steadily increasing.\textsuperscript{71} Of these students, just over 85\% speak Spanish as a first language, although there are small groups of Arabic, Polish, Chinese, and Urdu languages as well, to name a few.\textsuperscript{72} Students who are identified as ELLs are able to attend either a bilingual education program or an English acquisition program, depending on the number of students in their district and the resources available. While bilingual education is generally seen as a better

\textsuperscript{68} Boyle et al 2015. Pages 6-7; Linton 2004. Page 46  
\textsuperscript{69} Illinois State Board of Education 2011, Page 16  
\textsuperscript{70} Serfontein 2013. Page 13  
\textsuperscript{71} Illinois State Board of Education 2011, Page 1  
\textsuperscript{72} Boyle et al 2015. Page 15
tool for long term development and learning, Chicago schools generally use the English acquisition approach and have done little to change this trend in the last twenty years. These programs are generally seen as subtractive because students fail to gain full literacy in their first language, but they can also result in added learning difficulties for information in the newly acquired language. There could be several contributing factors to this issue.

To begin, many urban schools struggle to hire qualified teachers to lead classes for ELLs. In 2012, researcher Maggie Severns reported that, “Training and hiring enough teachers with bilingual or ESL [English as a Second Language] credentials is the biggest challenge currently facing Illinois”. Among areas most affected by teacher shortages are areas like bilingual and special education, which require additional certifications. This trend is a nationwide issue, and researchers in 2014 found that a majority of instructors teaching ELLs had little to no background knowledge of their specific education issues. Hiring teachers with additional qualifications generally requires higher salaries, which are easier for suburban schools to provide since they have higher levels of per student funding. In Illinois, the funding gap between high and low minority schools is $2,021, which is one of the largest inequalities experienced in the country. Thus, urban schools tend to have the same problem as with other kinds of teachers - they are harder to attract so they often receive the teachers with less experience. Additionally, many teachers themselves feel inexperienced. The National Center for Educational Statistics reported in 2003 that over 90% of ESL instructors felt that they did not possess the skills to address their pupils’ specific needs. Since ELLs need to both learn English proficiency and academic content in their

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74 Severns 2012. Page 11
76 Arroyo 2007. Page 6
77 Bell & Bogan 2013. Page 2
native language, having teachers who are qualified and prepared is essential for their success. However, if schools cannot find enough teachers, some students are often not able to take the courses they need at all. In 2012, one study by the Catalyst Chicago showed that 22 of 58 schools analyzed failed to offer ESL classes for all students who needed them.\(^7\)

It is important to know Illinois passed new requirements for instructors of ELLs which went into effect in 2014. These regulations would require all teachers from Pre-K to 12th grade who taught bilingual or ESL courses to have both a bachelor’s degree and an ESL certification. However, in 2010 only .4% of teachers in the state already had both qualifications and there was a huge amount of doubt that all schools would be able to come into compliance with the measure.\(^9\) However, even if these new requirements are met, there are other problems affecting ELLs like unsuitable curriculums and educational resources. Most academic curriculum is in English, with some in Spanish, which is the primary language for most ELLs in Chicago. However, for students whose primary language is one other than these two, finding suitable curriculum tends to be much more difficult.\(^\) Even if the students learning speak Spanish, many supports such as dual language books may be missing, especially in urban schools which already struggle to provide resourced classrooms for traditional students.\(^\) Overall, ELLs in Chicago urban schools face even more obstacles to learning than other students, especially in the areas of teacher preparedness and classroom supports.

Johannesburg has a much larger number of ELLs, especially as only 13% of the city’s residents speak English at home. Zulu (22%) and Afrikaans (16.7%) constitute the largest

\(^7\) Severns 2012. Page 5
\(^9\) Severns 2012. Page 8
\(^\) Severns 2012. Pages 5/10
\(^\) Bell & Bogan 2013. Page 2
linguistic groups in the area with Sesotho (13.1%) and English (13%) both spoken widely as well.\textsuperscript{82} Yet, a majority of schools in the Gauteng Education system teach through the medium of English, and many bilingual education programs focus on English acquisition rather than fluency in two languages. This trend persists despite criticism from the provincial education department which cited non-utilization of one’s native language in education as a major impediment to academic progress.\textsuperscript{83} In primary schools throughout Johannesburg, the common practice is for children to begin school in grade R, the South African equivalent of kindergarten, learning in their home language. From there, students are transitioned to begin courses entirely in English by the fourth grade. However, another significant portion of schools begin using English as the only language of instruction from as early as the first grade.\textsuperscript{84} While researchers debate exactly how harmful the effects of such actions are (a number of other factors correlate with being an ELL like poverty, geography, etc), most education researchers have agreed that transitioning from learning in one’s home language to a secondary language so early is generally harmful to long term learning. In fact, Taylor and Coetzee (2013), found a relationship existed between prolonged teaching in one’s home language and hire test scores in later grades.\textsuperscript{85}

There are major problems with the quality of bilingual instruction available in South Africa. First of all, many schools don’t offer a variety of languages. In a 2009 study by Rika Joubert, a survey of 50 schools in the Gauteng area showed that only 15 of those offered learning in at least two languages. However, of those 15, only four provided instruction in two or more native African languages.\textsuperscript{86} It is common in many Johannesburg schools to offer instruction only

\textsuperscript{82} De Klerk 2002. Page 4
\textsuperscript{83} Gauteng Department of Education 2010. Page 31
\textsuperscript{84} Department of Basic Education 2011. Pages 6-8; Owen-Smith 2010. Page 32
\textsuperscript{85} Owen-Smith 2010. Page 33; Taylor & Coetzee 2013. Pages 4-6
\textsuperscript{86} Joubert 2009. Page 243
in English and Afrikaans, a language that traces its roots back to Dutch settlers. Failure to offer courses in students’ native languages can have serious consequences. In 2010, one study found that a majority of student whose first language was a native African dialect will only scored between 20% and 40% in standardized English tests by the time they reach 12th grade. Part of the problem is that there simply are not enough teachers available in all of the languages required to offer the courses. Even in areas where one language is prevalent, qualified teachers speaking those dialects are difficult to find. For example, the Western Cape’s most commonly spoken home language is isiXhosa, but even teachers fluent in that language were in short supply. Many teachers also lack significant training in bilingual education and desire more training for these positions. A 2005 study showed that of teachers surveyed, “94% wanted more formal training, mostly practical”. Many local education departments have attempted to make reforms within their education departments and local schools to offer more supports to ELLs and their teachers. The Gauteng province, for example, has attempted to implement shared language specialists who travel between several schools to provide more courses, but the practice is still developing and not yet commonplace. There are also other barriers for ELL students.

Another major problem Johannesburg faces in providing courses in languages like Sesoto, Sepedi, and other common, native African languages is that literature and curriculum, due to historical neglect and current lack of means, has not been fully developed for all subject areas. There are generally a vide number of teaching options designed for courses in English and often in Afrikaans as well, but it can be nearly impossible to find materials for teaching in native African

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87 Owen-Smith 2010. Page 34
88 O’Connor & Geiger 2009. Page 153
89 O’Connor & Geiger 2009. Page 162
90 Owen-Smith 2010. Page 36
91 Taylor & Coetzee 2013. Pages 2
languages. While there are some books available in native African languages for group reading activities, there are not fully formed curriculums for subjects like math and science. Teachers struggle to find things like worksheets, vocabulary cards, class exercises, and guided lessons for their classes every day. This problem pressures teachers and administrators to teach and use English, especially in higher grade levels where curriculums are even more scarce, as the language of instruction. Additionally, online resource materials for students and teachers in these languages tend to be limited as well. These barriers make it simpler for many school to offer a majority of courses in English. English is also viewed by many parents to be a more useful language since many businesses and government services use English as a means of communication. In addition, students have to take their school exit exams in English and will likely work or study in English in the future. However, parents still often cite their home language as a key piece of their identity and wish for their children to have some knowledge of it.

Chicago and Johannesburg both face growing numbers of ELLs which have different learning needs than students who speak English as their first language. In addition to specially trained teachers, special curriculums must be created not only to provide learning materials in students’ native languages but to allow for a bilingual education that helps rather than hinders education. While Johannesburg’s populations of ELLs is much higher than Chicago’s, they both face similar issues. However, it is clear that in this area, Johannesburg’s needs to provide native language education to all students are much higher than those of Chicago since it has a greater

93 O’Connor & Geiger 2009. Page 162
94 De Klerk 2002. Pages 6-7; Taylor & Coetzee 2013, Page 1
portion of non-English speakers. Still, the inequalities to ELLs are great in both cities and are unfairly concentrated in urban and township schools.

V. Conclusion

Overall, Johannesburg and Chicago are two very different cities which nonetheless share the key characteristics of education inequality discussed above. Both cities have public education systems which are designed to provide services to a vast majority of the city’s youth in order to promote the ideals of equality, but they have also been heavily criticized for failing to do so. Large achievement gaps between suburban and urban/township schools exist in these cities, and this research sought to examine the impacts of underfunding, teacher quality and numbers, and resources (or lack thereof) to English language learners. What was found was that there are dramatic gaps in the per student funding of both cities, with suburban areas receiving large amounts of financial resources while areas of isolated poverty function with significantly less. These inequalities limited the ability of historically disadvantaged schools to resource their schools with teachers, supplies, and proper facilities. Additionally, these schools have been show to be unable to maintain the same teacher to student ratios as nearby suburbs. Suburban and township schools often face difficulties in hiring qualified and experienced teachers, which are essential for high learner outcomes. This issue can cause overcrowded classes lead by teachers who are less knowledgeable of their students’ needs and how to accommodate them. Finally, both cities have large quantities of English language learners, although the portion in Johannesburg is much higher. Schools in both systems face shortages in bilingual education teachers, proper curricula, and supporting materials for their students. These issues often result in students being pushed into English acquisition programs rather than bilingual courses or even into mainstream English only
classes before students are ready. Although both cities have regulations requiring ELLs receive educational opportunities, these issues limit the abilities of students to learn and achieve the same benefits as their peers. Overall, the goal of this research was to determine if similar mechanisms impacted educational inequalities in both Johannesburg and Chicago, thus providing evidence that these factors impact educational inequity not just in isolated instances but in different regions. While there were some differences between the cities, a great deal of similarities exist which show that in the areas of funding inequalities, teacher to learner ratios (as well as teacher experience), and resource availability for English Language Learners which leads me to believe that these factors have similar impacts in the education systems of both cities.
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