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SUFFERING IN NEW JIM CROW SCHOOLS: UNDER THE COVER OF DIVERSITY IN POST-*BROWN* EDUCATION

The Brown v. Board of Education ruling by the U.S. Supreme Court brought hopes of long-denied freedom to Black communities and their inhabitants. However, implementation of Brown ushered in more misery than a mandate for equality.

The *Brown v. Board of Education* ruling by the U.S. Supreme Court brought hopes of long-denied freedom to Black communities and their inhabitants. However, to white citizens, the *Brown* decision appeared to deliver horror over imagined miscegenation and other racial nightmares (Lopez & Burciaga, 2014). Consequently, implementation of *Brown* ushered in more misery than a mandate for equality. Far too often, post-*Brown* schools became regular “sites of suffering” for Black pupils (Dumas, 2014).

Black suffering had long existed for Black students but white supremacy, which had always been a presence in and around Black schools, became meaner. Remarkable metaphors have been used by Black scholars to represent the corpus of Black voices in attempting to describe the increasingly violent, racialized school landscape that transpired after the court ruling. Michael Dumas, for example, draws on one of Octavia Butler’s key protagonist in asserting that his Seattle informants suffered “losing an arm” after the implementation of *Brown* in that city (Dumas, 2014). Sonya Horsford, in listening to former Black school superintendents, draws upon Martin Luther King, Jr., to analyze routine post-*Brown* school suffering by Black pupils as “learning in a burning house” (Horsford, 2011). Importantly, these metaphors were utilized to illuminate collective memories of suffering and not simply to relate individual descriptions of trauma experiences. (For one such individual school trauma memoir, see Ibram X. Kendi’s 2019 *How to Be an Antiracist*). In addition, the metaphors were intended to locate Black humanity in places that routinely denied its existence (Dumas & Nelsen, 2016).

Why have most Americans so readily dismissed such affect-filled rhetoric in annual celebrations of the *Brown* decision? White citizens, overwhelmingly, were distraught over the *Brown* decision (Patterson, 2001). For example, new evidence has emerged from buried archives at the University of Texas at Austin that a testing regime was immediately put into place, post-*Brown*, explicitly to deny Blacks admission at that predominantly white institution (Price, 2019). Collectively, over time, white Americans increasingly acted as if racial discrimination after the *Brown* decision was ended and relegated to the dustbins of history after *Brown*.

On the other hand, as political science scholar Daniele Allen (2006) opined, *Brown* ushered in “anxieties of citizenship” due to feelings of racial distrust. To be sure, distrust across the color line was not new. Yet, in highlighting the iconic photograph of a white female all but spitting on one of the Little Rock Nine, Allen asserts that this racial distrust gained renewed, venomous energy. “When citizenly relations are shot through with distrust, efforts to solve collective problems inevitably founder,” Allen (2006, Loc 46) asserts. Real solutions to the collective problem of school segregation certainly foundered on the shoals of this revitalized distrust. Drawing inspiration from Sonya Douglas Horsford (2019), this essay asserts America has experienced a New Jim Crow era of schooling.

Whether it has been a hyper-focus on diversity (that often badly misses the mark) (Fusarelli, 2004), myriad remedies at gerrymandering enrollment boundaries (Siegel-Hawley, 2020), or the dogged insistence on integration as the premier ideal (even to the point of near-fetish),¹ despite our seeming inability to implement such a lofty goal, America has resolutely experienced a more than fifty-year period of crisis-induced anxiety over school segregation. As many observers have noted, our focus through color-blindness, a rush to declare a realized post-race destination, and a reversion to “dog-whistle politics” have exacerbated already bad circumstances (Haney Lopez, 2014). The result has been the suffering so eloquently described by Black scholars. The trauma-informed metaphors even echo another by historian Vincent Harding over the long-expressed desire to learn in Black communities despite legal and unofficial prohibition of such activity. In fact, Harding (2005) asserted that Black education had been like “learning to play on a locked piano.”

Also, perhaps without simple coincidence, *Brown*-induced suffering occurred alongside the rise of mass incarceration that Michelle Alexander (2012) illuminates in *The New Jim Crow*. To be sure, school suffering and mass incarceration have been visited upon Black bodies with indiscriminate regularity. These two collective experiences are distinguished, however, by the “cruel optimism” that relentlessly adheres to Black schooling (Berlant, 2011). As Lauren Berlant (2011, p. 1) asserts, “(a) relation of cruel optimism exists when something you desire is actually an obstacle to your flourishing.” Tragically, in the years since *Brown*, schools appear to be a profound obstacle to a flourishing Black future.

This account explores three key elements of the suffering caused by the *Brown* decision. First, the demise of fulsome Black counterpublic spaces are examined. Analyzed next are the array of cruel choices that have accompanied the quality school search for Black families that resulted from the counterpublic school downfall. Jarvis Givens (2019), in a recent book, describes something akin to this: the dichotomous choice for Black learners between becoming “literate slaves” or “fugitive slaves.” Last, this narrative examines the burgeoning school accountability industry and the torture that all too commonly results from such schemes.

With Dumas (2014, p. 2), this essay attends to “how policy is lived, and too often suffered, by those who have little hand in policy formation or implementation.”

Theoretical Framework

Historical scholarship about schooling, even that of the recent past, often neglects explicit discussion of theoretical positions that undergird appropriate analyses of that past (HEQ, 2011). On the other hand, “critical historians dig beneath the surface of events and phenomena using critical theoretical frameworks” (Aldridge, 2015, p.103). In the case of critical race history, these analyses always interrogate race in the narratives to uncover hidden forces behind masked rhetoric and relate counterstories to the master narrative (Morris & Parker, 2019).

Some archives, even if not of primary sources, can provide rich fodder for examination of the past and imagination of the future. As one recent historical exploration of reparations for slavery’s psychic and physical toll on African-Americans suggests, that “(r)evisiting key historical moments at which things could have gone differently...can provide the opportunity not only for regret and reflection, but to revive those lost and more just futures in the present” (Franke, 2019, p.13).

However, the educational present for Black students remains mired in the shadow of the plantation (i.e., Jones, 2005; Ladson-Billings, 2005). Thus, the sort of critical race history as investigated here can help us to “imagine the futurity of Black people against the devaluation of Black life and skepticism about (the worth of) letting Black people go on” (Dumas & ross, 2016, p. 442).

Among the missing archives important for this critical history are collective memories from the Black community, the kind which rarely accompany any official school records. Still, they remain essential for critical history needs (Aldridge, 2015). “The historical experiences and accumulated folk knowledge of (B)lack Americans have long been marginalized or underutilized as a site of possibility for educational theorizing...” (Kezembe, 2018, p. 146). Further, “...people of African heritage (Black Americans in this case) have always tended to recall and leverage cultural memory (Sankofa) as a way of making sense, making meaning, navigating, and transcending crises” (Kezembe, 2018, p. 146). This theoretical articulation, “the Black Radical Tradition in education[,] is a sentient force requiring constant activation of a Black cultural memory in order to stimulate educational and pedagogical imagination” (Kezembe, 2018, p. 156).

The use of the Black radical tradition in education is accompanied here with the use of “Afrofuturism, ... a cultural, literary and aesthetic form characterized by the necessity to ‘bend time’ ... because ‘protocols of institutional memory’ ... write Black lives without history” (Pillow, 2017, p. 134). And “Afrofuturism asserts recognition of Black apocalypse

and thus the necessity to reconceptualize history as temporal, linking survival in the present to the ability to rethink unwritten pasts and reimagine Black futures” (Pillow, 2017, p.134). Therefore, this critical historical exploration of *Brown* and its impact on Black schooling endeavors to rethink the (un)written past to reimagine Black educational futurity.

The Rise and Demise of Black Counterpublic Schools

The desire for schooling burned bright for African-Americans, enslaved and free, before Emancipation (Williamson, 2005). Schooling opportunities increasingly developed for Blacks through persistent individual and collective self-determination (Anderson, 1988). Free or public schooling only sparsely existed for Blacks before the Civil War (Kendrick & Kendrick, 2006). However, even during the Civil War, as free schooling blossomed through strategic Black and white partnerships, Black parents cautiously entered into the nascent enterprises (Green, 2016). Only recently, has scholarship begun recognizing that fugitive schooling, unaided by public means, persisted for Blacks long after the early opening of segregated public schools (Davis, n.d.). Importantly, public school growth for Blacks largely existed as an element of steadfast toil and resilience.

As public schooling for Blacks developed and even flourished in some places, an increasing number of these institutions morphed into decidedly counterpublic ones (Davis, n.d.a). These burgeoning schools remained cocooned within Black communities, operated with minimal oversight (or even simple surveillance) of white observers, and, most importantly, served as sites of public deliberation, a rhetorical enterprise routinely denied to Blacks in more public settings (Black Public Sphere Collective, 1995).

At first, historically Black colleges and universities (HBCUs) predominated in this collection of the experience of counterpublic schools. Over time, and mainly occurring after Reconstruction ended, a growing number of Black K-12 public schools emerged alongside HBCUs to constitute an “archipelago” (Heathcott, 2005) of way stations on a geography of liberation (Jansen, 1990).

To be sure, as Vanessa Siddle Walker (1996) has long reminded readers in her brilliant *Their Highest Potential*, segregated schools for Blacks regularly “faced enormous challenges.” Similarly, Black counterpublic schools persistently toiled to keep as much as possible of their classroom work untainted by white surveillance. Throughout varying circumstances of freedom, these institutions maintained a modicum, at least, of what one scholar has recently termed a “second” curriculum, one in which Black consciousness animated the learning experienced by Black students (Favors, 2019, p. 5). In this way, even counterpublic schools retained a nature of fugivity, where “Black study” (with its deeper, more robust intent) could occur (Harney & Moren, 2013). Indeed, these counter-

public schools, K-12 and higher education institutions, served as the base from which emerged the “hidden heroes who fought for justice in schools” (Siddle Walker, 2018).

This world of intrepid Black schooling expired, however, as the implementation of *Brown* descended, and any vestiges of self-determinist visions were extinguished. White school administrators, like the larger white society, increasingly acted in ways small and large to turn a hypermagnified white gaze (“surveillance”) (Browne, 2015) upon features of Black life that *Brown* exposed as deficient. As Coates (2019, p. 21) so eloquently puts it, referring to a move to the plantation’s big house, “...you might think that you have saved me from something, but what you have really done is put me right under their eye. ... Up there, with them right over you...well, it’s different.” Black schools could no longer be largely left to their own ministrations, at least some of the time. Instead, regimes of surveillance, such as testing and other measures of school accountability, permeated these formerly counterpublic schools (see below). As a result, Black public schools, in many parts of the country, remained mere vestiges of their old, vibrant, and meaningful selves.

Black schooling opportunities, in proximate or distant relation to Black homes, became, increasingly hostile environments for Black children and youth. Too often, these students’ humanity remained unarticulated, certainly unfulfilled. A “geography of oppression” now characterized the Black schooling landscape.

Paramount to this new “permanent war” (Darda, 2019) against Black schools was the rapid removal of Black administrators. In some areas of the South, a near-total overhaul of the principalship occurred, leaving scores of Black school leaders without employment (Tillman, 2004). Black teachers, likewise, were driven out of schools in large numbers. In near-echo fashion, later, the Katrina hurricane allowed for a fresh intrusion of white supremacy in New Orleans. There, the New Orleans’ schools had deteriorated in the years before the violent storm, or some reformers felt, and, in rebuilding them, they cast aside large numbers of experienced, dedicated Black teachers (Henry, 2016). Simply, Black teachers were discarded as unnecessary and, indeed, undesirable.

In recent years, a revitalized public call for Black teachers in many schools has arisen under the cover of diversifying the schooling process (Davis, n.d.b). In the absence of Black teachers and amidst a “manufactured” Black teacher shortage (Davis, n.d.b), districts increasingly urged white teachers to adopt “culturally relevant pedagogy” practices (Ladson-Billings, 2009). This exercise appears to have had less-than-desired results. While white teachers can or at least could teach in such ways, little archived evidence concludes that they will do so. Black pupils’ suffering, consequently, persists.

When Black teachers were found and placed in these schools filled with dreams of diversity, cross-race tensions readily apparent in oth-

er work settings appeared (Alfred, 2018). Routinely, Black adults in these diversity-driven institutions, were seen as “less than colleagues and colleague less” (emphasis in original) (Tate, 2014, p. 2479). As Coates has his protagonist told, “. . . they trust a freeman less than a slave” (2019, p. 175). The hostility felt in New Jim Crow Schools, thus, reinforces the realities of teacher shortages when Black teachers recognized hostile employment and detour around and away from teaching possibilities (Davis, n.d.b).

Black Parents’ Bad Schooling Choices

Missing Black teachers in public schools that recognize little humanity in Black citizens represents one of the distinctive barriers to quality education sought by Black parents for their children. “Critical race parenting” becomes tortuous in such circumstances (DePouw & Mathias, 2016). In Black communities experiencing the New Jim Crow Schooling, too many children return home from school asking “Mommy, is being Brown bad?” (Mathias, 2016). Or, in another articulation of the torture experienced by Black pupils, in James Baldwin’s (1974/2018, p. 79) memorable words, “. . . they are really teaching the kids to be slaves.” Parenting is difficult enough without schools harming children in this fashion.

Voiced concerns about finding quality schooling opportunities for Black children were a new revelation for this author fourteen years ago when he initiated a critical race theory doctoral program. Black mothers (who were also full-time educators) filled the program’s seminars. Their pain was evident every week when we congregated for collective study. As is common with other similar “story circle” study, vulnerability served as the font for much in class. Included in the positive results of such affective dialogue, was “that the power of stories and of storytelling made the experiences of . . . people of color . . . the basis of our intellectual theorizing” (Fujino et al., 2018, p. 79). Painful stories of searching for viable, if not optimal, school opportunities for their children transformed into significant, meaningful theorizing about anti-Black school policy and pedagogy.

Among the first post-*Brown* tortures visited upon Black students was the bullying of Black students in new school integration experiments. This form of systemic oppression was also experienced, years later, when all-male universities opened their doors to the first females (Perkins, 2019). To be sure, bullying sounds all too tame for the often-violent circumstances. As Diamond, asserts, “The simple word ‘abuse’ does not fully describe the ordeal suffered by the student, Elizabeth Eckford” (Diamond, 1980-1990, 157fn60). Too, this rhetoric adds to the cognitive dissonance already felt by white listeners to such remembered violence. Bias is easily explained, these whites would proclaim, but good whites behave in more polite fashion and surely, there are just too few bad whites to make this a systemic problem. Unfortunately, even Black students occasionally masked the day-to-day racialized interactions to shield their parents

(Ming, 2015). Such tortuous everyday occurrences, however, increasingly were revealed to be epidemic in nature by careful, brilliant Black scholars. Tragically, even burgeoning attention to trauma-informed school practices routinely fails to recognize racism as trauma (Brown et al., 2019).

Post-Brown reform efforts that included large-scale busing, too, exacerbated the burdens on Black parents. Simply, white parents rarely had to contend with the inconveniences that arose from busing (Delmont, 2016). Certainly, busing added travel time (even hours at a time) to already busy school days. Additionally, busing added difficulty to schools and their extra-curricular offerings. Many students who had to rely on busing to attend school were denied the possibility of enriched learning that resulted from extracurricular activities. Often, Black parents quietly accepted the hardships of busing; Black communities overwhelmingly represented the origins of school bus routes. However, white parents predominated in voiced concerns over busing, despite the greatly reduced chance that their children would be bused to school. Paramount in Black parents' concerns over busing, surely, was the horror of violence, even death, for their children. All-too-often, school busing took Black children into white residential areas within which these Black parents would not drive at night, due to concerns over safety.

Next up to complicate Black parents' choices over school opportunities arrived from "choice" reformers (Ravitch, 2016). Ironically, the unintended result of public choice advocacy for Black parents was a worsened landscape of school choices. Among the most prominent headliners for choice supporters were school vouchers and charter schools. Routinely, school voucher schemes fell flat for myriad reasons for Black parents. Charter schools too regularly experienced financial difficulties (often due to operator greed and graft). What continues to stand out as a reasonable route to new Black counterpublic schools has resulted, instead, in a lost opportunity that further cripples the freedom paths of Black parents. So, time and again, calls for increased school choice results in less real choice.

Home-schooling, another choice for Black parents, increasingly receives support from within the Black community. "Historically in the African-American community, the use of garden schools, mothers' clubs, and women's associations served as forums where empowerment and self-education fostered informal or home-like instruction" (Henry, 2017, p. 3). The rise of Black counterpublic schools, however, stalled or competed with the utilization of such informal schooling. More recently, in the wake of defunct Black counterpublic schooling, home-schooling seems to be an inspired choice for Black parents. On the other hand, home-schooling's hardships, visited upon all members of a family's household, would seem to mitigate against such a drastic choice. Yet, in a field of bad school choices, home-schooling concerns Black public school principals who witness increasing numbers of Black parents taking up the challenges of home-schooling their own children (Anonymous, 2019).

New Jim Code Algorithm of School Accountability

Arising from the chaos after the Brown ruling, the Elementary and Secondary Education Act of 1965 (ESEA) promised positive outcomes for “disadvantaged” youth (Shepard, 2008, p. 27). Too, “it launched... the school accountability movement.” “The evaluation provisions in... [the ESEA]...came about” because senior federal policymakers “doubted whether school administrators knew...how to provide effective programs for disadvantaged children” (Shepard, 2008, p. 26). Thus, the Act’s designers “expected that evaluation data could be used by parents as a ‘whip’...to leverage changes in ineffective schools” (Sheppard, 2008, p. 27). In tragic fashion, the unintended consequence of such institutional evaluation, instead, saw districts metaphorically whipping Black children, their parents, and the schools they attended.

The hyper-surveillance represented in the new school accountability measures that grew from those nearly benign ones of the ESEA, including the National Assessment of Educational Progress (NAEP), became onerous for students learning in schools ill-designed for them. Developed within the bosom of a racialized crisis and contextualized along with white supremacy, newly developed accountability methods can be understood as a form of “New Jim Code.” (Benjamin, 2019). As scholar Ruha Benjamin (2019) recently has described this phenomenon as “the employment of new technologies that reflect and reproduce existing inequities but are promoted and perceived as more objective or progressive than the discriminatory systems of a previous era,” (Benjamin, 2019, p. 5). Bad IQ tests became good evaluation intended for improvement. Combined with the demise of Black counterpublic space, these new tools used in pseudo-desegregated institutions caused additional suffering for Black pupils.

Soon, discussions of Black school achievement blasted a monotonous drone of unrelenting failure (Darby & Rury, 2018). This harsh, anti-Black rhetoric (Dumas, 2015) became a blunt cadence that sounded like an overseer’s drumming meant to keep the enslaved on task. On the other hand, Black scholarly rhetoric over educational achievement soothed with alternating Blues-like riffs of subjugation, sorrow, and striving. Every once in a while, an utterance over school achievement soars like one of Du Bois’ “spiritual strivings” (Shaw, 2013). While not directly discussing school achievement, a lyrical quotation by Martin Luther King, Jr., might capture this quality best. Many Black adults will be swept up with King as he intoned, “(b)ut be ye assured that we will wear you down by our capacity to suffer, and one day we will win our freedom” (King in Whitehead, 2019, p. 172). School achievement by Black students, in other words, as

recorded in history's register, finally will overtake freedom's finish line.

On another register, Black school achievement melody rarely rises and routinely falls flat in contrast to others' flights of success – indeed, fancy. One glorious lyricism that evades this overused, ugly score spies a scene of beauty in viewing internal, intergenerational improvement over time in measurements of school achievement. The hopeful hymn-like text by Span and Rivers (2012, p. 14) declared that “African-Americans have made some of the greatest strides in improving their educational performance and outcomes in virtually every measurable category used to assess the achievement gap.” This success, moreover, has arisen most perceptively since the *Brown* decision, which decimated the Black principalship and sharpened the scrutiny of the white gaze into, and over, Black schools (Karpinski, 2016).

Importantly, improvements in Black school achievement resulted in no slake of suffering by Black students. Black scholarship is replete with the onslaught of suffering that accompanied the nation's tortuous experiments in school desegregation. Dumas (2014) and Horsford (2011) are the most colorful in describing the suffering experienced by post-*Brown* Black students. Their poetic, empirical research gasps with references to learning in burning houses and the loss of an arm in the process. James Baldwin presaged these sentiments, writing to his son: “This innocent country set you down in a ghetto in which, in fact, it intended that you should perish,” (1962/1993, p. 6) The material result within these songs of suffering are perhaps best referred to as scars of torture, a sharp descriptor for an experience little seen by white observers of Black students throughout American history. And slavery, again, serves as the pinnacle of torture to Black hands, hearts, and minds. This torture may be understood best through the prism of antebellum times, during which “achievement,” as considered in cotton picking, is most eloquently noted by historian Baptist (2014, Loc 2905): “(t)he total gain in productivity per picker from 1800 to 1860 was almost four hundred percent.” The unfathomable horror evinced by this extraordinary statistic suggests that school achievement gains, over time – nearly impossible to see through the fog of anti-Blackness – remain less uncommon than we might otherwise imagine. As Baldwin (1963) notes in the larger national context, “American history is longer, larger, more various, more beautiful, and more terrible than anything anyone has ever said about it.” At least, that is, in words the average (white) citizen can hear. The “permanent scars” (Baptist, 2014, Loc 3113) on Black hands, hearts, and minds, due to the persistent pursuit of education amid horrifying violence (again, burning houses and lost limbs) begs for some rising Phoenix of beauty.

Historian Baptist (2014, Loc 3068) provides the beauty for us as he references “Patsey's hands” from the film “12 Years a Slave.” He describes Patsey, and other cotton pickers who gilded slaveowners' pockets, as “genius(es)” (Baptist, 2014, Loc 3611). Their skillful innovations led to

concert pianist-like “sleight(s) of hand” (Baptist, 2014, Loc 3095). “Patsy’s hands, both of them, right and left – each did their own thinking, like those of a pianist” (Baptist, 2014, Loc 3068). Brilliant achievement, indeed, was illuminated through the incandescence of suffering.

Unfortunately, the damaging public and professional rhetoric that surrounds the racial gap in achievement persists. Too, supposed colorblind policies continue to batter students and staffs in Black schools with a relentless pulse. To use but a single example, majority-Black school districts all across the country have experienced de-accreditation in light of policies that attempt to treat all students equally (Tate et al., 2015). Systemic and contemporary ills, however, continue to blanket the Black school landscape. Black suffering only intensifies.

Torture, thus, constitutes a part of the alchemy of Black school achievement. As Weinbaum (2019, p. 1) asserts, “(s)lavery lives on as a thought system...subtended by a ‘racial calculus and political arithmetic.’” To be sure, school accountability could have been imagined in non-racialized, non-punitive terms. Tragically, it was not and suffering ensued.

Conclusion

Likely, suffering in New Jim Crow Schools will continue. On the other hand, we might use the past as prologue to reformulate fulsome, freedom-directed Black public schools. Schools in the past, occasionally, have responded to Black community pressure over anti-Black school reform (Davis, 2019, n.d.a). During the Civil War in St. Louis, Missouri, for example, as free schools were developed for Black students, the Black/white partnership that fostered these new schools into life, repeatedly – if only rhetorically – sought Black teachers. However, this nascent professional class of educators found solace perhaps, maybe even more money, in private “subscription” schools (Christensen, 2001, p. 305). Black parents responded with their support. Political resistance against public schools continued throughout the Reconstruction Era. Black parents resolutely preferred private schools versus the emerging public schools. This resistance developed into protest after Reconstruction ended. In 1878, Black educators were allowed into public school classrooms. Two years later, as this teacher replacement was more fully developed, Black parents lifted their “boycott” (Fultz, 2012, Loc 589).

An emergent political resistance appears to be arising in Black communities. Today, this resistance is less specifically about Black teachers than *Brown*-influenced school changes, and, more generally, that have significantly transformed the school landscape for Black students. Actual school protests remain scattered and diffuse. On the other hand, political resistance to public schooling ills by Black parents could pay off in small and large ways. Most importantly, it could bring a reduction in suffering for Black students.

Endnotes

- 1 See the impressive corpus of work by Gary Orfield and his colleagues at “The Civil Rights Project” at UCLA (formerly at Harvard University).

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TEACHING RESEARCH EVIDENCE USE THROUGH THE EDUCATION DOCTORATE

The education doctorate provides advanced leadership preparation to educators in several English-speaking countries. We explore how four American education doctorate programs teach evidence use. Educational leaders are key brokers of research evidence but usually lack the necessary skills. We employed a multiple case study design. Data were collected by document review; interviews with faculty, students, and university administrators; and direct observations of learning situations. We explored how the programs developed students' skills at assessing, conducting, and communicating research. The programs' strength is in developing students' capacity to assess research and conduct applied studies. They were developing ways to enhance students' ability to communicate research studies and understand the political, culture-building aspects of communicating evidence. Individual dissertation programs taught graduates to design research fitting the local contexts. Group dissertation programs taught graduates to build teams and address conflict. Findings offer suggestions for teaching capacity to generate, communicate, and use evidence for all EdD programs. By pointing out gaps in preparation, we suggest that EdD programs should attend more to preparing graduates to communicate findings and understand the communication challenges they face. This is one of the few studies to explore how EdD programs promote capacity to conduct and use research.

The education doctorate (EdD) has often faced two contradictory critiques. Initially, the degree was criticized for not adequately preparing its graduates for research. Such commentary is often framed as a generic critique of all doctoral work in education, decrying what is seen as the dubious quality of all research preparation in education. Sometimes it assumes that the purpose of all doctoral degrees is to prepare graduates to do research and that “scholarly habits of mind” are somehow equally good for educational researchers and leaders (Prestine & Malen, 2005). Contrarily, some critiques suggest doctoral-level leadership preparation does not prepare leaders for the fast-paced, practical world they face, blaming the excessive focus in preparation programs on developing research skills as part of the problem (Murphy, 2007).

Some understanding of research is important because leaders are the critical brokers for ensuring effective use of research in educational organizations (Neal, Neal, Kornbluh, Mills, & Lawlor, 2015). This is true when considering the extensive body of conventional researcher-driven research (Finnigan & Daly, 2014; Honig, Venkateswaran, & McNeil,

2017) or collaborative research for local improvement (Bryk, 2015; Mintrop, 2016). Leaders must understand research to lead its constructive use within their jurisdictions. But while that understanding may overlap with what researchers need to know, the focus on application makes leaders' needs different from researchers'.

This manuscript reports findings from an exploratory multi-case study of how EdD programs develop educational leaders' capacity to use research in their work. We conclude that these programs teach leaders to conduct research for local use rather than to "advance the field." However, preparation for brokering is largely about developing communication capacity. These programs are just beginning to find ways to prepare leaders to address the communications challenges they face in their daily work lives.

Research and Communication Capacities

Recently, the volume of research on the EdD has grown extensively. Studies report on alumni perceptions of the benefits of their programs (Zambo, Buss, & Zambo, 2015), the development of students' professional identities (Buss & Avery, 2017), the operation of exemplary programs (Cosner, 2019; Honig et al., 2019), and the possible solution to crucial instructional problems (Belzer & Ryan, 2013; Hochbein, 2016). By exploring how EdD students learn to understand research (Osterman, Furman, & Sernak, 2014), these studies provide a basis for a broader view of how EdD programs develop students' capacity to use research.

Leadership research generally examines leaders' internal work to improve and equalize student learning (Hallinger & Kovacevic, 2019). Still, some researchers have studied how leaders bridge their schools and districts to the larger environment. This interest is most apparent in studies of how leaders deal with the policy environment (Sykes, O'Day, & Ford, 2009). Another environmental sector is the world of research. The long history of using educational research to improve American schooling (Lagemann, 2000) illustrates the weaknesses of the strategies that have been tried to help educators use research (Finnigan & Daly, 2014; Louis & Dentler, 1988). One reason is that educational leaders lack research use capacity. This capacity has two parts: the ability to understand research and to communicate it effectively to relevant audiences.

Research Skills

Program designers have debated which research skills are critical for practitioners. Shulman and colleagues (2006) suggested that doctoral level leaders should be able to carry out local research and evaluation to supports their units' work. Additionally, leaders should be able to critically and evaluate the relevance of research. Lysenko and colleagues (2016)

noted the importance of leaders' research appraisal skills. Others suggest that leaders need research-related skills because they often are the links between schools to the research world (Finnigan & Daly, 2014; Neal et al., 2015). Teachers often rely on leaders to learn how to use data (Cosner, 2011; Datnow & Hubbard, 2016).

Still, because leaders' understanding of research evidence is limited, they prefer summaries to originals (Penuel, Farrell, Allen, Toyama, & Coburn, 2018). Coburn and Turner (2011, p. 179) claim that educators "have limited knowledge about the mechanics of data analysis, including how to ask questions, select data to answer the questions, use technology to manipulate the data, and draw valid interpretations." Furthermore, leaders rarely know how to find research information (Farley-Ripple, 2012). Hence, leaders often adopt new practices with little or questionable evidentiary support (Ringwalt et al., 2011).

Communication Skills

Understanding research is not enough to facilitate use. Findings must be conveyed to others. This is the work of brokers. Neal and colleagues (2015) show that while many intermediaries communicate research, the last link in the chain from researcher to user is usually a leader. Principals and district leaders are crucial to bringing research into schools (Daly et al., 2014), and the uptake of research-based practices is more constructive when brokered by internal leaders (Honig et al., 2017).

Communicating research requires four capacities. One is their social capital (Daly, 2010), the network of social connections brokers bring to a setting. Social capital ensures that the broker/leader has access to information to pass on through their network of contacts. Social capital also promotes relational trust and enhances individuals' willingness to accept messages and influence from trusted leaders (Moolenaar & Slegers, 2010). The second capacity is the broker's *ability to effectively convey the evidence*. Effective communication requires translation and alignment between the perspectives of researchers and users (Wenger, 1998). Brokers must deliver messages that are on-time, relevant, valid, and understandable (Olejniczak, 2017). Evidence brokering in schools is done orally because leaders spend so much time interacting directly with others (Sebastian, Camburn, & Spillane, 2018).

While brokering is often a neutral process of knowledge sharing (Meyer, 2010), it can become political when proposals are contested. The third capacity is the political use of evidence (Nutley, Walter, & Davies, 2007). Brokers use evidence to persuade listeners (Rogers, 2003). Evidence use skills can be adversarial when leaders use them to advocate for unpopular decisions or address opposition. Analysts have examined the rhetoric of political discourse (e.g., Stone, 1989) but have not paid particular attention to leaders' persuasion (but see Coburn, Toure, & Yamashita,

2009). Sometimes, communication goes beyond simply conveying to establishing authority or building relationships and trust (Vickers, Goble, & Deckert, 2015).

Finally, communication tasks often extend to *culture building*. This includes ensuring that everyone in the unit uses evidence appropriately and effectively, even when the leader is not directly involved. Studies of teacher data use illustrate the contribution of leaders in getting evidence used (e.g., Cosner, 2011). Many decisions regarding curriculum, schedules, and other policies, as well as instruction, are not made by leaders. Yet, leaders act to ensure that others use evidence effectively by:

- 1) Establishing the expectation that decisions will be evidence-based,
- 2) Modeling evidence use;
- 3) Ensuring that potential evidence users have the knowledge and skills to do so; and
- 4) Ensuring that potential evidence users have the time, access to information, and other resources necessary for successful evidence use (Anderson, Leithwood, & Seashore Louis, 2012; Cosner, 2011; Leithwood, Harris, & Hopkins, 2008).

Leaders' capacity to do so depends on their relevant knowledge and their moral fortitude and commitments. In sum, brokering overlaps with general educational leadership (e.g., Leithwood et al., 2008).

These two capacities promise to support both the effective communication of external research and internal, improvement-science type research and evaluation. Next, we present the how we conducted this multiple case study.

Methodology

Site Selection

This paper is part of a larger multiple case study (Yin, 2018) that investigated how EdD programs that are members of the Carnegie Project on the Education Doctorate (CPED) promote evidence use in their students. IRB for this research was received at the principal investigator's institution.

We examined four EdD programs across the country—Arizona State University, Boston College, Portland State University, and Michigan State University. We purposefully selected institutions that

- Belonged to the Carnegie Project on the Education Doctorate (CPED);
- Had redesigned their programs in the last decade to more effec-

tively prepare “scholarly practitioners” which required emphasizing research use;

- (In three of four cases) had recently won the CPED dissertation-in-practice or program-of-the-year awards;
- Were evenly split between individual- and the more unusual group-dissertation format.

Data Collection

Data were collected during four-day site visits by a two-member team. To guide the visits, a case study protocol (Yin, 2018) was developed including interview and observation protocols. Before arriving, we collected documents, including program handbooks, course syllabi, and sample dissertations. At each site, eight to eleven faculty were interviewed after receiving signed consent. Interviews were recorded and ranged from 45 minutes to an hour. Faculty interviews addressed the program’s history, individuals’ vision for the program, how they taught students to understand and use research evidence, other program goals, and interactions with peers and students. Six to eight student interviews were conducted across first-, second-, and third-year students. Questions focused on their personal background, experience with coursework and dissertations, and interactions with faculty and fellow students. Interview guides were designed to triangulate faculty and student perspectives.

Additionally, researchers observed several student activities, including student data analysis activities, group analyses of educational programs and teaching tools, and debates about policy issues. Researchers also observed as dissertation groups organized and analyzed recently collected field data. Field notes were taken on all observations.

Analysis

Audio-recorded interviews were transcribed and—along with field notes from observations—entered in a computer-assisted qualitative data base. Our initial coding scheme began with a few broad descriptive codes that captured program features we expected to prove important to which we added a few additional descriptive categories to capture unexpected program features or our developing conjectures. For inter-rater reliability, all four researchers initially coded two interviews and compared results to ensure common understanding was shared. This process refined code definitions.

To synthesize interview, document, and observation data, we generated a case record for each site (Patton, 2014; Yin, 2018) based on a common outline reflecting our research interests in how program features and interaction among program participants promoted research evidence

use in each site. Common tables facilitated cross-site analysis of program vision, program structure, and participation. As a member check, records were shared with all interviewees for review and permission to use the names of the sites. This review usually led to minor changes and clarifications (Patton, 2014).

The case records clarified the variety of strategies used to develop students' capacity to use research evidence and the differences in approaches across programs. One research team member then synthesized data from all four case records across a limited set of relevant codes to identify strategies and similarities and differences within programs. This cross-case analysis was then carefully checked by other members of the team.

Subjectivity and Limitations

With respect to researcher subjectivity (Patton, 2014), the two senior authors each have over a decade of work with EdD programs. Both university professors, one helped lead the revision of his university's education doctorate and then taught in the program. The other works for a national association of EdD programs.

Our study is limited by our small sample size and because our data focuses more on what is taught than what is learned. We inferred from syllabi and descriptions of classroom activities and other learning tasks what the instructional intention was and, where possible, reinforced that with student observations on what they learned rather than examining capacity use in action.

Findings

The following describes our findings about how four EdD programs taught students to understand and communicate research.

Research Skills

We first describe how these programs taught students to find, understand, assess, and conduct research. We then explain how the individual dissertation helped students develop practical skills relevant to their settings.

Finding Research

Every program had students conduct literature reviews which required finding literature. Programs provided varying levels of guidance. Students reported simply being assigned literature reviews but also meeting with librarians to learn how to find and organize documents. Either

way, students learned to conduct searches more efficiently, identify more credible sources, and organize and store citations for later use. This work helped students learn to find research. According to one, "...one of the things I truly appreciate about the program I would never have been able to access the database and know how to... conduct a research process at all."

Understanding/Assessing Research

Students spent more time learning to understand and assess research. Students had to read peer-reviewed journal articles, research syntheses, conceptual pieces, and popularizations of research ideas. Through class discussions and written assignments, students learned to synthesize and critique a body of literature. Faculty would ask questions like "Where do you go in the articles... to evaluate the methods?" Students were also required to compare author ideas.

Assessing research was especially challenging for students. Although educators use a variety of criteria to assess research, an important issue in graduate school is research trustworthiness or credibility. Professors understood the need to help students address credibility issues. One said, "You can find data to support just about anything, but was the study any good?" Issues of general understanding and assessing credibility overlapped. Before assessing credibility, instructors ensured that students understood an empirical piece's argument and how their predisposition might affect their interpretation. Professors also highlighted how author preconceptions might influence a paper. One professor talked about getting students "to see the logic or theoretical or causal assumptions.... I do try to... pay more attention to how researchers are articulating that, and how those pieces show up as variables."

These discussions made students aware of what one called "researcher spin," or how a reader's conclusions would depend on "how you frame it, how you explain it, those kinds of things." Students reported becoming more critical. One said, "I question now, a lot more."

Most analysis of credibility focused on logical and methodological issues. However, faculty also conveyed that some sources were more credible than others. One professor explained that "They talk about why would reviews of research from very reputable journals be more worthwhile than slogging through just anything..., and how do I start to think about the tiers of journals." When asked if students learned that some articles might be more credible than others, one student responded "We did. What journals, even [and]... where the peer reviews ... have that standing."

Conducting Research

Students also learned to conduct research. Every program required students to take two or three methods courses. They also embedded methods practice into substantive courses. Students typically had hands-on experiences designing interview guides and questionnaires and then collecting and analyzing quantitative and qualitative data, often using relevant software.

Most programs designed their curricula to help students to see how they could apply the methods they learned about as part of their work. Faculty understood “it is unlikely... that our superintendents are quantitative statisticians who are entering data and running the tests, but rather they are working with statisticians.” Programs showed the connection between research methods and leaders’ work several ways. One program integrated research methods into substantive courses like “Data and Decision Making.” Two programs used their methods courses directly to help students to design dissertation data collection approaches. Since dissertation problems were always practical, students learned to use research methods to address issues like those they would face at work. Only rarely were research courses taught by methodologists from other departments.

Students also learned to use research methods during non-methods course work. Two programs required students to conduct equity audits (Skrla, Scheurich, Garcia, & Nolly, 2004). Students collected and analyzed data from their organizations to assess the equity treatment and outcomes students received. These audits used simple statistics to address realistic issues at work.

Individual Dissertation

The individual dissertation helped students understand how to conceptualize a research problem of local interest. EdD dissertations differed significantly from the traditional PhD dissertation in their justification. Most social science research is justified as a contribution to a discipline (Creswell & Plano Clark, 2018). The EdD *dissertation in practice* identifies and clarifies a challenge in a specific educational setting to find a solution (Belzer & Ryan, 2013). In these programs, “doing the dissertation” began before admissions with students first describing their problem in their program applications.

Learning to name and frame applied problems adequately, however, required understanding the systemic context and using previous research to deepen the problem. At one program, faculty reported that students lacked local knowledge about their issue to define a researchable problem. Therefore, early courses helped students develop deeper comprehension of their setting and views of the issue. As one professor noted, “When you come in..., the only things that you’re sure of... is that

you have a problem... You don't know if anybody else in your workplace thinks that's a problem." Through assignments that required information gathering and engagement with stakeholders, students learned to clarify the presenting problem. The challenge was more complicated when students suffered from what several faculty called "solutionitis" (Bryk, 2015), or selecting a remedy prematurely. Faculty coaching guided students to get the information needed to develop a broader view of the issue.

Beyond understanding the situation, students were expected to use research conceptually (Nutley et al., 2007) to inform their definition of their problem of practice. One course paper required students to write about the problem of practice in the first section, and then write three different sections that analyze it based on their three chosen theories, and think about how the research questions are different, and how the problem is different, and at the end... evaluat[e] how it felt to use those three different theories.

Faculty agreed that the purpose of the literature review was to deepen the student's understanding of the problem. As one said, "I don't want to argue whether [the student's literature] is a theory or not... Does it help them understand their problem...? That's the only reason those frameworks should be in [the literature review]."

Another individual dissertation program shared the desire to have students use research to deepen their understanding of a problem. During the first year, students took courses on learning, leadership, and policy. Their major task was to apply what they learned in these courses to their initial problems. Using research to refine the problem of practice would continue in courses they took simultaneously in their concentration field. One first-year student explained how the courses complemented each other, saying that "the two theoretical classes that we've taken... I don't think I'd be able to really understand how my problem of practice can be viewed through educational theory without having taken those courses." Using literature to deepen the problem of practice continued through the dissertation process and work with the advisor.

Communication Skills

This section examines how these programs build skills in conveying information and dealing with politicized contexts. It then highlights the advantages of the group dissertation for building communication skills. Finally, it examines how the programs address the development of communication capital and preparing leaders to create a context for evidence use.

Conveying Information

These programs focused on conveying information through writ-

ing. Faculty said, “We try to create a lot of systems to ensure that our doctoral students are well-prepared to do the academic writing.” One program created a special seminar, “to develop professional skills – particularly in the area of academic writing.” Books for this seminar emphasized APA format and other conventions of academic writing. Even outside of special courses, faculty worked extensively with students on this skill. One taught a course on literature reviews intending to “develop a professional scientific writing style” and “understand and apply rules of APA style.” Students found this “professional seminar... has been beneficial in terms of sharpening my thinking as a writer.”

Academic writing, however, is not particularly helpful in communicating to parents, school board members, or the professionals working in schools or universities. While the programs did not focus on “communications for brokers” as explicitly as they did on academic communication, they provided opportunities to develop communication skills more in line with workplace demands. Courses required providing feedback to real users. For instance, one human resources course required students to give an oral report to the superintendent of the district providing the data, complete with a PowerPoint. The final written product for this course included a brief report to the client highlighting recommendations and supporting findings. Students who did equity audits also had to report back to the studied districts.

Sometimes reporting was an opportunity, not a requirement. At another program, students analyzed a workplace problem of practice. Students would suggest an intervention and sometimes field test it during the course. This exercise encouraged students to communicate with their colleagues about their projects along the way to gather collegial input. Finally, leadership courses at two universities required students to do exercises that facilitated learning to communicate with stakeholders.

Political Communication

Tactical-political communication issues arose when students gave feedback to users at a university that required dissertation teams to report results to their districts. Superintendent mentors coached students on how to frame their district presentations specifically, as one said, “so the superintendent would know how to frame [a] message to the... the community... in a way that is supportive so that the knowledge can be gleaned from it.” This advice helped students address sensitive topics like the recruitment and retention of minority staff in a largely white district. In the programs where students did equity audits, instructors coached students on how to share results with target districts.

One program gave students conceptual tools to think about the politics of communication. Students were introduced to the idea of the “causal story,” *i.e.*, the narratives that actors use to organize the facts, ar-

guments, and symbols to explain a phenomenon and argue for a decision (Stone, 1989). This course combined political economy topics with research methods. According to the professor, “We talk a lot about causal stories.... Why do you resonate with a particular article? Is it because they make the persuasive argument,... they have really good evidence, or... because you agree with what they’re saying?” The instructor showed how causal stories were woven into an article’s measures and statistical procedures. Thus, students learned to identify the causal stories of others and to construct their own. One student explained how one might use “data to tell the story that you want to tell.” This approach helped students become more sophisticated at understanding the persuasive approaches of others—especially researchers—as well as designing and reporting information more persuasively while learning about some ethical issues involved.

Group Dissertation

The group dissertations emphasized internal communication to plan and jointly conduct a study. This could be a challenging task, as illustrated by one student who said, “[At work] I have a great idea. I bring together people, and I get them to do it for me.... So, we’re all used to... running the whole thing. Now we’re all sitting around a table.... That was really much more difficult than I thought it was gonna be.”

Student teams had to negotiate divergent interests into a common problem and a common final product. Describing the process of putting group proposals together, one professor explained to students, “You have a pay now or pay later decision.” Each person could write their own literature review but that meant throwing much of it away. Or they could start out negotiating a group proposal which wasted less writing but required more up-front coordination. A student reported, “We all had pretty clear ideas but wrangled that. That was a really challenging process... It was good because all of us had to kind of compromise and figure out.” In retrospect, students saw the development of this capacity to work with and listen to others as a benefit of the process.

Social Capital

Social interaction helps students develop their social capital. Students had substantial opportunity to interact with and learn from classmates. One explained that “I learned about leadership in the formal way... But what I thought was really important [was] that we were able as a group... to wrestle with our day-to-day leadership woes... We’re talking about the actual problems that are surfacing in our work every day right there.” Programs provided several mechanisms to build relationships among students. For instance, many courses had group learning activities. Moreover, in most programs, students—who were geographically dis-

persed—found electronic means to increase interactions with their peers.

In addition, students helped each other with job searches. They also shared practical information relevant to their work. One central office leader told how she had to facilitate a meeting between principals and a special education director who didn't get along with the principals and introduce a new practice. To get coaching on how to proceed, she telephoned a fellow student while driving to "the meeting and getting a framework for starting a conversation rather than establishing a mandate."

Creating a Culture for Evidence Use

Creating a culture for evidence use was rarely addressed in these programs, even in organizational theory or leadership courses. We only noted one instance that explicitly addressed this issue. This was a course on "Collaborative Approaches to Data-Informed Decision-Making" that prepared students to lead teams or whole schools to conduct research by giving them the skills to teach others and establish the routines necessary to support a culture of evidence use. Using books like *Data Wise* (Boudett, City, & Murnane, 2006) and *Leading Professional Learning Communities* (Hord & Sommers, 2008), the course helped students learn to work in teams to collect and analyze data and to use the data to make decisions. Course objectives included:

- Communicate effectively and efficiently about data and resulting decisions in both written and oral presentations;
- Organize and lead efficient, productive, and collaborative professional meetings around data usage; and
- Develop and implement effective professional learning communities.

Students were required to analyze their own skills for leading learning communities, collectively analyze the workplace data collection and analysis processes in which they participated, and prepare materials and activities for real future group data use projects.

Conclusion

This exploration of how four EdD programs develop research evidence use capacity highlights an evolution in teaching research skills. While the research skills taught in these programs are much like those in programs for researchers, the focus on application to professional practice through applied dissertations and applied research course projects should help students use those skills at work.

What really differentiated the EdD from the PhD, however, was the emphasis on communication capacity. However, compared to the in-

struction on research, this work was in its infancy. For the most part, students learned by conducting activities that required reporting back to research users and sometimes reflecting on what happened. These activities necessitated learning to communicate to reach the audience using multiple channels. Some attention was also paid to the politics of research communication, although primarily on making the message palatable to the audience. Models of more sophisticated analyses of persuasive communication, how to adjust to an audience, and ethical issues were just developing. Rarer still was attention to helping students learn to build a culture that supports evidence use through instilling norms and building skills for evidence use. Developing capacity to communicate is still rare but—in our view—is the next area of development for these programs. Expanding this focus on communicating research could help educational leaders be the research brokers they are so well placed to be.

Different program designs emphasized developing different skills. The individual dissertation's strength was in its ability to teach students to craft studies that address real problems in specific settings. This ability increased the likelihood that the resulting research will be taken seriously by its intended users. The strength of the group dissertation was in developing participants communication skills and aptitude for the give-and-take to work effectively in teams. This aptitude is not only helpful for conducting useful research but also for a great deal of leadership and brokering work in complex educational organizations.

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NGO INVOLVEMENT IN EDUCATIONAL POLICY: PERSPECTIVES OF NGO EXECUTIVES

This study focuses on the perceptions of NGO senior executives regarding their involvement in the design and implementation of education policy in Israel. We applied a qualitative research method, conducting in-depth interviews with NGO senior executives who provided rich and comprehensive descriptions of their perceptions. Data analysis revealed the following themes: (a) policy of cross-sector partnership in education (b) mutual responsibility for education, and (c) the benefit of NGO involvement in education. This study provides theoretical contributions and practical implications of NGO involvement in shaping and implementing education policies.

Keywords: NGO, privatization, education policy, cross-sector partnership.

Introduction

NGOs have become major factors in Western education systems these last few decades, employing their economic, social, and political power (Bulkley & Burch, 2011) and impacting education structures and content (Shiffer, Berkovich, Bar-Yehuda, & Almog-Bareket, 2010). NGOs across the West now participate in varying degrees in efforts to meet education goals set by the government (Vishwakarma & Sthapak, 2017), involved both in policy formation and policy implementation (Ball & Youdell, 2008). This involvement may prove advantageous, helping schools meet new demands, expanding the scope of educational activities in various subjects and levels through external funding and budgeting, and even facilitating principals and teachers in establishing their autonomy regarding internal processes and decision making in schools (Yemini & Saggie, 2015).

Be that as it may, the dramatic rise in NGOs is a global phenomenon associated with the expansion of neoliberal ideology, privatization, and commercialization of education. A phenomenon that has provoked a worldwide debate, and many questions arise from this new dynamic: Who is responsible for making decisions on education policy issues? What powers should NGOs wield? Do they benefit schools, students, and parents, and if so - how? How do they influence the making in this field? Who exercises power over whom and with what outcomes? To whom should schools be accountable? How will currently popular market-oriented re-

forms reflect the gaping divide between public and private sectors? What components of 21st century education systems may change as a result of NGO involvement? What are the implications of these trends for the democratic processes of public education?

Research into NGO involvement in Israeli education is multifaceted (Weinheber, Ben Nun, & Shiffman, 2008; Paz-Fuchs & Ben-Simchon-Peleg, 2014). OECD figures (Table B3.1 2013) detail numerous education programs operated by external bodies in Israel, a fact made more complex due to the two primary laws - the 1949 Compulsory Education Law and the 1953 State Education Law – both placing the responsibility for education and its funding squarely on the shoulders of the State and excluding education provided by non-governmental bodies not under the supervision of the Education Ministry (Ichilov, 2010). The challenge of upholding these laws has been a top public and professional priority since the establishment of the State of Israel, a guiding principle of the welfare state model, combining economic considerations and the obligation to provide public services to citizens (Berkovich & Foldes, 2012). However, in the mid-1970s, shortly after the neoliberal state model emerged as an alternative to the welfare model, the Israeli government embraced a new approach. NGOs were ushered into the education system without any corresponding legislative changes, resulting in a great loss of governance (Ichilov, 2010), presenting challenges to both policy makers and policy implementers and changing views on the role of public institutions.

The purpose of this study is to use in-depth interviews to explore the attitudes of senior NGO executives regarding their role in education policy implementation, providing an inside perspective on how NGOs function in public Israeli education. This paper begins with a literature review, then we describe the research design and the findings. The paper concludes with a discussion of the findings as well as implications and further research avenues.

Theoretical Background

The Privatization of Education

Throughout human history, education often relied on private funding, and even in recent centuries, with modern governments operating systemized forms of education, private institutions and philanthropic organizations are still involved in allocating funding, shaping curricula, and playing an important role in education governance (Ball & Youdell, 2008). However, in the last three decades the privatization of global education has constituted the next step in this development. This process is influenced by neoliberal policies, and far-reaching global changes in the economic, political, and social environments that have shifted priorities in education policy toward an emphasis on skills needed to participate in the global

knowledge economy (Vishwakarma & Sthapak, 2017). One aspect of this has been governance that emphasizes the principles of privatization, commercialization, and choice in education, as well as the adoption of an audit culture focused on performance contracts and different testing and accountability regimes for a variety of organizations and individuals actively participating in education (Verger, Fontdevila, & Zancajo, 2016).

However, there is evidence from US, Europe and also Latin America that the neoliberal education policy legitimizes the transformation of education from one of a "public good" that the state is responsible for funding and distributing equally, to a privatized and commercial product that increases competition and reduces the state's oversight abilities (Robertson & Dale, 2002). Opponents of neoliberal policies warn against a growing trend of reduced government spending and a progressively increased share of the local echelon, one that only deepens inequality and social gaps (Ozga & Lingard, 2007). Hence, unequal geographical allocation of resources, as well as the possibility for organizations to charge for the services they provide, will impair the ability of low socioeconomic populations to purchase the services they provide, even basic and essential services (Berkovich & Foldes, 2012).

This economic perspective eschews a simplistic "human capital" view of education focused solely on employer labor market interests. Instead, it attempts to connect learning to economic development, social progress, and overall national wellbeing. This perspective can be seen as emerging from a crisis in thinking on the relationship between education and economy. Stiglitz and Greenwald (2014) take a position that the role of education is to contribute to a narrowing of economic inequality within nations and that fairness is a precursor to international economic performance (Rawls & Kelly, 2013).

Education NGOs in an Era of Privatization

Allowing the private sector into the public education field is founded on the belief that NGOs can provide services more efficiently than government institutions. NGOs are generally defined as non-profit organizations of individuals or groups acting as a framework of corporate activity on a range of non-profit issues (Gidron & Hall, 2017). They function outside the government body and its direct authority (HM Treasury and Cabinet Office, 2007), are not required to adhere to public administration rules, do not divide their assets into a private company (nonprofit distribution), and are essentially independent (self-governing entities) working for the public good. NGOs promote social values, such as volunteering, building products and services for public wellbeing, or other causes aimed at improving conditions for the public (welfare, health, and education) (Anheier, 2005). A review of relevant literature provides little consistency in the characterization of NGOs beyond this generalization, a lack made starkly

apparent with the increasing involvement and wide diversity of business organizations in education (Ichilov, 2010; Verger et al., 2016).

The Relationship Between NGOs and the State

Depending on their capabilities and the suitability of their goals, education policy today does allow NGOs to initiate services and influence public education in one of three avenues (Young, 2000). In the first, inclusion, organizations provide public education services not provided by the government; and in the second, completion, organizations support education policy and assisting established institutions through a formal and regulated position (outsourcing or partnership) or informally (Greve & Ejerbo, 2005). The government remains the central authority in education, but agreements with contractors reflects a shared responsibility for planning and defining services, determining those entitled to it, financing it, and supervising its supply (Paz-Fuchs et al., 2014; Shiffer et al., 2010). In the third, cross-sector partnerships, collaborations and reciprocal exchanges between the state and NGOs (information sharing, knowledge, resources, activities, programs, customer service and organizational/professional capabilities), achieve common education goals by maximizing the unique advantages of each and offering access to previously inaccessible assets (Wohlstetter, Courtney, Hentschke, & Smith, 2004).

Studies examining NGO views on their participation in education reveal a clear commitment to promote social-educational issues, realizing economic, legal, ethical, and philanthropic goals aimed at impacting education decision makers, encouraging initiatives, and increasing accountability (Momin, 2013). Other studies focus on how NGOs in education deal with their benefactors and the expectations of them to meet objectives. One position is that responsible practices, most particularly in education, should not only be aimed at service recipients but should primarily focus on changing NGO conduct and amending their reliance on benefactors. Although positive reactions to benefactor interests may indicate commitment to their causes, it may also prompt NGOs to be more assertive in managing their institutional environments. This may ease their dependency on contributors (AbouAssi & Trent, 2016), as well as their dependency on state funding, as beyond their overall progressive approach to social responsibility, they are also required to function as a business (Skouloudis, Evangelinos, & Malesios, 2015).

Research Context

In the last three decades, the trend of privatization in the Israeli education system has been growing, and the weight of parents, associations, and business entities has intensified. Consequently, there is a disintegration of the perception of public education as a fundamental right that

the state must provide, one that occurs without change in legislation and in fact stems from the state's failure to provide its citizens with services. The transfer of responsibility from the state to voluntary or private organizations is an expression of the loss of governance and the removal of responsibility from the state to voluntary or private organizations.

NGO involvement in the Israeli education system is complex and multifaceted, and therefore of interest to Israeli researchers who examine the causes and extent of the phenomenon, its interventions, and its characteristics (Dagan-Buzaglo, 2010; Paz-Fuchs et al., 2014; Weinheber et al., 2008; Yemini & Sagie, 2015). In recent years, the significant growth of NGO numbers in Israeli education has also motivated education leaders and other state bodies to thoroughly examine the nature of this involvement and formulate practical positions and recommendations for coping with the phenomenon, despite the growing dominance of the third sector in various areas of educational work (Schiffer et al., 2010). The scope of non-governmental factors penetrating the system in different ways is still relatively small when considering overall education, and the majority of study hours and system funding are still public (Dagan-Buzaglo, 2010). In 2012, for example, 98% of primary school expenditure was publically funded. In contrast, the NGOs operating in Israeli education represent a diverse group; their motives range from traditional philanthropy of organizations and private individuals from Israel and abroad, to organizations focused on specific corporate-social initiatives, and to foundations/associations seeking to actively shape education (Weinheber et al., 2008). NGOs also manage curricular programs in various areas omitted from official curricula, such as enrichment programs, social programs, and holistic or systemic intervention programs (Weber, 2012; Weinheber et al., 2008).

Research Design

We have chosen a qualitative methodology to allow for the collection of rich textual descriptions. In particular, this study is a narrative inquiry into meaning, highly attentive to what NGO executives are experiencing (Patton, 2002). This research approach acknowledges the existence of structured, fluid, subjective, flexible, and dynamic realities that are attributed different meanings and interpretations and are shaped within political, cultural, and social contexts (Sabar Ben-Yehoshua, 2016).

Seeking to maximize the depth and richness of our data, we used maximal differentiation sampling (Creswell, 2014), also known as heterogeneous sampling. The research population included representatives of various NGOs involved in elementary schools of low socioeconomic backgrounds focusing on various subjects related to the advancement of scholastic achievements and student welfare. The NGO senior managers also varied in years in post (10-25 years in their role). Thus, interviews

were held with senior executives of NGOs with different characteristics - size of operation, budget, goals, team, field of work - in order to reach the broadest possible spectrum (Corbin & Strauss, 2008).

Data for this study were collected during the first semester of the 2016-2017 academic year and are comprised of 10 in-depth interviews with NGO senior executives. The interviews were coordinated independently in their offices, in schools, or in different venues and lasted 60-90 minutes. All interviews were audiotaped and transcribed verbatim. All participants were fully informed on the purpose of the study and were promised complete confidentiality as well as full retreat options. Pseudonyms were assigned to all interviewees to preserve their privacy and prevent identification.

The interview began with a general introductory question: Tell me about your professional career. This gained us demographic information about interviewees and created a sense of trust and openness. Then, as part of a more comprehensive interview, NGO executives were asked questions regarding the purpose of the current study, for example: What is your opinion on how NGOs are involved in the education system? How do you see your potential/actual contribution to the education system? What are the unique elements that exist in extracurricular programs that influence, change, and contribute to the improvement of scholastic and social achievements?

Data collection and analysis were conducted simultaneously in an ongoing process throughout the inquiry, with analysis being a three-stage process - condensing, coding, and categorizing. Once data were collected, we found that not all the material collected could serve the purpose of the study, and that the material required sorting (Miles, Huberman, & Saldaña, 2014). Thus, in the first stage of analysis (condensing), we looked for the portions of data that related to the topic of this study. In the second stage (coding), each segment of relevant data (utterance) was coded by the aspect it expressed (Gibbs, 2007). In contrast to the previous stage, this stage was data-driven and not theory-driven because we did not use a priori codes but rather inductive ones, developed by direct examination of the perspectives articulated by participants (Rossman & Rallis, 2012). After capturing the essence of utterances in the second stage, in the third stage (categorizing), we clustered similar utterances to generalize their meanings and derive categories. At this point, we reworked categories to reconcile disconfirming data with the emerging analysis (Richards & Morse, 2013). Thus, the dimensions of categories were explored, identifying relationships between categories and testing categories against the full range of data. Moreover, the analysis was performed in two phases: First, NGO executives' voices were each analyzed separately, and next, their voices were analyzed to generate common themes and elucidate the differences between the voices. In this way, generating themes was an inductive process, grounded in the various perspectives articulated by participants

(Rossman & Rallis, 2012).

In a qualitative exploration, researchers should pay attention to how their backgrounds and personal experiences inform the theoretical and methodological perceptions concerning the inquiry. As the researchers of this study, we come from different backgrounds: one of us was working in policy development and implementation at the Ministry of Education and is currently an educational leadership researcher, and the second gained extensive experience in educational leadership research. Our joint work, which includes ongoing mutual reflection, allowed us to become more aware of the conceptual and methodological issues pertaining to the current research.

Findings

Data analysis revealed three main themes reflecting NGO manager perceptions: (1) a policy of cross-sector partnership in education; (2) mutual responsibility for education; and (3) the benefit of NGO involvement in education. These themes are interrelated and impact education policy implementation.

Policy of Cross-Sector Partnership

Cross-sector partnerships refer to clearly established and ongoing organizational frameworks for interaction and exchange between the public, third, and business sectors. Their objective is the attainment of public goals through joint allocation of resources (Wohlstette et al., 2004). NGO managers see such partnerships as indicative of an organizational culture that combines human and financial assets of two systems to promote values, goals, and objectives in education, as Lewis describes:

One very important understanding and guiding principle...and one I very much hoped remains, is that there is a place and significance to these programs...the Ministry recognizes our value, powers, and resources...sees us contributors to schools.

In their view, these partnerships and their various components constitute a fundamental shift in the conceptual and ideological foundations of education policy, thereby enabling the Education Ministry to join forces with factors outside the system, as based on the particular advantages of each prospective partner. For example, Daniel states:

To her credit, the director general of the Ministry has invested a great deal and is very oriented towards this connection and partnership between philanthropy and education...this is a significant change...they see and acknowledge the benefits and crucial role we play in the system.

Moreover, NGO managers describe this partnership as a way

to greatly influence the formulation of work processes and goal attainment, as Jack explains: "The director general said...let's finally sit down to organize the hundreds of joint education programs, define them together, instead of the Ministry deciding alone who is in and who isn't..." NGO managers are profoundly appreciative of being allowed to be significant partners in shaping and implementing education policy. Also, in their view, the Ministry is a key promoter initiating this policy change, as described by Dean: "Regarding the importance of a policy that endorses cross-sectoral partnerships in education, we see the Ministry as the initiator, the guiding force. They were the ones to create this platform for dialogue, listening, and trust building." From an NGO standpoint, the Ministry was wise to strategically lead a process that allows for an egalitarian structure, one that provides equal representation for every sector with the goal of raising issues of education relevant to all.

Accordingly, given the traditional, outdated, bureaucratic, and institutionalized nature of the formal education system, this shift to partnerships is a catalyst for systemic reform. This marks the progress towards a new form of governance, one that signifies innovation, entrepreneurship, and prudent utilization of existing potential in the public sphere for a better and more diversified education system. For NGOs, the Ministry plays the key role, "orchestrating" partnerships aimed at creating an equitable structure, contributing to meaningful discourse that promotes common education goals. Thus, the Ministry is not seen by NGOs as an overseer ruling through a mandate of laws and enforcement powers, but as an enterprising, open-minded government body that understands their contribution to the formulation and implementation of an education policy that regulates its engagement with them. However, data analysis reveals rich descriptions regarding the motives, power relations, and interests NGO managers believe are at the root of this policy shift, as well as reservations and critique of the official partnership policy.

Motivations for Cross-Sector Partnerships

The main motivation driving this policy change is the belief that such a partnership may be the way to address complex social issues that cannot be solved by any single sector (Crosby & Bryson, 2010). NGO executives described several motives for their decision to begin working in a cross-sector framework. One motivation stems from informal developments in politics and education, as Max described: "Frequently, NGOs enter the system using political ties ... which means we are contacted and asked to conduct interventions in schools." As they see it, the first motive for turning to them are interests in the political and education fields that reveal reliance and belief in their ability to resolve education problems that no single sector is capable of tackling, and reducing the risks of one factor acting alone.

A second motive arising from the interviews addresses the direct intervention of Ministry senior officials in school funding, as Julie explains: "The Ministry director general asked that our program be implemented in several schools she wanted to promote. But how were they selected? What were the criteria? Considerations? There was no set policy ... and if there was a policy, the process did not reflect it." In the NGO view, this unclear top-down policy dictated over the years has failed to manage relations, leading to unchecked involvement and independent interpretations of policy in education, producing a haphazard distribution of resources.

A third and central motive for partnership in education is the fulfilment of value concepts and administrative initiatives that promote partnerships in the education field, as NGO executive, Selena, describes it: "Philanthropy works collaboratively, without collaboration it does not exist and has no power...." Brad adds that: "One guiding principle of our work model is partnering with people in the field, a point that must be put front and center...believing that most knowledge and experience is in the field ... you need to assemble, organize, and unite a work plan together with local factors and leadership." This stance of NGO managers could be described as a belief and recognition in the powers of local factors and leadership that can work together to achieve a synergetic result with a unique added value impossible to achieve by one sector.

Demand for Recognition in Core Curricula

NGO executives working in education demand taking this partnership to the next level, now pushing for their programs to be officially included in the core curricula and the Ministry's strategic plan. For them, this would signify further dissemination of the partnership. As John describes:

Many of our programs could provide a contribution, saving the Ministry the work involved. For example, the mathematics program we are developing...we are spending a fortune and investing a great deal already. Why shouldn't the Ministry use it in the core curricula? It's important that they be recognized...as it is, they are already being implemented in the field.

NGO executives believe that the policy must be amended to now incorporate their programs in the Education Ministry core curricula as their syllabus and teaching materials meet professional standards, are the product of great investment, and are already in use and benefiting many school administrators and students. They believe this combination will help blur sectoral differences, save time and financial costs, and break down structural barriers that may prevent the full realization of this partnership. Therefore, including NGO programs in the core curricula and the

Ministry's strategic plan is a step towards systemic changes, as described by Barry, an NGO manager in the education field:

It's problematic when planning isn't linked to execution...we need to be included in the strategic plan, to the overall master plan outlining goals, objectives, and so forth...to avoid investment costs in maintenance mechanisms, thereby reducing gaps between the various organizations.

Moreover, in their view, a true partnership entails emphasizing the unique contribution of each factor involved in education work, identifying the professional benefit each brings to the system. As Freddie states: "Optimal partnerships require a recognition of the diverse knowledge, expertise, and experience in teaching that help improve learning...." Meaningful cross-sector collaboration is founded on an acknowledgment of the domain and specific know-how of each sector, due respect for its professional history, and acceptance of its approach to teaching methodology.

Focus on Learning Processes

NGO executives are aware that the partnership in education promotes changes in the knowledge, skills, and standard conduct of education teams in both systems, as Brad describes: "As an organization, we are constantly learning, helping transform schools into inspiring places to learn together, to exchange information, tools, skills, learning alternatives ... to improve and expand existing knowledge." They are aware that their involvement nurtures reciprocal learning, contributing to both systems, and enabling a measure of administrative flexibility by freeing up resources for continued professional teacher training. As Lacy describes: "There are a lot of teaching hours in the system ... the problem is that teachers aren't good enough. So, what's the point in giving that teacher more hours, if they don't know how to work with children? Teachers must be reared in schools." They understand that the professional development of teachers and continued involvement in the education field is essential to further growth and improvement of teaching, learning and assessment processes. NGOs instigate internal organizational processes that provide systemic flexibility, advancing a school autonomy that promotes organizational excellence, as Dean reports: "This is a professional association... the standards the NGOs hold themselves, the principals, and the schools too are meticulous, and so this is a system that continuously pushes higher, raising the bar."

Nevertheless, their most compelling critique focuses on official policy which offer no solutions or alternatives to education programs terminated due to budgetary shortages or disinterest of the Ministry. In their view, this violates educational and learning continuity in schools, as Selena attests: "Part of the difficulty of our venture is that you invest, and

there's no follow-through in terms of budget or other resources from the Ministry...we are constantly looking for budgetary alternatives...providing solutions to keep the programs going." Interviewees describe the many hours invested in searching for local or systematic solutions to keep programs in operation that may be discontinued due to lack of budget or their failure to enlist the Ministry or the town/city to keep implementing them.

Mutual Responsibility for Education

The policy of cross-sector partnerships in education is based on an aspiration to establish collaboration that assigns responsibilities and areas of authority among partners working towards a common goal, advancing an initiative or resolving a problem (Gidron & Hall, 2017). NGO executives attest to the renewed scrutiny into the mutual responsibilities and authorities in education this partnership generates. The following sub-categories present relevant study findings.

Inherent Tensions of Cross-Sector Relations

Interviews reveal an inherent tension regarding responsibilities and authority in education, arising from NGOs' proactive approach, subsequent success, and the demand for their programs. As stated by Michael: "The dilemma that often arises is whether the State needs or wants philanthropy ... we operate in schools very successfully, and there is a great demand [for our programs] ... The education system keeps saying that this success indicates our failure ... that we are responsible for privatization." NGO executives maintain that their involvement creates a mixed picture of the education system's commitment and responsibility to meeting needs and realizing goals in education. As described by Daniel: "The Education Ministry policy outlines many of its actions ... On the one hand, declaring the partnership provides legitimacy ... on the other, we are seen as overwhelming the system, even a threat to the cross-sector partnership." The duality to be dealt with by decision makers is that a privatization policy expands the independent and autonomous leadership of the private sector while the partnerships legitimize their actions as they interpret how to implement that partnership in education.

The majority of their energies are dedicated to managing crises that occur due to the inconsistency between stated policy and actual conduct, as Lewis attests:

The ego displayed by the [Ministry] officials...there are frequent differences between the various Ministry units and their stated policy...no decisions [are made]. So, most of our energies are directed to the synergy between us and the different Ministry bodies and units.

In the opinion of the interviewees, mutual responsibility works

better thanks to the personal relationships they have cultivated with ministry officials, as described by Lacy: "We are close to the minister ... we present plans, and he recommends where we should start. There is a range, from a joint venture with the Ministry or operating alone with Ministry sanction." Interviews reveal that through personal contacts they receive recommendations on preferred areas for their operations. In doing so, they promote joint initiatives with the Ministry while sharing responsibilities, as Freddie explains: "All our ties to projects with the Ministry are based on personal relationships with high-ranking Ministry people, and we jointly decide on priorities, sharing resources." Interviewees explain that personal relationships still form the foundation for cross-sector partnerships behind the scenes. These attitudes and conduct, by NGOs and Ministry alike, pose obstacles to formulating a collaborative policy.

Recognizing the Authority of the Education Ministry

Findings reveal that, in general, NGO executives assign overall responsibility and authority in education to the State, a fact that reduces tensions in cross-sector relations. This marks a change from previous years in which NGO executives tried to dictate, exert pressure, and compel the State to cede to their demands, as Max describes:

Some problems stem from past attitudes when we thought we ruled the roost...instead of 'dancing the tango' with the State, philanthropy experimented with its money with the State's knowledge, then thought of ways to drag the State into a Waltz.

Interviewees explain that their initiatives and involvement in education established de facto their presence in the field. Meaning, their presence challenged and even pressured the Ministry to take on budgetary and educational responsibilities. Barry states: "We operated programs using our budgets...there was a great demand for them...the State adopted the concept...expanded its monetary investment in it...as a business model...we basically 'impregnated' the State."

Today, NGOs claim they do not want to "replace the State" or "take over its role," that the State is "functioning well," and that public partners now have the power to approve or reject initiatives, serving to "protect" citizens through the provision of education services. As Jack attests: "Our agenda today is cooperating with the State, not replacing it...." In their view, their new stance began with a renewed look into their identity and specific rationale for social value-oriented commitment, helping them reach broad agreements with the Ministry, as evidenced by their awareness of organizational and budgetary constraints. Tom articulates this point: "We are aware of the limits. For example, subsidized school lunches are the responsibility of the State. In such cases, we understand our limitations and adhere to State decisions."

Such sentiments clarify their demarcation of territorial boundaries, and their limitation in the provision of services on a large scale. This marks their acknowledgment on the Ministry's importance and its role in preserving the public interest. While the State must address the needs of the entire national population, NGOs have the privilege of investing in designated areas or populations. Their role is to support, extend, and maximize the broad span of Ministry activities. Moreover, they claim this is the main message conveyed by contributors, as Julie describes: "There is a functioning State here...we know it has a good and functional system... we aren't here to replace it...only to support, accompany, maximize...this is a key point of our benefactors – working with the State... We have been careful since the State Comptroller's report."

NGO executives report a profound change in attitude. Today they are more careful, "treading lightly" as they put it, attempting no move to determine policy alone but rather in collaboration. Their recognition of the State's authority is based on their awareness that the majority of education funding is provided by the State, as presented in detail in the following.

Acknowledgment of Responsibilities for Budgeting and Maintaining a Reputation

Analysis of the interviews exposes a clear recognition that the Ministry of Education still bears central budgetary responsibility for education when compared to the relatively low financial investment of NGOs, as Max describes: "With all due respect to friends and donors, and the millions they bring in, the State of Israel still puts in a hundred times more... We are also reliant on funding by the State." They see the State as the major actor and investor in education. Although their contribution is still vital, they must cease competing with the Ministry, show respect for its role, and humbly accept the Ministry's authority. Their partnership depends on the rich systems in the public sector, and equally on the image of this dependency, as required by donors. Freddie explains:

We have an obligation to contributors, they want to know they have significant partners to work with...contributors say – my approach to Israel is different, it's not an 'Uncle Sam' approach where you just hand over the money...it's empowering to know you are partnering with factors providing a lot more money than you...it improves the public image.

Also, initiatives in the education field are driven by contributors' demands that NGOs enlist the Ministry in programs and match private funding, as Michael described: "We like matching ... our initiatives as education-focused philanthropy energizes the Ministry, leveraging NGO abilities to further promote the public sector ... we work to include it in public service." In other words, NGOs do not operate in a vacuum, and they func-

tion within the parameters and requirements of the benefactors that fund their programs who require the presence of stakeholders to promote both budgetary interests and their prestige.

Moreover, NGO entrepreneurship stems from an interest in combining resources. This simultaneously influences the Ministry to change its policies and increase its accountability in specific populations while also attesting to their understanding that they exist in a constantly changing and uncertain environment, suffer from a persistent scarcity of resources, and must vie for resources, including national resources. Thus, their involvement in the public sphere hinges on their recognition and acceptance of the Ministry as the key player, with overall responsibility for determining education, pedagogical policies, and budget allocation.

The Benefit of Involvement

The attitudes of NGO executives regarding the benefit, contribution, and success of cross-sector partnerships in education is reflected in programs financed by matching funding with the Ministry, as Susie describes: "The programs operating on matching funding are a success...we like working this way...seeing many advantages in combining forces with the Education Ministry...the benefit is that everyone gets something from cooperating."

As they see it, while the education system transfers responsibility of service provision to organizations, doing so in this manner (i.e., through partial privatization of matched funding programs) is a recipe for a successful partnership, as Selina eloquently explains:

The secret to the success of these matched funding programs is evident in three things: 1) scope – the philanthropic fund decides on the size of investment and who to invest in; 2) topic and quality – once you are no longer committed to size, and the scope is smaller, program quality increases; 3) focus on younger ages – assuming impact is higher in these age groups.

NGOs see resource-sharing as an opportunity, with the Ministry enabling them to choose how much to invest and the ability to focus on younger ages in elementary schools, recognizing their experience in education and their understanding of education needs. As Daniel states: "We are known for our familiarity with the education field ... therefore, there is a chance that philanthropy will produce a more accessible, available, quality program."

Additionally, matching funding allows for a holistic approach to learning, meaning an attitude that perceives pupils as entire beings that benefit from emotional and social address as a basis for their scholastic achievements, as Johanna describes: "Study in small groups allows for children to receive emotional treatment...treatment using animals, arts,

therapy... it's something different...a more holistic view that sees all of the child's needs...opening and removing obstacles."

In their view, addressing these needs is essential to scholastic success, as Freddie explains: "Academic achievements are the by-product... but not the immediate goal...as we see it...a child that is well-fed and calm and receives the envelope of services they need can then start thinking about how to improve scholastic outcomes." Jackie also expressed his view on the great benefit these cross-sector programs have on academic success: "Improvement is not immediately evident...but you can say that thanks to these partnering programs...grade average rose from 56% to 70% in core subjects."

Thus, NGO executives working in education perceive the importance of programs that combine their resources with those of the Ministry. From their perspective, this combination gives voice to unique populations by expanding scope of services and implementing them in specifically chosen sites, pooling resources, enriching and diversifying curricula, enabling study in small groups, and providing social, emotional, and academic support to promote scholastic achievement. They see this collaboration as a form of partial privatization, an effective model that allows the Ministry to partially fund some activities, and therefore retain its responsibility for programs and continue to monitor NGO conduct. As clarified in the interviews, these executives believe this partnership with the Ministry forms the foundation for their commitment to support and complement a policy aimed at providing a range of education services to meet the needs and mindset of each actor as all strive to fulfil their public responsibilities.

Discussion

NGO executives constitute powerful players in education, directly influencing the nature, content, interpretation, and implementation of education policy. They expressed the belief that cross-sector partnerships are designed to instigate reforms, injecting the system with innovation and harnessing proactivity as a joint tool to optimize and capitalize on existing potential in the public sphere (Wohlstetter et al., 2004). Executives saw their presence as a facilitating factor, bringing the professional ties and resources necessary to advance academic and social outcomes, along with establishing the moral obligation to work for the public good (Anheier, 2005).

NGO executives agree that formulating education policy is crucially important as it involves adopting a worldview, assigning responsibilities, and offering possible solutions. So, determining a policy of cross-sector partnerships and their characteristics establishes a conceptual and ideological infrastructure that combines the education services of the Ministry with those of outside factors, opening the door for NGOs to great-

ly influence education policy design and implementation. Collaboration, mutual interactions, and exchange of "assets" (i.e., sharing information, knowledge, resources, activities, programs), make it possible to promote common public goals (Bryson et al., 2006; Gazley & Brudney, 2007; McQuaid, 2000). Therefore, in this model the Education Ministry retains its power, authority, and responsibility for setting boundaries in education, overseeing NGOs in their implementation of its policies (Salamon et al., 2013) while also reducing the regulatory mechanisms of the Ministry that hinder initiatives that may improve the system.

Senior NGOs have expressed the view that the vague policies imposed over the years have failed to regulate relations between the various sectors, leading to uncontrolled involvement, independent interpretations of policies in the political and educational arena, and the creation of a chaotic distribution of resources. This does not meet the original expectation of the transition to inter-sectoral policy in education, a move made by the Ministry of Education in recognition of the limitations of traditional policies it pursued over the years, and the hope that organizations would benefit Israeli education. Thus, relying on inter-sectoral partnership policies makes it possible to address challenges, and make better policy decisions that include extensive coverage of partners, challenges, different needs, and constraints.

NGO executives expressed the view that the vague policy imposed over the years has failed to regulate relations between the various sectors, leading to unchecked involvement, independent interpretations of policy in the political and education arenas, and generating chaotic distribution of resources. Hence, cross-sector partnerships constitute revolutionary progress, allowing institutionalized education to make the necessary changes needed to regulate relations. This could serve as a catalyst for policy design and planning (Ball, 2013) that effectively utilizes existing potential in the education field (Crosby & Bryson, 2010).

In addition to the attitude and understanding of NGO executives that official policy must be amended, they also expressed their view that cross-sector partnerships are already an established reality "in practice," and all that remains is to acknowledge this state of affairs. Interviews reveal how they categorize the organizational, structural, and process-based factors that promote optimal conditions for cross-sector partnerships: the familiarity and involvement of NGOs in education, their flexibility and ability to rapidly adapt, and their ability to operate in various scopes and locations. They believe the advantage they bring lies in the fact that they are less hierarchical, more efficient, and democratic, establishing their public image as efficient in terms of cost/benefit (Patrinos et al., 2009). Moreover, they consider cross-sector partnerships in education to be their forte, a doctrine of values and administrative approach unique to them, one that stems, among other things, from their recognition and belief in local powers and leadership to help achieve a better synergy with an added

value and a unique contribution to education processes beyond the capabilities of any one sector (Bryson et al., 2006).

Accordingly, NGO executives attach great importance to raising awareness regarding innovative and attractive programs for the education system (Weinheber et al., 2008). They focus on looking for new opportunities to make schools more attractive to all populations, thereby developing and transforming civil society into an active, vibrant, and dynamic domain (Yemini & Sagie, 2015). This study also reveals their opinion that the success of cross-sector partnerships is most clearly evident in programs of matching funding. They believe partial privatization is more efficient, more rational, and a better use of each system's budgetary, social, educational, and organizational resources, while also allowing the Ministry to keep overseeing their actions. The partnership is a platform for them to support and address the needs of many populations, and complement a policy aimed at providing and promoting social, academic, and education services.

It can therefore be said that NGO executives recognize that the cross-sectoral partnership should define the regulatory role of the Education Ministry, enabling them to collaborate when determining the limits imposed on organizations promoting policy change. Concurrently, their participation in deciding limits of responsibility and authority also produces an inherent tension and duality. This tension undermines relations as the State still seeks to strengthen its control and struggles to accept privatization trends while the methods and procedures to manage mutual responsibility for education are still far from established. Findings indicate executives see privatization in Israeli education, including how mutual responsibilities are defined, as a long, dynamic, complex, and ongoing process.

NGO executives focused on the cross-sector partnership as a framework to regulate the relationship with the Ministry as they believe that education cannot be expropriated, regardless of individual or private involvement (Ichilov, 2010). Delaying the regulation of this partnership may jeopardize the independent organizational identity of each partner, diverting them from their goals, core values, and service receivers (De Quinn, 2000). They understand how their involvement in the public sphere requires their acceptance of the Ministry's authority as a key player, with the overall responsibility of determining and leading policy. This new NGO attitude reduces cross-sector tensions, increases the chance of reaching general agreements, and enhances their public image in the education field, deepening their understanding of budgetary constraints, (Rose, 2010) and even their dependence on the rich systems of public education already in existence.

Implications, Limitations and Future Research

Changes in education policy and the shift to cross-sector partnerships between the education system and third sector and civil society NGOs are only effective when taking into consideration variance in views, structures, and needs – meaning the uniqueness of each sector. This new approach must delicately balance meeting Education Ministry requirements and the aspiration to reduce the bureaucratic burdens that strangle external education initiatives for improvement. On the one hand, maintaining an open policy, inclusive of factors outside formal education in debating, determining, applying policy (Ball, 2013) and the reservations raised about this effectiveness. On the other hand, accepting this cross-sector partnership expands resources for schools and communities, providing flexibility and “other” learning forms that refresh the system, even regenerating and facilitating educational, scholastic, social, and organizational aims.

Promoting and institutionalizing a policy of partnership between formal education and NGOs is a complex, protracted, dynamic, and ongoing process subject to constant change, thus requiring extensive efforts to develop, preserve, and continuously maintain how policies are implemented. Therefore, policy makers leading this partnership play a vital role in navigating this new relationship as external players become increasingly involved in this field. Thus, policy makers (HQ and district superintendents), implementers (NGO directors, school principals, teachers), and recipients (families and students) must remain attentive to each other, coordinating activities to meet social and educational goals of communities and reducing sectoral tensions.

This study provides new data regarding NGO executives' perceptions of their involvement in design and implementation of educational policy in Israel. One of the main conclusions that resonates with the findings of the study concerns the perceptions and attitudes of NGOs in the growing policy of inter-sectoral partnership in education. From their point of view, this inter-sectoral partnership is a step towards new public governance that expresses innovation, entrepreneurship and an informed fulfillment of the potential that exists in the public sphere. At the same time, their assumptions about the concept of mutual responsibility pose complex challenges and expectations of themselves and of all actors involved in a new education policy.

Having said that, this study has several limitations. First, this study only reflects the perception of NGO executives and participants' responses pertain to the specific Israeli educational context. Therefore, we recommend conducting similar studies while broadening the perspective of all stakeholders to enable further study of such findings, including policymakers, school principals, teachers, family and community members, and students. Second, we recommend examining the findings in various sociocultural contexts that underpin their international validity. Third, the study mentions the impact of government decisions on government rela-

tions, civil society, and the business sector on the design of inter-sectoral partnership policies in education. We propose carrying out studies that examine how recommendations and government decisions are reflected in the inter-sectoral partnership in education. Fourth, the interviews with the NGO executives took place in the 2015-2016 academic year. Longitudinal research is needed to examine whether and how NGO executives change their perceptions as they continue working with the Ministry of Education in various projects. Finally, this study was limited to senior executive NGOs' perceptions only which does not explain the more expansive understanding of partnership and collaboration between formal education and NGOs. Thus, there is a need to explore the perceptions of principals, superintendents, policymakers, and schoolteachers. Based on this study, we also suggest exploring whether, how, and under which conditions principals could cultivate partnerships with NGOs as a platform for entrepreneurship, particularly at times of external policy demands.

The main contribution of the study is to broaden the understanding and knowledge of the nature, components and meanings of NGO involvement in shaping and implementing educational policy which provides a theoretical framework for understanding the motivations, forces, and challenges that this engagement poses to the system. This study adds that NGOs perceive intersectoral policy in education as a stated and explicit organizational arrangement that legitimizes them for continuing their activities as well as recognizing their vitality, importance, and contribution to achieving educational goals.

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PRINCIPAL SUPERVISORS INTERACT WITH LEADERSHIP TEAMS IN HIGH NEEDS SCHOOLS?

Instructional leadership teams (ILTs) advance school improvement by building the capacity of school-based leaders to lead improvement work. The role of central office administrators, and particularly of principal supervisors, supporting the learning and development of ILTs, however, is relatively unknown. This mixed methods study explored the degree and focus of principal supervisors' interactions with ILTs in high needs schools and considered whether these interactions are related to the ILT members' perceptions of the leadership and organizational conditions for school improvement. Findings revealed that a greater degree of interaction between the principal supervisor and the ILT was related to more positive perceptions of the school's leadership and organizational conditions for improvement. Further, principal supervisors' interactions with ILTs largely fell within the constructs of leadership for learning, professional development, and support for teams. These findings have implications for principal supervisor preparation and expectations for how supervisors enact and fulfill their roles.

The literature on the effects of leadership, most often principal leadership, on student learning is extensive. Principal leadership practices and behaviors largely contribute to improved student learning outcomes indirectly, through their influence on teachers' instructional practice and their fostering of collaboration and communication around instruction (Hallinger & Heck, 1998; Robinson et al., 2008; Supovitz et al., 2010; Waters et al., 2003). In fact, the recognition that leadership is second only to classroom instruction as an influence on student learning is well-known (Louis et al., 2010). Despite the central importance of the school principal to school improvement, it is also clear that principals cannot effectively lead instructional improvement by themselves, a reality that is particularly apparent in high needs schools. Schools where principals share or distribute leadership responsibilities perform better on a variety of measures of student achievement, compared to schools where principals do not distribute school leadership responsibilities (Heck & Hallinger, 2009). When principals and teachers work interactively in a shared instructional leadership capacity, schools learn and perform at high levels (Marks & Printy, 2003).

One way that principals engage in the work of distributing leadership is by developing "instructional leadership teams" (ILTs). One benefit of ILTs - which are often comprised of assistant principals, department chairs, and other teacher leaders - is that they allow principals to focus

on their own areas of greatest strength while sharing school leadership responsibilities with the ILT (Klar, 2013; Marzano et al., 2005; Stosich, in press; Weiner, 2014). Additionally, ILTs facilitate the development of leadership capacities of the team members themselves (Klar, 2013; Marzano et al., 2005). An important part of principals' roles as instructional leaders, therefore, is to develop the individuals they supervise and support to increase their capacities to lead instructional improvement efforts collectively.

Recognizing that the role of the principal has shifted from managerial responsibilities to leadership of instructional improvement in schools, school districts are placing a renewed focus on the role of the district central office in developing principals to be instructional leaders (Thessin, 2019; Bottoms & Fry, 2009). As the first contact between principals and district offices, the principal supervisor is a natural provider of this support for principals' learning (Goldring et al., 2018). To meet this need, numerous central offices have redesigned the principal supervisor's role to provide job-embedded coaching and instructional leadership support to principals (Goldring et al., 2018; Honig 2008, 2012; Honig & Rainey, 2014; Jerald, 2012; Turnbull et al., 2015). As school districts have reoriented principal supervisors' roles to focus on developing principals' instructional leadership, thereby moving away from a focus on compliance and supervision, they have revised principal supervisors' job descriptions and reduced their span of control (Goldring et al., 2018; Thessin, 2019). Still, despite district efforts, frequency of time spent in schools and the specific orientation of principal supervisors' work with principals and their teams varies tremendously (Goldring et al., 2018).

In our own prior study, we similarly found that there was great variation among supervisors in the degree to which they engage with individual principals and in the focus of their work, even among principal supervisors who supported the district schools with the highest need for improvement (Thessin, 2019). In light of the role that leaders play in improving schools, and the challenges faced by leaders in improving struggling schools, there is a particularly pressing need to understand how principal supervisors facilitate improvement with principals in high needs schools that are facing accountability demands (Chapman & Harris, 2004; Cosner & Jones, 2016). As part of these improvement efforts, in its standards for principal supervisors, the Council of Chief State School Officers (2015) notes one of the central responsibilities of principal supervisors is to "help principals create distributed leadership systems and structures that support teaching and learning" (p. 19). Given the importance of principals' work with ILTs in leading improvement, a role of greatest consequence in high needs schools, additional attention to understanding how principal supervisors interact with ILTs to establish the conditions for instructional improvement is needed.

The purpose of this mixed methods study was to explore the de-

gree and focus of principal supervisors' interactions with instructional leadership teams (ILTs) in high needs schools in one large Mid-Atlantic school district that was an early adopter of this new model of principal supervision. In addition, this study examined whether these interactions were related to the ILT members' perceptions of the leadership and organizational conditions that are conducive to school improvement. Our analysis drew on rich qualitative and quantitative data, including two sets of interviews of principals and principal supervisors, along with observations, documents, and a survey of leadership team members in focal schools. Mixed methods are particularly well suited to understanding complex problems or phenomena (Creswell, 2013). Our mixed methods approach enabled us to triangulate our emergent findings and explore both the degree and focus of principal supervisors' interactions with ILTs, including the relationship between those interactions and schools' conditions for instructional improvement.

The research questions that guided our study are as follows:

- 1) To what degree do principal supervisors interact with ILTs?
- 2) What is the focus of principal supervisors' interactions with ILTs?
- 3) How, if at all, are the degree and focus of principal supervisors' interactions with ILTs related to leadership team members' perceptions of their school's leadership and organizational conditions for improvement?

Our analysis aimed to understand the degree and focus of principal supervisors' interactions with leadership teams, and to establish whether there are relationships between this engagement and the perceived leadership and conditions for improvement. Our work, therefore, takes the important first step of describing principal supervisors' interactions with leadership teams, thus laying the foundation for future work investigating the direction of these relationships.

Background

Instructional Leadership Teams' Roles in Improvement

In the last several decades, the predominant view of school leadership has shifted away from the managerial and transactional responsibilities of school leadership to instead emphasize the distributed and collaborative nature of the work of successful school leaders (Gronn, 2000; Hallinger & Heck, 2010; Harris, 2012; Heck & Hallinger, 2009; Spillane, 2006; Spillane et al., 2001). Effective school leadership does not reside in any single, "heroic" individual who attempts the challenges of leadership alone, but instead is shared, or "distributed," across individuals and settings within schools (Leithwood & Jantzi, 2012; Marks & Printy, 2003;

Spillane, 2006; Spillane et al., 2001). Existing evidence shows that wider involvement in instructional leadership is associated with increased quality of instruction and gains in student learning (Leithwood & Jantzi, 2012; Marks & Printy, 2003; Printy et al., 2009). Despite some notable challenges to shifting leadership practices from an autocratic to a shared leadership approach (Katzenmeyer & Moller, 2009; Stosich, in press; Weiner, 2014), building the capacity of teachers and other staff members, particularly in the setting of instructional leadership teams, is an important means of sustaining school improvement (Edwards & Gammel, 2016; Harris, 2008; Johnson & Chrispeels, 2010; Wenner & Campbell, 2017; York-Barr & Duke, 2004).

Instructional leadership teams are generally designed with three central goals: 1) the coordination of teacher leadership; 2) development of teacher leaders; and 3) facilitation of instructional improvement throughout the school (Klar, 2013; Portin et al., 2013; Yager & Yager, 2011). Instructional leadership teams are a primary means by which school leaders work together with other school staff members to facilitate school improvement (Weiner, 2014). Ingersoll et al. (2017) found that higher levels of student achievement are associated with teachers' active involvement in school improvement planning. Leithwood and Jantzi (2012) additionally found that collective leadership is linked to student achievement indirectly through its effect on teacher motivation and teachers' workplace settings, factors influenced by school leadership. Overall, effective school leadership teams advance school improvement by building the capacity of other school-based leaders to lead school improvement work (Edwards & Gammel, 2016; York-Barr & Duke, 2004; Wenner & Campbell, 2017).

One way that instructional leadership teams can lead to improved student outcomes is by alleviating the work demands placed on school leaders, allowing for principals to focus their energies on a subset of these tasks while at the same time building the generalized leadership capacity of the school (Marzano et al., 2005). Leadership team members, however, can also work to improve instruction more directly in a number of ways, including: a) providing direct feedback on classroom practices and student learning; b) planning professional development; c) developing and modeling effective lesson design and instructional practice; and d) communicating instructional/school improvement goals to staff (Marzano et al., 2005; Portin et al., 2013). Ideally, teacher leaders serving on leadership teams can "link the classroom with district- and school-determined learning improvement efforts" (Portin et al., 2013, p. 220). Instructional leadership teams therefore play a key role in developing and sustaining school improvement efforts by engaging other school staff in improvement work (Portin et al., 2013).

Central Office Involvement with ILTs

Some evidence suggests that central offices are also changing their work with school-based professionals other than principals, including by working more closely with leadership teams in individual schools (Anderson et al., 2012; Bottoms, & Fry, 2009; McLaughlin & Talbert, 2003). Linkages between central offices and school leadership teams help provide direction and guidance for underperforming schools and aid school reform work (Johnson & Chrispeels, 2010). One study found that three reforming school districts in California in part attributed their successes to the support provided by district leaders in enacting “inclusive planning processes” (McLaughlin & Talbert, 2003, p. 21) that closely involved teachers in decision-making and in supporting and facilitating a collaborative teacher culture. In their study, Bottoms and Fry (2009) found that principals of improving schools experienced a collaborative working relationship with central office leaders where district leaders actively helped principals build the capacities of their school leadership teams. Another study found that district leaders created systems that not only encouraged collaborative examination of individual schools’ performance and needs for support but also enabled the school district to work directly with leadership teams in schools (Anderson et al., 2012). Stosich (in press) found that the introduction of collaborative structures by central office leadership helped to build assistant principals’ capacities, alongside principals, to lead instructional leadership team efforts to advance instructional improvement.

Although there are some clear examples of how central offices have changed their work to provide support to school-based leaders and professionals more broadly, districts have generally not specified the principal supervisor’s role in this larger school improvement effort. While most districts expect principal supervisors to serve in dual, and at times competing, roles as both evaluators and providers of support for principals, the nature of the supports they provide differ widely (Corcoran et al., 2013; Thessin, 2019). And despite the primacy of principal supervisors’ roles in developing principals’ instructional leadership, principal supervisors still juggle multiple responsibilities, including leading or serving on districtwide committees, responding to parent concerns, serving as a liaison to school board members, and managing HR concerns, among others (Thessin et al., 2018). A survey of Council of Great City Schools districts in 2015 revealed the following five top activities for principal supervisors: a) conversing with principals about student performance data; b) visiting classrooms with principals; c) conversing with principals about their performance; d) conversing with principals about teacher performance; and e) assisting principals in responding to issues raised by parents or the community (Corcoran et al., 2013). The variation both across and within districts in the work of principal supervisors points to the continuing lack of clarity on how principal supervisors should best allocate their time to sup-

port principals in leading instructional improvement in schools.

We could only identify two studies that have considered the role of the principal supervisor specifically in building the capacity of school-based leadership teams. Goldring et al. (2018) found that some principal supervisors devoted some attention to working with assistant principals, coaches, and other school leaders, in part by including school leadership team members in building walkthroughs and school-based meetings. Stosich (in press) found that principal supervisors, in their work with high school principals, encouraged principals to share leadership responsibilities with teachers on their leadership teams and supported these teams' focus on improvement. This study provides some initial evidence that principal supervisors may contribute to the distribution of leadership through school leadership teams and thereby aid school improvement efforts, encouraging further research to understand the relationship between principal supervisors and ILTs more fully and explore potential results.

Conceptual Framing

The current study explores the degree and focus of principal supervisors' interactions with instructional leadership teams and the relationship between these efforts and leadership team members' perceptions of their schools' conditions for improvement. To frame our examination, we used the Internal Coherence Framework (Elmore et al., 2014; Stosich, 2014) due to its focus on leadership practices and organizational processes that demonstrate a school's capacity to engage in deliberate improvements in instructional practice and student learning across classrooms over time. The Internal Coherence Framework is organized around three domains: Leadership for Instructional Improvement, Organizational Processes, and Efficacy Beliefs. These three domains are interrelated, and as explained by Elmore et al. (2014), while not existing in linear relation to one another, do generally operate in a specific fashion. First, leadership practices lead to the creation of organizational structures and processes, fostering the culture of the organization, and then contributing to individual and collective efficacy beliefs, thereby ultimately raising student achievement.

Elmore et al. (2014) and Stosich (2014) further break down each domain of the Internal Coherence Framework into separate constructs. The constructs embedded within the three domains, which are outlined in Table 1, include: Leadership for Learning, Psychological Safety, Professional Development, Collaboration Around an Improvement Strategy, Teachers' Involvement in Instructional Decisions, Shared Understanding of Effective Practice, Support for Team, and Collective Efficacy (Elmore et al., 2014; Stosich, 2014). One aspect of Domain 2, Team Processes, was omitted from our study due to the questions' very narrow focus on the process of one specific grade level or professional learning community team's work, which would have been difficult to define for school-based leaders

who often support the work of many such teams.

Table 1

Internal Coherence Assessment Framework: Domains and Constructs

Domain 1	Leadership for instructional improvement
Leadership for learning	Leaders model learning, provide support to teachers in classrooms, visit classrooms frequently; and use observational data to provide feedback on instruction.
Psychological safety	Leaders create an environment conducive to adult learning in which risk-taking is encouraged; and teachers seek help in trying new practices.
Professional development	Leaders provide professional development that is connected to the school's improvement strategy, job-embedded and sustained, and focused on teachers' active learning about instruction.
Domain 2	Organizational processes
Collaboration around an improvement strategy	Organizational processes at the school level align resources and practices to meet improvement goals, monitor progress, and respond to learning needs in an ongoing fashion.
Teachers' involvement in instructional decisions	Teachers work together to develop improvement strategies, evaluate curricular and assessment materials, and design professional development that is tailored to their learning needs.
Shared understanding of effective practice	Team members have a shared understanding of effective instruction and a common purpose related to instruction.
Support for team	School leaders provide support for teacher teams by providing time to meet, providing direction for teamwork, giving teams autonomy, and holding them accountable.
Domain 3	Efficacy beliefs
Collective efficacy	The degree to which teachers believe they are collectively capable of attaining a specific goal and executing the actions needed to positively affect students.

These constructs formed the basis for our examination of the schools' leadership and organizational conditions for improvement as we analyzed the relationship between principal supervisors' interactions with ILTs and ILT members' perceptions of their school's leadership and organizational conditions for improvement.

Methodology

This study utilized a mixed methods design that relied on inter-

views, observations, documents, and survey data. Through a mixed methods approach, we sought to understand the degree and focus of principal supervisors' interactions with ILTs, and the relationship of this work to ILT members' perceptions of the school's organizational conditions for improvement. Such a mixed-methods approach enables a more complete understanding of a problem or phenomenon (Creswell, 2013).

As we describe the methods and findings in the following sections, we use pseudonyms for the name of the district, the name of the meetings held with central office administrators, and all participants and school sites in the study to protect confidentiality.

Site Context and Recruitment

The large Mid-Atlantic district selected as the site for this study, Cityline Schools, was chosen due to the district's implementation of a model of principal supervision focused on reducing principal supervisors' spans of control and on developing principals' instructional leadership. Ninety-five percent of the students in the Cityline Schools district are African American or Latinx, and 60% are low-income. In 2017-2018, the year of our data collection, approximately 30 of the district's 200+ schools had been designated as "high needs" by the district central office. As a result of this designation, most of these schools hosted at least four "Central Office Network" (CON) meetings throughout the year in which central office administrators, including the principal supervisors; met with members of school ILTs to review school progress and needs. CON meetings provided an opportunity for central office administrators across a variety of responsibility areas to convene at a school site to review both school progress and needs, and to determine next steps to support the school in ongoing improvement efforts.

Our selection of principal supervisors and principals leading high needs schools was intentional. Although principal supervisors in this district had a reduced (in comparison to most other large urban districts) supervisory load of 13 to 18 principals, principal supervisors still had to determine how to prioritize their time in schools. Cityline's provision of additional resources and supports, such as through quarterly CON meetings, to the district's high needs schools to raise student achievement suggested that principal supervisors might spend more time at these schools than at others for which they were responsible. Therefore, we also projected that principal supervisors would be most likely to interact not only with principals, but also with ILT members, at high needs schools to collaboratively lead improvement efforts.

Subject recruitment for this study was accomplished through an initial presentation to all of the district's principal supervisors and a follow-up email; after five principal supervisors consented to participate, we recruited principals whom they supervised who were also leaders of iden-

tified “high needs” schools. Each principal supervisor supervised two or three principals who joined the study. Ten principal/principal supervisor pairs completed both the qualitative and quantitative portions of the study and were included in our data analysis; descriptive information on the participants is presented in Table 2. Participants included principals from elementary and secondary schools. Principals had between one and four years of experience in the principal position. Principal supervisors had between one and seven years of experience as supervisors.

Table 2

Study Participants: Principal Supervisors and Principals

Supervisor/Principal	Years experience in education	Years experience in administration*	School level
Bill	33	17	-
Rory	25	11	Elementary
Carmen	20	15	-
Yora	20	13	Elementary
Nancy	24	16	Secondary
Jim	28.5	16	-
Mark	14	8	Secondary
Terri	20	11	Elementary
Sara	24	20	-
Samantha	19	9	Elementary
Paul	21	22	Elementary
Reagan	28	18	Elementary
Tammy	27	18	-
Carson	22	6	Elementary
Kara	21	10	Elementary

*Years experience in administration may include years as an assistant principal, principal, supervisor, and/or another type of educational administrative position.

Data Sources

Interviews, Observations, and Documents

Data sources for this study included twenty principal interviews and ten interviews of principal supervisors which were conducted at the initiation and at the conclusion of the study; 73 observations at school or central office locations; and documents gathered from the work of each of the principal-principal supervisor pairs. Participants were followed for between 10 and 16 months, from March 2017 to June of 2018, depending on their date of enrollment in the study. As some participants left their positions in the summer of 2017, data from their interviews and initial observations were not used for the study, and additional principals and principal supervisors were then recruited.

Our semi-structured interview protocols asked about the principal's leadership of improvement efforts and the principal supervisor's work with the principal. For this analysis, we focused on interview questions that asked about the principal's work with the ILT; the principal supervisors' work with ILTs; and on responses to questions in which the ILT emerged as a topic of discussion. In many instances, responses to our interview question on how the supervisor best supported the principal in changing his/her leadership practice led to the principal's discussion of work with the ILT.

Our observations included a variety of interactions between principal supervisors, principals, and instructional leadership teams, including: a) one-on-one meetings; b) work sessions; c) annual evaluation conversations between the principal supervisor and principal; c) team meetings at which the principal and/or the principal supervisor were present; and CON meetings, which included the principal, the supervisor, and many, if not all, members of the school-based instructional leadership team. Finally, we collected documents related to supervisors' work with principals and school-based teams, in addition to agendas and detailed notes from most instructional leadership team and CON meetings.

Surveys

To understand the relationship between principal supervisors' interactions with the ILT and leadership team members' perceptions of their schools' leadership and organizational conditions, we administered the Internal Coherence Survey (Stosich, 2014) in spring 2018 to ILT members in 10 schools. The Internal Coherence Survey, which was previously piloted and validated (Elmore et al., 2014; Forman et al., 2017; Stosich, 2014), focuses on three domains of leadership practice that research strongly links to school improvement (as described previously) (Elmore et al., 2014; Forman et al., 2017; Stosich, 2014). For most questions, respondents rat-

ed their agreement or disagreement with a series of statements using a five-point Likert-type scale ranging from 5 (“accurate”) to 1 (“highly inaccurate”). In one section, focused on “Shared Understanding of Effective Practice,” respondents rated the frequency with which they had engaged in a set of shared practices with their teams on a scale from 6 (“more than once a week”) to 1 (“almost never”).

The principals of the ten schools distributed a link to the online survey to their ILT members but had no other involvement in the survey data collection and were unaware of which ILT members completed the survey. The overall response rate for the survey was 74% (87 out of 117); school-level response rates ranged from 100% (in two schools) to 44% (in one school). Two respondents were removed from our analytic sample because they did not answer any questions in one section of the survey, leaving us with an analytic sample of 85 leadership team members. Participating ILT members held a variety of positions, including classroom teacher (48%); department chair/lead teacher (22%); and assistant principal (11%). The remaining ILT members held roles as data coaches, reading specialists, paraprofessionals, test coordinators, counselors, or administrative assistants.

Data Analysis

Qualitative Data Analysis

We used a descriptive coding approach in analyzing our interview data, observations, and documents and began coding immediately following completion of the first interview. Throughout the coding process, multiple members of the research team independently coded a subset of the data, then compared coding, and revised code definitions to achieve inter-coder agreement (Saldana, 2013). We also wrote reflective memos following each observation and after coding each interview. We utilized documents we gathered as additional evidence to confirm, or negate, themes that emerged during data analysis.

For this analysis, we examined principal supervisors’ interactions with school-based leaders, including other administrators at the school, teachers, and the ILT. We utilized the following codes, among others, to identify and further examine relevant data for this analysis: “supervisor and principal discuss shared leadership structures,” “supervisor and principal discuss the work of the ILT and building capacity of ILT members,” and “supervisor offers suggestions to principal.” We also reexamined our notes from each observation in which principal supervisors worked with, or attended, a school-based team meeting to understand the role the principal supervisor held in the meeting.

Survey Analysis

We began our survey analysis by examining the consistency of survey responses within the sections of the survey, each of which measured a separate construct of the Internal Coherence Framework. We found a great deal of consistency within sections, with alphas ranging from 0.85 to 0.94 for the eight measured constructs; we therefore computed the mean score for each respondent for each section of the survey. In the few cases where a respondent skipped a question in a section, we calculated the means using those questions for which we had responses.

To analyze the survey data, we created tables and figures of means for each construct measured by our survey, both overall and based on categories of principal supervisor involvement with ILTs that emerged from our qualitative analysis. We tested for statistically significant differences between group means using simple linear regressions where the dependent variables were individual ILT members' ratings of the survey scales, and the independent variables were indicator variables for these groups.

It is important to note that the Internal Coherence Survey was administered only to members of the participating schools' instructional leadership teams; we therefore are unable to determine whether ILT members' responses are reflective of wider perceptions of their schools' leadership and organizational conditions. Since ILT members may influence other teachers' perceptions due to their leadership positions (Little, 1995; Stosich, *in press*; Supovitz & Riggan, 2012), we believe their perceptions of their school leadership and organizational conditions are important in and of themselves, whether or not they are more widely representative.

Another limitation of our survey was that it was administered at only one point in time, near the end of our study. Without a prior survey, we are unable to look at changes in ILT members' perceptions of their schools' leadership and organizational conditions. This limits our ability to disentangle whether supervisors' interactions with ILTs impacted their perceptions of leadership and organizational conditions, or vice-versa. On one hand, the degree and focus of principal supervisors' work with instructional leadership teams could impact team members' perceptions of their schools' leadership and organizational conditions for improvement. On the other hand, team members' perceptions of their schools' leadership and organizational conditions could affect the degree and focus of supervisors' work with leadership teams. Our study does not aim to settle the question of the direction of the relationships, if any, between principal supervisors' interactions with ILTs and ILT members' perceptions of their schools' leadership and organizational conditions. Instead, we aimed to understand the degree and focus of principal supervisors' interactions with leadership teams, and to explore whether these interactions relate to the perceived leadership and organizational conditions needed for improvement.

Findings

While there was wide variation in the degree to which principal supervisors interacted with instructional leadership teams at the high needs schools participating in our study, there was some consistency in the focus of the principal supervisors' work with ILTs. At seven of the 10 participating schools, we found that principal supervisors had some, or a great deal, of interaction with ILTs, while at other schools, principal supervisors discussed the role of the ILT with principals but did not interact with the ILT directly. Our findings revealed that in schools where there was a greater degree of interaction between the principal supervisor and the ILT, ILT members had more positive perceptions of the school's leadership and organizational conditions for improvement. Qualitative results showed that principal supervisors' interactions with ILTs largely aligned with three constructs of the Internal Coherence Framework: Leadership for Learning, Professional Development, and Support for Teams. Two of these constructs were also the highest rated by ILT members on our survey.

Due to the large number of school-based teams led by each of the principals in our study, in reporting our results, we classified all interactions between the principal supervisor and school-based teams that included instructional leadership team members as "interactions with instructional leadership teams." In some cases, these meetings included central office staff other than the principal supervisor (i.e., CON meetings). We included all such interactions in our analysis because all of these interactions with principal supervisors presented opportunities for shared leadership and the learning and development of ILT members.

Degree of Principal Supervisor Interactions (RQ1)

Across the ten schools, we found that some principal supervisors interacted directly with ILT members to support their learning and development, while others discussed the role of the ILT in coaching conversations with the principal but did not have direct interactions with ILT members. To analyze this variation in the degree of interactions, we grouped the 10 schools into three categories: "minimal interaction" between the supervisor and ILT, "some interaction," and "a great deal of interaction." In terms of the "minimal interaction" group, we found that some supervisors had either no or few interactions with leadership teams, attending one or no ILT meetings over the period of our study. Schools where principal supervisors attended and/or participated in more than one ILT or administrative team meeting were categorized as having "some" principal supervisor involvement in ILT work. At four schools, the principal supervisor not only attended ILT, CON, and administrative meetings, but also interacted directly with ILT members. These schools were categorized as having "a great deal" of principal supervisor interactions with the ILT.

Minimal Interaction with the ILT

While some principal supervisors had no, or very few, interactions with ILTs at some schools, they engaged directly with principals by asking inquiry-focused questions about the role of ILT members and the work of the ILT during meetings with the school principal. Principals described how these reflective interactions focused on the principal supervisor's encouragement to build ILT members' capacity and to distribute leadership responsibilities to ILT members. One secondary school principal stated, "She [the principal supervisor] was like, you keep trying to do all of this on your own, and it's never going to happen. So you have got to find a way to distribute your leadership." As a result of coaching from her supervisor, this principal added that she began assigning additional responsibilities to ILT members "... putting some of the onus for support, direct feedback, and collaborative support and feedback for their teachers, putting some of that onus and responsibility on them [ILT members] has been invaluable." Through this shift toward collective leadership, the principal explained how her ILT members began to understand that they were also responsible for improving instructional practice.

Two principals explained how direct coaching by their principal supervisors helped them acquire new skills in working with leadership team members. One principal, Reagan, noted that the principal supervisor's coaching on providing effective feedback helped her to better model and teach her administrative/leadership team how to do the same: "what she did...help[ed] me help them." Principal Mark described how his supervisor supported and coached him, modeling an approach that he subsequently used in facilitating the growth of his ILT members:

It's a similar process to what I do with my leadership team. He'll shadow me on an observation or in my leadership meetings, and then afterwards, with the debrief, "Why did you do this? . . . Why did you put this person in this situation? What could you have done?" It just gives me different perspectives. So it helps me be more well-rounded as a leader.

Thus, this principal not only learned from his supervisor, but connected his learning from his supervisor to his work with his ILT.

While some principals described how their supervisors coached them to support the learning and direction of their ILTs, this was not the case at all schools. Indeed, some principals expressed a desire for more support from their supervisors in developing and leading the ILT. Principal Kara, for example, stated that she rarely talked with her supervisor about leadership teams, noting that "there may be a statement about what they should do or could, but there's no roadmap..." This principal desired that the supervisor interacted directly with her leadership team to facilitate her development but did not receive this support.

Some Interaction with the ILT

At three schools, principal supervisors had some interactions with the ILT, occupying the role as a participant on the team, as opposed to as a leader or co-facilitator of the team. At these schools, we observed principal supervisors participate in school-based administrative team or ILT meetings by offering a “welcome” at the beginning of the school-based meeting, asking a reflective question to the group, participating in a learning walk through classrooms with team members, giving explicit direction to team members on next steps, and passing private suggestions or ideas to the principal on note paper during the meeting, as a few examples.

At one elementary school, for example, the principal supervisor often attended school-based leadership team meetings but did not lead or facilitate the meetings. During a discussion we observed the supervisor offered his advice during the meeting and then directed the principal, after the meeting, to take charge and make a decision. This supervisor’s engagement in the team’s work, although indirect, contributed to subsequent principal actions. At other schools with some interaction by the principal supervisor, the principal supervisor’s role in attending the ILT meeting was limited to observing and evaluating the leadership of the principal. These observations would often be followed by a debrief and feedback conversation with the principal. While these examples detail the supervisor’s focus on the principal’s learning and development, as opposed to on the development of ILT members, in these cases the supervisor was often able to provide specific feedback and direction to the principal on next steps in working with the ILT. In contrast, at schools in which the principal supervisor did not attend ILT meetings, advice and coaching support on the principal’s work with the ILT was less frequent.

A Great Deal of Interaction with the ILT

Some principal supervisors interacted directly with ILT members by collaborating with the school principal (or other school leaders) in planning ILT meetings, modeling facilitation of ILT meetings, and leading professional learning at ILT meetings, among other actions. At Paul’s school, for example, the principal supervisor, principal, and another central office administrator collaboratively planned the quarterly CON meetings together. The principal supervisor and the central office administrator then facilitated the CON meetings, while the principal served in a participant role. At one CON meeting, the principal supervisor introduced a new data monitoring template to the CON members to demonstrate how it could be used to track the progress of students who had scored below grade level on countywide assessments. She then led the entire team through multiple tasks with fictitious students to demonstrate how the spreadsheet could be used by grade level teams.

At times, the principal asked the principal supervisor to lead specific professional learning activities with the ILT, while at other instances the principal supervisor initiated the interactions with the ILT. Nancy explained:

She has offered to do work with my administrative team around developing their strengths, really helping me . . . We've started that work. We didn't finish it. But the goal is so that we can help leverage their strengths to really move their work a little further... All I did was say, 'Here's the time frame,' and she worked with them directly on more than one occasion.

In many instances, the principal supervisor engaged in joint work with the principal to plan and/or facilitate ILT and administrative team meetings instead of leading the learning among ILT members on his/her own. Joint work is defined as engagement in the work of instructional leadership by both the principal supervisor and the principal (Thessin, under review). At multiple school sites, the principal supervisor and principal engaged in ongoing collaborative planning and implementation of ILT and CON meetings. The pair would jointly assemble the agenda for an upcoming CON meeting, each facilitate part of the meeting, debrief afterwards, and then plan a time to jointly map out the next meeting agenda. One elementary school principal explained that their agenda planning was less intentional, at times, but would still result in a plan for joint instructional leadership at an ILT or other school-based team meeting, "We would brainstorm, we'd just be having a conversation like this, and next thing you know, 'Why don't we try this? Okay. Who should facilitate that? I think maybe you can because you've got more expertise in that area, and I'll just kind of co-facilitate with you.'"

At schools where principal supervisors engaged in a great deal of interaction with the ILT, principals explained that their supervisors were members of the team. Paul described:

She has come in and not only helped me develop and smoothed me out a little bit, but I think what's very telling is that she is very visible and has a lot of interaction with the staff, especially the leadership team. When I bring up a staff member's name, she knows who I'm talking about. If I bring up a student's name for one reason or another, she probably knows that student or has seen that student do one thing or another. That's been refreshing.

At this school, the interactions between the principal supervisor and the ILT facilitated changes in the ILT's work to improve instruction across the school by the adoption of a monitoring tool they jointly revised and implemented together.

Focus of principal supervisor interactions with ILTs (RQ2)

Our analysis of principal supervisors' interactions with principals regarding the ILT's work, and with ILTs directly, identified three specific constructs of the Internal Coherence Framework as foci: 1) Leadership for Learning; 2) Professional Development; 3) and Support for Teams. As defined by Elmore et al. (2014) and further described in Table 1, Leadership for Learning is exemplified when leaders model learning, provide support to teachers in classrooms, visit classrooms, and use observation data to provide feedback on instruction. Professional Development is defined as job-embedded and sustained learning connected to the school's improvement strategy and focused on teachers' active learning about instruction. Support for Teams is exemplified by leaders who provide support for teacher teams by providing time to meet, providing direction for teamwork, giving teams autonomy, and holding them accountable. Brief examples of principal supervisors' engagement in each of these areas follow.

Leadership for Learning

Interview and observational data pointed to the common practice of principal supervisors and principals visiting classrooms together, discussing their observations, and then preparing feedback to be provided to the teacher. In fact, principals and principal supervisors at every participating school engaged in classroom observations together. However, at some schools, this coaching practice took place between the principal supervisor and the principal only. At others, the principal supervisor and the principal were joined by members of the administrative team or the broader ILT in visiting classrooms, discussing observations, and planning feedback to provide to the presenting teachers. We observed two instances when these collaborative learning walks were also joined by the district's Deputy Superintendent, and she, with the principal supervisor, participated in coaching ILT members as they discussed classroom observations and planned next steps for improving classroom instruction. In this way, central office supervisors developed not only the principal's skills as a leader focused on learning and instruction, but also the skills of the entire ILT to prepare all school-based leaders to observe and provide feedback on instruction to facilitate improved teaching and learning.

Professional Development

As described previously, in schools with a great deal of principal supervisor involvement in ILT work, principal supervisors often designed, facilitated, and co-facilitated professional learning opportunities for ILT and administrative team members. These professional learning experienc-

es included how to utilize new data tools, analyze data for the purpose of differentiating instruction, engage in the Data Wise improvement process (Boudett, City, & Murnane, 2014), form effective teams, observe classroom instruction, provide feedback to teachers, and many others. Principals described how sometimes their supervisors would volunteer to lead a learning session, and at other times the decision as to who would lead the session would be determined organically during a planning session between the principal and the supervisor. At all four of the schools in which the principal supervisor had “a great deal” of interaction with the ILT, the provision of professional development for ILT members (including the principal as a member of the ILT) was a central focus of their collaborative work.

Support for Teams

Not only did principal supervisors provide support for principals in sharing leadership with ILT members and in developing ILT members’ capacities to lead improvement, as described in a prior section, but in some cases supervisors also interacted with grade level or content area teams with the principal and with one or more members of the ILT to develop these teams’ capacity for improvement. As Carmen, a principal supervisor, described, “We’ve done a lot with her second grade and actually as a result, we have seen some movement in her data, and they were actually celebrated at our CON retreat for the gains.” At other schools in which there was a great deal of involvement by the supervisor in ILT work, principal supervisors used a planning/implementation/reflection cycle with the principal and with members of the ILT. For instance, at two schools, principal supervisors were observed planning an upcoming CON meeting with the principal and with one or more members of the ILT, implementing the plan at the meeting, and then debriefing the CON meeting with the ILT together. This deliberate process for planning and reflection with the team led ILTs at these schools to gain more responsibility for leadership of improvement on the school level and built the capacity of ILT members to lead the work themselves.

Perceptions of School Conditions for Improvement (RQ3)

ILT members generally rated their schools’ conditions for improvement highly; ILT members’ ratings of their schools’ conditions for improvement are presented in the first column of Table 3, which shows the overall means for each of the eight survey constructs across the entire sample of 85 respondents. The means for each construct were high, ranging from 3.84 (Teacher Involvement) to 4.44 (Leadership for Learning). The standard deviations of each measure were also substantial, however (ranging from 0.74 to 1.36), suggesting that there was significant variation

in ILT members' ratings of their schools' conditions for instructional improvement.

Table 3

ILT Members' Perceptions of Conditions for Improvement, Overall and by Level of Supervisor Interaction with ILT

	Overall	Principal Supervisor Interaction with ILT		
		Minimal	Some	A Great Deal
Leadership for Learning	4.44 (0.74)	4.21 (0.98)	4.68+ (0.47)	4.42 (0.69)
Psychological Safety	3.88 (0.87)	3.45 (1.08)	4.12 (0.70)	3.99 (0.76)
Professional Development	4.10 (0.87)	3.92 (0.89)	4.27 (0.90)	4.09 (0.85)
Collaboration on Improvement	4.11 (0.99)	3.79 (1.03)	4.32 (0.94)	4.16 (0.97)
Teacher Improvement	3.87 (0.82)	3.58 (0.91)	4.04 (0.64)	3.88 (0.85)
Collective Efficacy	4.13 (0.75)	3.93 (0.83)	4.20 (0.60)	4.21 (0.79)
Shared Understanding ^a	4.03 (1.36)	4.14 (1.25)	3.73 (1.67)	4.13 (1.25)
Support for Teams ^a	4.38 (0.81)	4.04 (0.95)	4.67** (0.69)	4.44* (0.75)
n	85	22	23	40

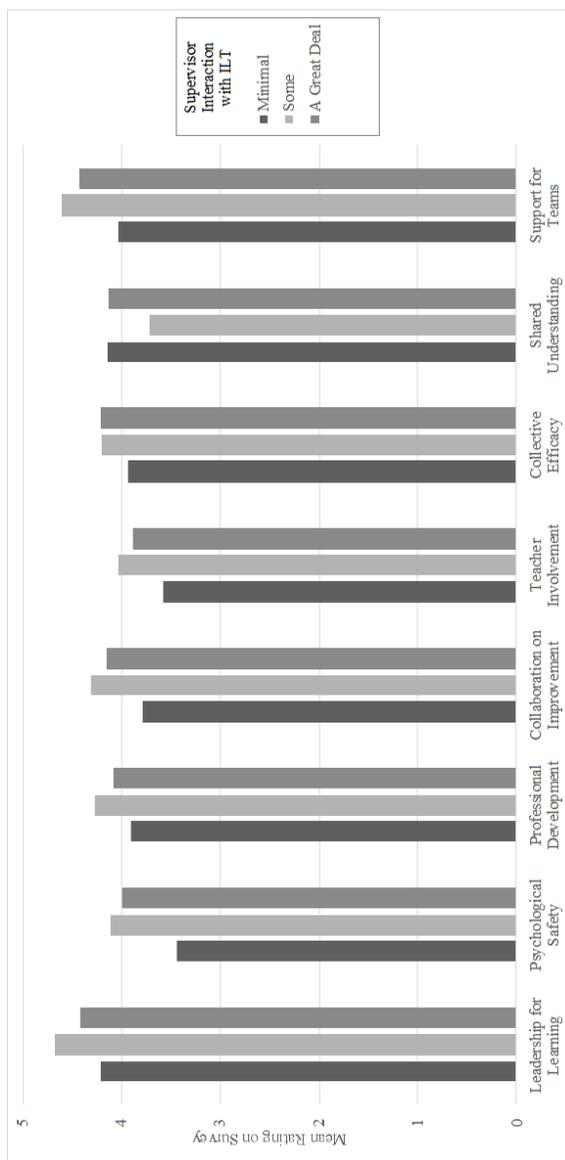
^a For these two sections, overall n=79, as these questions were only administered to respondents who indicated they participated in grade-level or content-area teams. Notes: All scales are measured on a scale from 5 ("Accurate") to 1 ("Highly Inaccurate"), except for the "Shared Understanding" scale, which was measured on a scale from 6 ("More than once a week") to 1 ("Almost never"). Scales are from the "Internal Coherence Assessment Protocol" (Elmore, Forman, Stosich, & Bocala, 2014; Forman, Stosich, & Bocala, 2017; Stosich, 2014). Significance levels are from comparisons with "None" group. + p<0.10,* p<0.05, ** p<0.01

ILT members' perceptions of their schools' conditions for improvement differed depending on the degree of principal supervisor interactions with the ILT. The second, third, and fourth columns of Table 3 show that ILT members' perceptions of their schools' leadership and organizational conditions for improvement at schools with "some interaction" and "a great deal of interaction" by the principal supervisor were more positive than ILT members' perceptions of the conditions for improvement in schools with "minimal" interactions by the principal supervisor.

Results by level of supervisor involvement for each of the eight constructs are depicted in Figure 1, which shows that for seven of the eight constructs, ILT members on teams with “minimal” principal supervisor interactions with the ILT (dark gray bars) gave lower ratings to their schools’ conditions for improvement than ILT members on teams with “some” or “a great deal” of interactions from the principal supervisor (light and medium gray bars). The one exception to this pattern of results was the Shared Understanding of Effective Practice construct, where ILT members on teams with “minimal” interactions by the supervisor with the ILT rated their schools’ conditions for improvement higher than the other two groups.

Figure 1

ILT Members' Perceptions of Conditions for Improvement, by Level of Supervisor Interaction with ILT



Notes: For “minimal” supervisor interaction with ILT group, n=22 ILT members; for “some” involvement group, n=23 ILT members; for “a great deal” group, n=40 ILT members.

Regression analyses that compared the means of each construct across the three categories of supervisor interaction with the ILT were generally unable to statistically distinguish between the means of the constructs across the three groups; these comparisons were limited by the relatively small numbers of survey responses in each group. The exception was the Support for Teams construct, where ILT members on teams with both “some involvement” and “a great deal” of interactions with principal supervisors rated their schools’ conditions for improvement significantly higher than ILT members on teams with minimal interactions from the principal supervisor. The magnitude of this difference—roughly half a point on a five-point-scale—was also substantial.

It is important to note that our survey analysis also showed that the two survey constructs that displayed the highest overall means - Leadership for Learning and Support for Teams - were among the three areas in which we found that supervisors focused their work with ILTs based on the qualitative data gathered. The Leadership for Learning construct had the highest overall mean across the sample (4.44 on a five-point scale) of any of the eight constructs, while Support for Teams had the second-highest overall mean (4.38).

Discussion and Conclusions

Our study explored principal supervisors’ interactions with ILTs, focusing particularly on the degree and focus of these interactions and their relationship to instructional leadership team members’ perceptions of their school’s leadership and organizational conditions for improvement. Our study aimed to address the relative lack of research on the role of principal supervisors in supporting the learning and development of school leaders other than the principal in facilitating school improvement. Given that the ILT is an established organizational structure in schools, the ILT is a likely avenue for the development of distributed leadership to facilitate school improvement at the school level through the support and guidance of the principal supervisor.

Findings from our study revealed that principal supervisors working with high needs schools participated in and supported ILT members’ learning and development to varying degrees, though there was consistent agreement in the focus of these interactions. Further, our results demonstrated that ILT members’ perceptions of their school’s conditions for improvement had some relation to principal supervisor interactions with the ILT. Due to the high needs designation of all of the schools that participated in this study, and the district’s unifying approach to hold CON meetings attended by central office administrators at each site, one might have predicted that the degree of interactions by principal supervisors at these sites would have been similar. Our findings revealed that this level of coordination and similar intent among the principal supervisors was not present

across the district's high needs schools.

There are myriad factors that deserve further study and may have influenced the variation in principal supervisors' support to high needs schools in the Cityline district. The principal supervisors who participated in this study had all previously been successful principals in the school district where they then worked as supervisors. It is possible that supervisors' past experiences as principals, and their work with their ILTs in their own schools as principals, may have influenced their interest in, or lack of interest in, supporting ILT development at the schools they supervised. Specific aspects of the partnership between the principal supervisor and each principal likely also influenced the degree to which the principal supervisor was able to support the development of other school-based leaders. Our prior work found that productive partnerships between principal supervisors and principals can facilitate changes in principals' instructional leadership practice (Thessin, 2019). Therefore, establishment of a productive partnership between the principal supervisor and the principal may also have led to greater involvement by the principal supervisor in the work of ILTs at some schools.

Principal supervisors may also have had differing conceptions of their roles and responsibilities, leading to differing degrees of interactions with ILTs. As noted above, the principal supervisor role has shifted from one focused on solving administrative problems and ensuring compliance to one in which the supervisor is expected to serve as a coach who facilitates principals' learning and growth as instructional leaders (Browne-Ferrigno & Allen, 2006; Clarke & Wildy, 2011; Honig, 2012; Johnson & Chrispeels, 2010; Leithwood, 2010). This shift in expectations is further compounded by the dual expectation that principal supervisors serve as evaluators (Thessin, 2019). The lack of clarity regarding principal supervisors' roles was apparent when two principal supervisors admitted that the rubric by which they were evaluated by the district's associate superintendents did not align with the district's current expectations for their roles. Because of this lack of role clarity, it is possible that some principal supervisors in the study viewed their roles as primarily one of supervising principals, which would lead them to focus their time and efforts on coaching and evaluating the principal only and would not include time for developing or supporting the ILT. However, other principal supervisor/principal pairs described their shared goal of facilitating improved student achievement at their school sites. In our study, principal supervisors who shared responsibility for school outcomes with principals also engaged in joint work with principals to build ILT members' capacity to lead school improvement.

Despite the wide degree of variation in the degree of principal supervisor interactions with ILTs, there was consistent agreement in the focus of these interactions, as evidenced by both our qualitative and quantitative results. By observing teachers in classrooms and collaboratively

engaging teachers in reflection on their practice in both learning walks and in individual classroom observations, principal and principal supervisors demonstrated their continued work in the Leadership for Learning construct. Principal supervisors who interacted “a great deal” with ILTs were often involved in planning, implementing, and facilitating Professional Development at their schools. And many of the principal supervisors dedicated instructional leadership efforts to building the capacity of both ILT members and other school-based teams, which aligns with the Support for Team construct, by doing this work directly or by coaching the principal to do so.

In terms of our survey analysis, we found that ILT members rated their schools’ conditions for improvement more highly when they worked on teams with “some” or “a great deal” of interaction with the principal supervisor, compared to teams with minimal interaction. It is possible that the principal supervisors’ actions to build ILT members’ capacity to lead improvement contributed to their perceptions of the conditions for improvement. However, as discussed above, based on our analysis, we cannot determine the direction of the relationship between ILT members’ perceptions and principal supervisors’ interactions with ILTs. One possibility is that principal supervisors interacted more with principals and ILTs in schools where the principal and the supervisor had a collegial relationship and the shared goal of facilitating improved student achievement, which may have contributed to higher perceptions by ILT members of the school’s leadership and organizational conditions for improvement (Thessin, 2019). An alternative explanation of our findings, however, is that principal supervisors chose to interact more with ILTs at schools where the principal had already initiated efforts to address the school’s leadership and organizational conditions for improvement, and therefore the survey results may have been similar with or without the principal supervisor’s interactions with the ILT. Our finding of a relationship between the degree of principal supervisors’ interactions with ILTs and schools’ leadership and organizational conditions for improvement deserves further attention and research.

Further, our findings have implications for the preparation of principal supervisors and the communication of expectations of principal supervisor roles, as demonstrated by the varied degree of interactions with ILTs by the supervisors in our study. However, the alignment in the focus of principal supervisors’ work that emerged from our study suggests that there is some common understanding of the principal supervisor’s new role to develop principals’ instructional leadership capacity to facilitate improved student achievement. One might conclude, perhaps, that principal supervisors are gaining clarity in the new purpose of their role but need additional preparation, guidance, and learning opportunities to understand “how” to achieve this purpose. This additional preparation and professional learning will be particularly important for principal supervi-

sors who are responsible for facilitating improvement with principals at high needs schools, where consequences for students who have traditionally not been served well are highest. We have clear evidence that wider involvement in instructional leadership is associated with gains in student learning (Leithwood & Jantzi, 2012; Marks & Printy, 2003; Printy et al., 2009); our findings further show that ILT members' perceptions of their school's conditions for improvement are related to principal supervisor interactions with the ILT. It is therefore plausible that principal supervisors may contribute to improved student achievement, particularly in high needs schools in which improvement is needed quickly, by facilitating both the principal's instructional leadership learning and the learning of members of the ILT.

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COMPUTING STUDENT YIELDS AT THE SCHOOL DISTRICT ATTENDANCE AREA BY LENGTH OF OWNERSHIP

Abstract

As part of school district planning and projecting future enrollments, demographers need to factor the impact of new housing developments by using student yields. While resources are available that provide statewide student yields, they may not best reflect the demographic attributes of a school district's attendance area. In this case study of a large, suburban school district in central New Jersey, Geographic Information System (GIS) software was used to project student yields by joining student address records to parcel-level property records. Student yields were computed by length of home ownership and home assessment value for detached single-family homes and townhouses/condominiums as yields are typically higher for short-held homes as opposed to long-held homes. Student yields in long-held homes, which include empty nesters and senior citizens, are not likely to have children in the school district as they would have graduated. The results showed that computing student yields by length of ownership generates a much higher yield than if the entire housing database is utilized which includes long-held homes with low student yields. In addition, the results showed that local student yields were greater in magnitude than the statewide multipliers and were also greater in value for homes that were above the median assessment as compared to those that were below. If school demographers use statewide student yields when estimating the impact of future housing development, they may underestimate or overestimate its impact as these yields may not capture the demographic characteristics of the population moving into a community. Therefore, when time and resources permit, local data should be used to compute public school student yields.

For ideal viewing of the tables in this document, enable “two-page view” or print.

Introduction

When projecting enrollments for school districts, one item of consideration is the number of children that may be generated from new housing. School demographers are interested in not only the number of units, but the type (detached single-family, townhouse, apartment, etc.) as single-family units can yield as much as 50 times the number of public school

children as downtown apartments (Lycan, 2008). The number of public school children per housing unit, which is also known as the student yield, student multiplier, or student generation factor, is estimated by demographers in order to determine the impact on a school district. Additional children from new housing can strain a school district's budget, resulting in the hiring of new teachers, and in some cases, the construction of new schools to accommodate the inflow of students. It is important to be accurate in this estimation, particularly to avoid overspending on facility expansions. With the advancement of Geographic Information Systems (GIS) software, generating student yields can occur more locally to small geographies such as a school district. In a case study of a large suburban school district in central New Jersey, student yields of detached single-family homes and townhouses/condominiums were computed by length of ownership and assessed property values and were compared to student yields generated at larger levels of geography that are made available to school planners. The study demonstrates the importance of using student multipliers from a localized level of geography to estimate public school populations.

Data Resources

When estimating student yields, there are several resources available to school planners. One method of estimating student yields is utilizing the American Community Survey (ACS) Public Use Microdata Set (PUMS) which allows for unique cross-tabulations of data that are specific to the user's needs. The ACS data is available in single-year and five-year estimates. For geographic areas smaller than 65,000 persons, only the five-year data set is available. As of this writing, the most recent five-year dataset is from 2014-2018 where the estimates represent the average characteristics between January 2014 and December 2018. The five-year ACS contains 1% annual samples from all households and persons from 2014 to 2018, resulting in a 5% sample of the population. Due to the small sample size, the sampling error is quite large in the dataset.

If one were to use the PUMS dataset to compute student yields for a school district's attendance area, one would need, at minimum, the following variables from the database: recently constructed housing from the last decade, children's ages, and the school type (public vs. private). In this method, only new housing is analyzed, as Myers (1978) identified a strong correlation between housing and population age, whereby households in owner-occupied housing become immobile and stay for long periods of time. Eventually, children in these households would graduate from the school district resulting in decreasing student yields in older homes. Age of the child is needed to determine yields at the different school configuration levels (elementary, middle, and high) as yields are not uniform across the school levels. Finally, school type is needed to identify public school

children which is the focus of this paper.

If the sample size is large enough, housing price and number of bedrooms should also be considered. Listokin and Voicu (2018) from the Center for Urban Policy Research (CUPR) at Rutgers University found that the number of bedrooms in a unit has the greatest explanatory power of public school children in a housing unit, followed by building type, building housing value, and housing tenure (ownership vs. rental). The researchers also discussed the statistically significant relationship between the number of public school children and housing price. In general, they found that the more expensive units had lower student yields and vice versa.

Since the PUMS dataset is from a sample, sampling variability needs to be computed. Coefficients of variations (CV) are calculated using a ratio of the standard error of the estimate compared to the estimate. The more variables that are used in the student yield calculations, the smaller the sample size becomes which increases the standard error. The difficulty researchers have in using the PUMS data to project student yields is that many of the CVs are unacceptably high, which limits the usefulness of the yield calculations.

Another difficulty in using the PUMS data is the limitations on geography. If the school district is county-based (e.g., as those are in Virginia or Maryland) or is in a large city, using PUMS data to compute student yields may be feasible. However, if a school district is in a small municipality, the necessary data would not be available in the PUMS dataset as the smallest level of geography is the Public Use Microdata Area (PUMA) which has at least 100,000 persons. If the CVs are unacceptably high, one might also reduce the CVs by aggregating geographic areas to enlarge the sample size, or collapsing categories (e.g., not breaking out the student ages), or dropping out some of the variables (e.g., number of bedrooms or housing price). When geographic data is aggregated, characteristics that are unique to a community are lost. If one is interested in determining student yields for homes in a suburban school district and uses computed student yields from the PUMS dataset at the county level that may contain rural and urban areas as well, these yields may not reflect the future number of children. Listokin, Voicu, Dolphin, and Camp (2006) discuss the drawbacks of not using local data, indicating that poor or excellent school districts, or “Manhattan-oriented” homes may result in more or fewer children than computed by the regional or statewide yields. Therefore, in an attempt to reduce the standard errors and CVs by aggregating geography or reducing the number of variables, the usefulness of the output is likely to be compromised.

If one does not want to perform the cross-tabulations, there are several resources available for school planners where student yields have already been computed. Community Data Analytics (CDA), a project team of Econsult Solutions, Inc., has published student yields for all 50 states

based on housing type, number of bedrooms, and housing tenure (ownership vs. rental) using data from the 2011-2015 ACS (<https://econsultsolutions.com/cda-demographic-multipliers>). However, their student yields are based on school-age children, which includes students enrolled in private and public schools, not enrolled in school, or children who are home-schooled. School planners would need to lower the values of these student yields by applying the percentage of students attending public school. In addition, student yields are not computed by housing value in this dataset. As student yields change over time, this dataset is already outdated, as the most recent ACS data at the time of this writing is for 2014-2018. A second resource, which is a much more detailed analysis specific to New Jersey, Listokin and Voicu (2018) computed public school student yields by housing type, number of bedrooms, housing value, housing tenure, and whether the housing units are market-rate or affordable (hereinafter referred to as the CUPR study).

These two excellent resources use different attributes of the householder to compute student yields. In the CUPR study, the researchers utilized “newer” housing units, defined as homes constructed from 2000-2016. Wong, Miles, Connor, Queenan, and Shott (2017) have suggested that instead of relying strictly on new housing units, which can be strongly influenced by economic housing cycles such as the banking and financial crisis of 2008, one can sample households based on when they moved into a housing unit. The researchers refer to this as the “mover sample” which helps to capture housing turnover that may be occurring in older communities. The researchers have showed that there is a very strong correlation in the average household size between recently built homes and mover samples, whereby it was assumed that the movers to new and older units have similar attributes as those moving into new housing units. An added benefit of using the mover sample from the ACS is that the estimated number of households is 4.4 times larger on average than the newly built home sample which helps to reduce standard errors in the student yield calculation.

Using GIS

Instead of using existing data resources or performing cross-tabulations of PUMS data, GIS can be used to project student yields by joining student address records, as provided by the school district, to property data at the parcel level. Lycan (2008) performed an extensive analysis of student yields by housing type in Portland, Oregon, comparing yields from student data that were joined to parcel-level records and those tabulated from Census data. He also discusses the types of variables that are readily available from parcel-level records such as property class, year built, assessed value, sale date(s), price(s), and the number of rooms in a unit. Using a school district’s student address database to compute student yields

should be considered the “gold standard” as the yields reflect attributes specific to the school district’s attendance area.

Once the two datasets are joined, the simplest way to compute student yields is to divide the total number of public school students of a particular housing type (detached single-family, townhouse, etc.) by the total number of homes of that type. However, the main drawback of this computation is that the student yield will include homes owned by all age segments of the population, including empty nesters and senior citizens, who are not likely to have children in the school district. Student yields computed in this fashion would likely underestimate the future number of children from new housing developments.

To project student yields more accurately, length of ownership of the homes should be considered in a process analogous to using the mover sample as utilized by Wong et al. (2017). Lapkoff and Gobalet (2008) have analyzed patterns of student yields by length of ownership for affluent school districts in California which show elementary (K-5) student yields are highest between three and ten years of ownership and are very low at around 20 years of ownership. They also make it clear that student yield distributions by length of ownership are a snapshot in time. If the percentage of children in the population changes, or the demographics of the community change where ethnic groups with larger family sizes enter, or if the school district’s reputation changes, student yields are likely to change as well.

Analyzing characteristics of home occupants by length of ownership is not a new concept. Myers and Doyle (1990) examined the relationship of length of ownership with the age of the occupants and the number of bedrooms in the housing unit. Similar analyses were also conducted by the researchers based on when the home was constructed. Length of ownership is part of the life cycle of a home. The life cycle is analogous to a life table where a home is sold and “dies,” and a new household results in a new “birth” (Lapkoff & Gobalet 1994). However, when the home is occupied by new owners, the household size and racial and demographic characteristics of the occupants may be very different than the previous owners. Gober (1990) discusses how certain population segments moving into homes break the traditional mold of the life cycle model which starts with families with young children evolving eventually into empty-nesters, only to start over again. Households with multiple families, same-sex couples, divorced individuals living alone, and childless couples who have no intention of having children, are some of the population segments purchasing housing. One cannot assume that a sold home will transfer to the nuclear family with two children. Therefore, it is important to analyze student yield distributions by length of ownership periodically as neighborhoods, and the people who occupy housing units, continually evolve.

A Central New Jersey Case Study

The community analyzed in this study can be considered of a higher socio-economic status as its median family income (\$130,466) is nearly \$30,000 higher than the state median according to the ACS. Regarding educational attainment for adults aged 25 and over, 54.3% of the population had a bachelor's degree or higher as compared to 40.8% in New Jersey. The town's parcel-level property tax records were downloaded from the Monmouth County Tax Board database which possesses tax records for all counties and municipalities in New Jersey, and joined to the student database, provided by the school district, on the property address variable. Properties in this database consist of single-family, two-family, three-family, and four-family homes, whereby it was not possible to distinguish how many units are in a home nor the type of unit (detached single-family, townhouse, etc.). Other state or county databases typically have identifiers for the type of unit and the number of units so that more specific analyses can be conducted. Data fields in this database included the property address, owner name, block and lot, sale dates and prices, total assessed value, and the year that the home was built. While student yields correlate highly with the age of the owner (McKibben & Cropper, 2014), demographic characteristics of the owner, such as age and race, were not available, which prevented analyzing student yields by the owner's age. If recently purchased homes are acquired by empty-nesters and senior citizens, the student yield would be lower as these groups are not likely to have public school children. As discussed previously, Listokin and Voicu stated that student yields also correlate highly with the number of bedrooms and housing value. Unfortunately, the parcel-level dataset did not include the number of bedrooms. With respect to home value, the most recent sale price (inflated to 2020 dollars) would be a reliable indicator of a home's market value. However, many homes in the database had never been sold and therefore had no sale prices. Instead, the total assessment, which is the assessed value of the land and structure, was used as a proxy for home value.

The goal of this analysis is to compute student yields by length of ownership for detached single-family homes and townhouses/condominiums and to compare these yields with those from CDA and CUPR. To compute student yields by length of ownership, it was necessary to know the year of each home's most recent sale. Determining the most recent sale date was not always obvious. Some of the most recent sale dates had a sales price of \$1 or \$100. These "paper sales" were coded as a non-usable deed transaction. These transactions include sales between members of the immediate family, resulting in a change in title but often not a change of occupant. In these instances, the data were excluded from the analysis, and the next most recent sale date was used instead.

One of the limitations of the parcel-level property database was

that the earliest sale date recorded was from 1973. Home sale data were available through 2018. Since many of the homes did not have a valid sale during this time period, the length of ownership exceeded 45 years, but the exact length of ownership was unknown. The community also had many homes that were constructed after 1973 that were never sold. However, in these instances, the length of ownership could be computed by simply subtracting the year that the home was built from 2018, the most recent year that sales were available. Homes with no sale dates have been owned at least 45 years.

As the aim of this study was to determine student yields for detached single-family homes and townhouses/condominiums, further information was needed to identify these types of homes as there were no codes for these unit types in the parcel-level database. Through internet research, a list of developments that contained detached single-family homes and townhouses/condominiums was constructed. For each development, all associated street names were identified using Google Maps where the unit type of each property was manually entered into the joined student-property database.

Yields by Length of Ownership--Detached Single-Family Homes

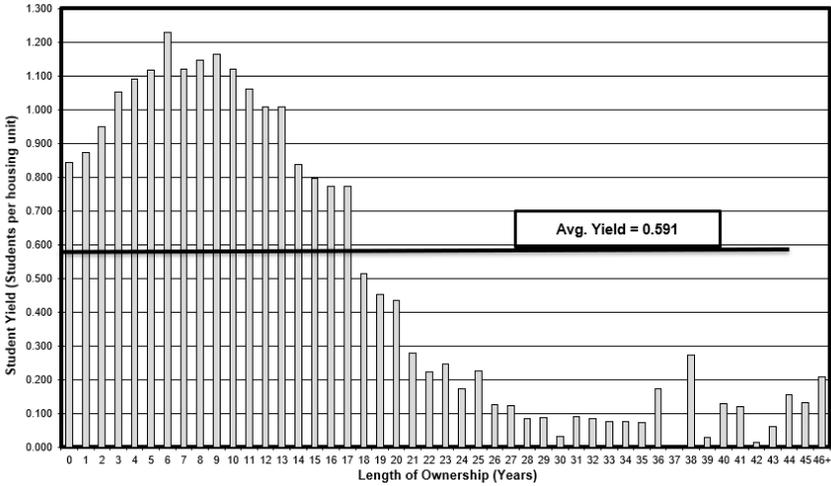
A total of 11,422 detached single-family homes were analyzed to determine their length of ownership which is based on knowing the most recent home sale. In an effort to determine the student yields by property value, homes were grouped into above and below median total assessment (hereinafter referred to as assessment).

To compute the student yields by length of ownership, the number of children was divided by the number of homes at each length of ownership for all detached single-family homes, as well as those that were above and below the median assessment, which was \$103,900. Table 1 displays the student yields by length of ownership. (See Table 1, pages 218-221)

As discussed previously, it is expected that longer-held homes will have fewer children. As shown in Table 1 and Figure 1, for all detached single-family homes, independent of assessment, student yields slowly increase with length of ownership, peaking at 1.227 children per housing unit with six years of ownership. Student yields then gradually decline, in general, through 30 years of ownership before stabilizing. Student yields are typically below 0.200 with 30 or more years of ownership. While it appears that student yields are sharply increasing at 38 years of ownership, this is misleading since there are very few homes ($n = 22$) at this length of ownership, and one or two additional students can have a large impact on the student yield. The average student yield, irrespective of length of ownership, is 0.591 children per home, as there were 6,749 children living in 11,422 detached single-family homes.

Figure 1

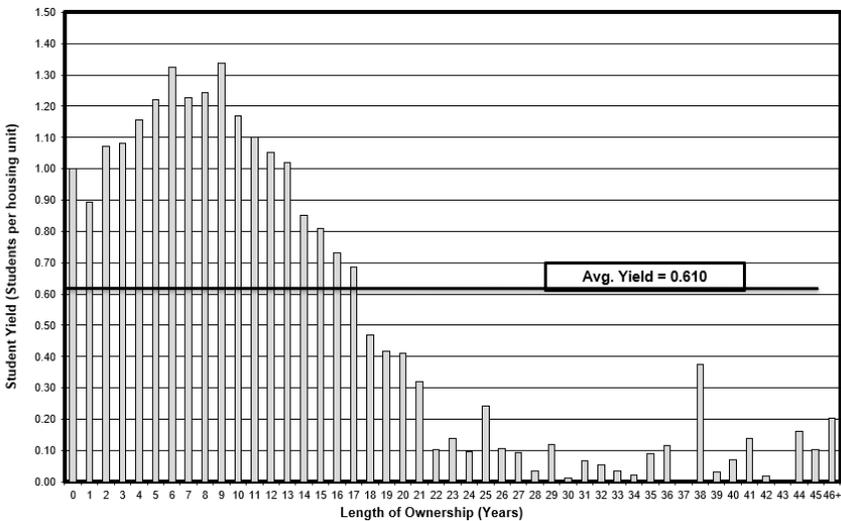
Student yields by length of ownership for all detached single-family homes



For homes above the median assessment, yields slowly increase with length of ownership, peaking at 1.339 children per housing unit with nine years of ownership, as shown in Figure 2.

Figure 2

Student Yields by Length of Ownership for Above Median Detached Single-Family Homes

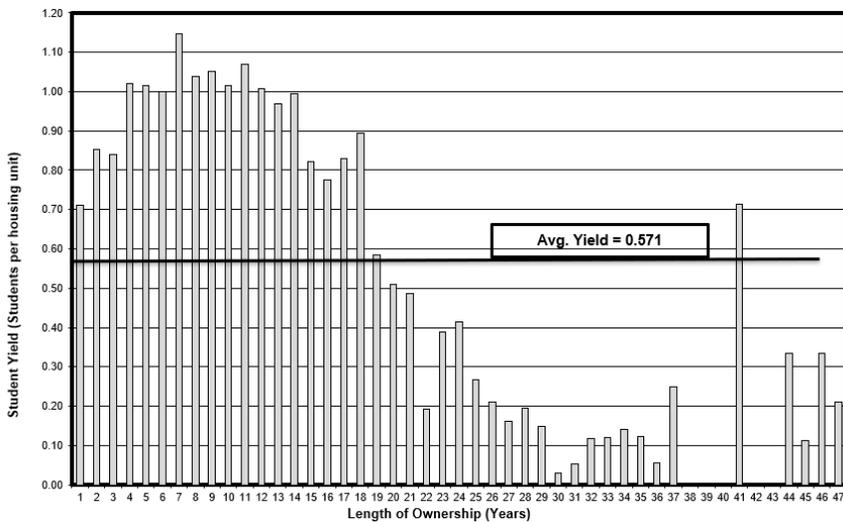


Student yields then gradually decline, in general, through 22 years of ownership before stabilizing. Student yields are typically below 0.200 with 22 or more years of ownership. Like the distribution for all detached single-family homes, it appears that student yields are sharply increasing at 38 years of ownership but there are very few homes ($n = 16$) at this length of ownership, which skews the yield. The average student yield, irrespective of length of ownership, is 0.610 children per home as there were 3,487 children living in 5,712 detached single-family homes.

For homes that are below the median assessment, the shape of the student yield distribution is similar, as shown in Figure 3.

Figure 3

Student Yields by Length of Ownership for Below Median Detached Single-Family Homes



Student yields slowly increase with length of ownership, peaking at 1.146 children per housing unit with six years of ownership. Student yields then gradually decline through 29 years of ownership. Homes with length of ownership exceeding 29 years had student yields that were typically below 0.200. Like the previous distributions, there are several instances where it appears that student yields are spiking, but this is a function of the low home counts. The average student yield, irrespective of length of ownership, was 0.571 children per home, as there were 3,262 children living in 5,710 detached single-family homes.

Since the length of ownership is a distribution, how can one determine what is the likely student yield in a newly constructed unit? Since the distribution is a snapshot in time, what is a reasonable student yield to use? Computing the average over the entire length of ownership underes-

timates the number of children, since there are so few children at longer lengths of ownership. Unfortunately, there is no research-based metric to determine what part of the distribution should be used to estimate future schoolchildren. In the mover sample outlined by Wong et al. (2017), data were used within four years of the starting year of the 2011-2015 ACS PUMS which essentially utilized eight years of data. In the length of ownership distribution, computing an average using all the years up to the peak student yield is proposed which estimates the maximum impact before student yields begin to decline. This also utilizes lengths of ownership when student yields are lower as not to overestimate the number of children in a new home. If the average student yield is computed for the first six years of ownership when the peak student yield occurs for all detached single-family homes, the student yield increases to 0.994 as shown in Table 2.

Table 2

Summary of Student Yields for Detached Single-Family Homes

Home Price	Average Student Yield	Student Yield by Length of Ownership ¹
Above Median	0.610	1.119
Below Median	0.571	0.911
All Homes	0.591	0.994

Note: ¹Average of student yields computed up to when the peak student yield occurred.

Using a similar process for homes above and below the median assessment results in student yields of 1.119 and 0.911, respectively. In each instance, the values are much higher when length of ownership is taken into consideration.

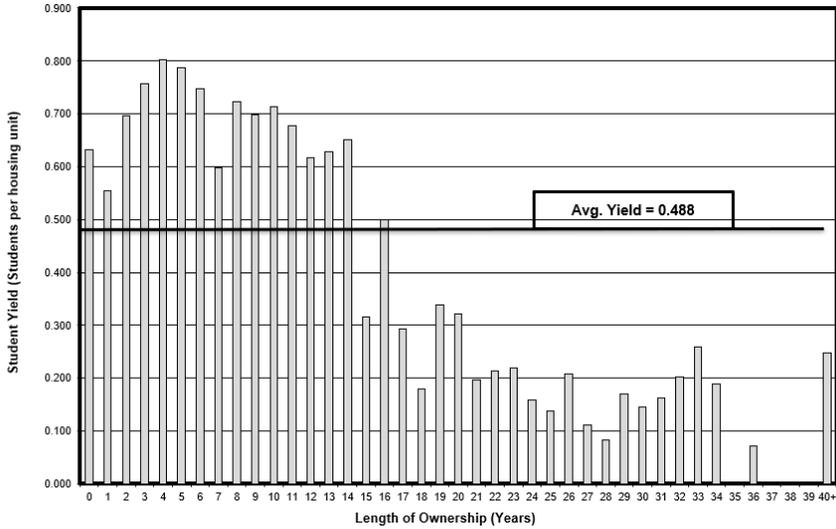
Yields by Length of Ownership--Townhouses/Condominiums

A similar analysis was completed for 3,670 townhouses/condominiums whereby current length of ownership was computed for each home. Student yields by length of ownership were then computed for all homes as well as those that were above and below the median assessment, which was \$59,000. Table 3 shows the student yields by length of ownership based on the home's assessment. (See Table 3, pages 220-223)

For all townhouses/condominiums, independent of assessment, student yields slowly increase with length of ownership, peaking at 0.802 children per housing unit with four years of ownership as shown in Figure 4.

Figure 4

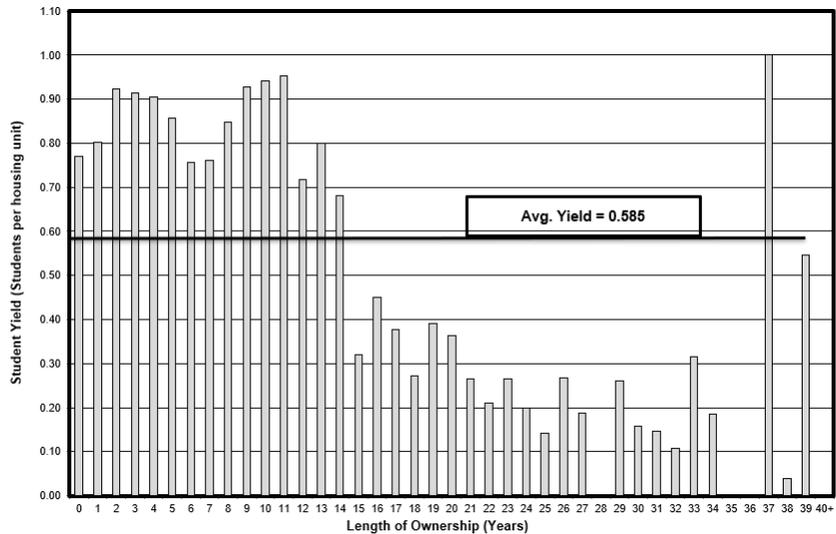
Student Yields by Length of Ownership for all Townhouses/Condominiums



Student yields then decline through 28 years of ownership before increasing through 33 years of ownership. After 33 years, student yields are typically below 0.200. The average student yield, irrespective of length of ownership, was 0.488 children per home.

Figure 5

Student Yields by Length of Ownership for Above Median Townhouses/Condominiums

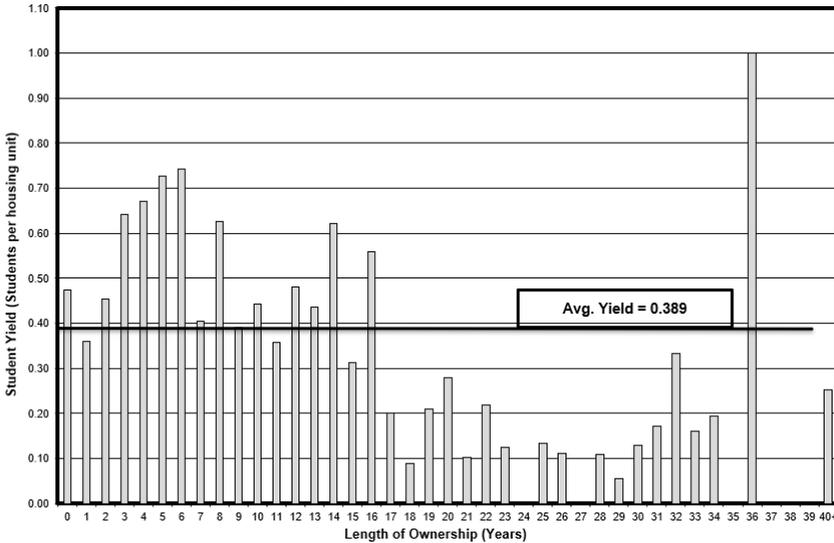


For homes above the median assessment, student yields generally increase through 11 years of ownership, peaking at 0.954 children per housing unit, as shown in Figure 5. Student yields then slowly decline through 15 years of ownership before remaining stable. Yields were typically below 0.300 for homes with more than 20 years of ownership. While it appears that student yields are sharply increasing at 37 and 39 years of ownership, this is a function of the low home counts. The average student yield, irrespective of length of ownership, was 0.585 children per home, as there were 1,089 children living in 1,863¹ townhouses/condominiums.

For homes that are below the median assessment, student yields slowly increase with length of ownership, peaking at 0.742 children per housing unit with six years of ownership, as show in Figure 6.

Figure 6

Student Yields by Length of Ownership for Below Median Townhouses/Condominiums



If the average student yield is computed for the first four years of ownership when the peak student yield occurs for all townhouses/condominiums, the student yield increases to 0.679 as shown in Table 4. Using a similar process for homes above and below the median assessment results in student yields of 0.862 and 0.554, respectively.

Table 4

Summary of student yields for townhouses/condominiums

Home Price	Average Student Yield	Student Yield by Length of Ownership ¹
Above Median	0.585	0.862
Below Median	0.389	0.554
All Homes	0.488	0.679

Note: ¹Average of student yields computed up to when the peak student yield occurred.

Comparison of Data Resources to Local Analysis

How do the statewide student yields for New Jersey from CDA and CUPR compare with the local student yields for this suburban New Jersey school district? Direct comparison was difficult as CUPR did not have student yields irrespective of the number of bedrooms while CDA's yields were not computed by housing value. For detached single-family 4-bedroom homes irrespective of home value, CDA and CUPR reported student yields of 0.890 and 0.848, respectively, while the student yield from this study for all detached single-family homes irrespective of bedroom count was 0.991 which is slightly higher. What is the significance of a higher student yield? If a developer were to build 200 detached single-family homes in this community, the CDA and CUPR yields would estimate 170-178 new public school children, whereas the yield from this analysis would estimate 198 public school children. If even more units are proposed, the difference in underestimation would be even larger. With respect to single-family attached housing units (townhouses/condominiums), the yield from this study (0.679) is also higher than the CDA (0.562) and CUPR (0.226 – 2-bedroom and 0.477 – three-bedroom) values. It should be noted that the CUPR values are not available irrespective of bedroom type. Using the same hypothetical scenario as above, if a developer were to construct 200 townhouses/condominiums, the CDA student yield would estimate 112 public school children while CUPR would estimate 95 public school children (assuming the higher 3-bedroom student yield), which are lower than the 136 public school children estimated using the student yield from this analysis.

Conclusions

This paper looked at several data resources available to school planners to estimate the number of public school children from new housing developments. While student yield data is available at the state level from CDA or CUPR, student yields computed at the local level are more

unique to a community and its demographic attributes. With GIS, one can join a parcel-level property database with a student address database, if available from a school district. In this study, computing student yields by length of ownership generates a much higher value than if the entire housing database is utilized which includes homes owned by all age segments of the population, including empty-nesters and senior citizens, who are not likely to have children in the school district. The average student yield for detached single-family homes was 0.591; however, if length of ownership is considered, it increases to 0.991. Likewise, the average student yield computed for townhouses/condominiums was 0.488 but increases to 0.679 if length of ownership is considered.

Unlike the CUPR student yields, the values computed in this study were higher for those that were above the median assessment as compared to those that were below. In addition, the local student yields were higher in magnitude than those from CDA or CUPR. While the exact reason is not clear, it may be related to the school district's reputation as families want to have their children educated in an excellent school district. As discussed previously, the community's higher socio-economic status may allow more affluent families to purchase homes so their children could be educated in the school district. However, how would student yields be affected if the community's socio-economic status was lower and did not have as desirable a school district? It is postulated that there would be smaller yields at lower lengths of ownership as fewer families would be moving into the community.

There were several limitations with the data used in this study. First, the number of bedrooms in each type of unit was not available which did not allow for direct comparisons to the values from CDA and CUPR. This could lead to difficulty for school planners in estimating future public school children in proposed developments as developments consisting of three-bedrooms in detached single-family homes would have fewer students than a four-bedroom development. Second, the home's assessment was used as a proxy for home value. Admittedly, assessment values are not always reflective of a home's market value which is the price a willing buyer would pay for a home. Sale prices would have been a better variable to use, but not all of the homes had been sold in the time period when records were kept. While CDA did not consider home value in their computations, CUPR used the housing value variable as provided in the PUMS dataset. In this study, there was a difference in the student yields when the assessed value was considered. For detached single-family homes, the student yield for homes above the median assessment was 1.119 as compared to 0.911 for homes below which is a difference of 0.208 public school children per housing unit. The difference for townhouses/condominiums was even greater as the student yield was 0.862 for homes above the median assessment and was 0.554 for homes below, a difference of 0.308 public school children per housing unit.

Methodologically speaking, the process undertaken here was very similar to the mover sample computed by CDA which used a pre-defined number of years (eight years) as the timeframe to measure households moving into a home. When using length of ownership, computing an average using all of the years up to the peak student yield was performed. In essence, the number of years used in the calculation was not fixed like CDA but depended on the student yield distribution by length of ownership. In the six distributions constructed (three for each housing type), five of six distributions used six or fewer years of ownership in computing the student yield. In short, the number of years utilized to compute the student yield was fairly similar to the CDA timeframe. In closing, it is important for school planners to realize that student yields can vary from one community to the next. Using statewide multipliers may not necessarily capture the characteristics of the population moving into a community. Therefore, when time and resources permit, local data should be used to compute public school student yields.

Table 1*Student Yields by Length of Ownership for Detached Single-Family Homes*

Length of Ownership (Years)	All Houses			Above Median Total Assessment
	Housing Units	Students	Student Yield	Housing Units
0	491	414	0.843	224
1	462	403	0.872	232
2	410	389	0.949	191
3	388	408	1.052	197
4	301	328	1.090	160
5	293	327	1.116	153
6	264	327	1.227	120
7	235	263	1.119	101
8	226	259	1.146	111
9	245	285	1.163	112
10	234	262	1.120	118
11	267	283	1.060	149
12	248	250	1.008	116
13	369	372	1.008	196
14	360	301	0.836	175
15	301	240	0.797	190
16	268	207	0.772	157
17	243	188	0.774	140
18	245	126	0.514	149
19	266	120	0.451	168
20	267	116	0.434	187
21	245	68	0.278	162
22	183	41	0.224	106
23	178	44	0.247	108
24	155	27	0.174	84
25	177	40	0.226	87
26	150	19	0.127	94
27	123	15	0.122	87
28	106	9	0.085	59
29	92	8	0.087	58
30	129	4	0.031	73
31	144	13	0.090	76
32	130	11	0.085	72

Table 1 (cont.)

Above Median Total Assessment			Below Median Total Assessment	
Students	Student Yield	Housing Units	Students	Student Yield
224	1.000	267	190	0.712
207	0.892	230	196	0.852
205	1.073	219	184	0.840
213	1.081	191	195	1.021
185	1.156	141	143	1.014
187	1.222	140	140	1.000
159	1.325	144	165	1.146
124	1.228	134	139	1.037
138	1.243	115	121	1.052
150	1.339	133	135	1.015
138	1.169	116	124	1.069
164	1.101	118	119	1.008
122	1.052	132	128	0.970
200	1.020	173	172	0.994
149	0.851	185	152	0.822
154	0.811	111	86	0.775
115	0.732	111	92	0.829
96	0.686	103	92	0.893
70	0.470	96	56	0.583
70	0.417	98	50	0.510
77	0.412	80	39	0.488
52	0.321	83	16	0.193
11	0.104	77	30	0.390
15	0.139	70	29	0.414
8	0.095	71	19	0.268
21	0.241	90	19	0.268
10	0.106	56	9	0.161
8	0.092	36	7	0.194
2	0.034	47	7	0.149
7	0.121	34	1	0.029
1	0.014	56	3	0.054
5	0.066	68	8	0.118
4	0.053	58	7	0.121

Table 1 (cont.)

Length of Ownership	All Houses			Above Median Total Assessment
	Housing Units	Students	Student Yield	Housing Units
33	133	10	0.075	83
34	133	10	0.075	44
35	69	5	0.072	33
36	46	8	0.174	26
37	9	0	0.000	6
38	22	6	0.273	16
39	34	1	0.029	31
40	78	10	0.128	71
41	42	5	0.119	36
42	66	1	0.015	53
43	48	3	0.063	39
44	65	10	0.154	56
45	68	9	0.132	59
46+	2451	510	0.208	747
Total	11422	6749	0.591	5712

Table 3

Student Yields by Length of Ownership for Townhouses/Condominiums

Length of Ownership (Years)	All Houses			Above Median Total Assessment
	Housing Units	Students	Student Yield	Housing Units
0	204	129	0.632	109
1	218	121	0.555	96
2	178	124	0.697	92
3	161	122	0.758	69
4	167	134	0.802	94
5	122	96	0.787	56
6	107	80	0.748	45
7	92	55	0.598	50
8	105	76	0.724	46
9	96	67	0.698	55
10	94	67	0.713	51

Table 1 (cont.)

Above Median Total Assessment			Below Median Total Assessment	
Students	Student Yield	Housing Units	Students	Student Yield
3	0.036	50	7	0.140
1	0.023	49	6	0.122
3	0.091	36	2	0.056
3	0.115	20	5	0.250
0	0.000	3	0	0.000
6	0.375	6	0	0.000
1	0.032	3	0	0.000
5	0.070	7	5	0.714
5	0.139	6	0	0.000
1	0.019	13	0	0.000
0	0.000	9	3	0.333
9	0.161	9	1	0.111
6	0.102	9	3	0.333
153	0.205	1707	357	0.209
3487	0.610	5710	3262	0.571

Table 3 (cont.)

Above Median Total Assessment			Below Median Total Assessment	
Students	Student Yield	Housing Units	Students	Student Yield
84	0.771	95	45	0.474
77	0.802	122	44	0.361
85	0.924	86	39	0.453
63	0.913	92	59	0.641
85	0.904	73	49	0.671
48	0.857	66	48	0.727
34	0.756	62	46	0.742
38	0.760	42	17	0.405
39	0.848	59	37	0.627
51	0.927	41	16	0.390
48	0.941	43	19	0.442

Table 3 (cont.)

Length of Ownership (Years)	All Houses			Above Median Total Assessment
	Housing Units	Students	Student Yield	Housing Units
11	121	82	0.678	65
12	123	76	0.618	71
13	180	113	0.628	95
14	132	86	0.652	66
15	98	31	0.316	50
16	74	37	0.500	40
17	85	25	0.294	45
18	67	12	0.179	33
19	65	22	0.338	46
20	87	28	0.322	44
21	117	23	0.197	68
22	75	16	0.213	43
23	50	11	0.220	34
24	38	6	0.158	30
25	29	4	0.138	14
26	24	5	0.208	15
27	27	3	0.111	16
28	48	4	0.083	11
29	41	7	0.171	23
30	82	12	0.146	51
31	104	17	0.163	34
32	64	13	0.203	37
33	85	22	0.259	54
34	74	14	0.189	38
35	19	0	0.000	19
36	14	1	0.071	13
37	4	4	0.000	4
38	26	1	0.000	26
39	11	6	0.000	11
40+	162	40	0.247	4
Total	3670	1792	0.488	1863

Table 3 (cont.)

Above Median Total Assessment		Below Median Total Assessment		
Students	Student Yield	Housing Units	Students	Student Yield
62	0.954	56	20	0.357
51	0.718	52	25	0.481
76	0.800	85	37	0.435
45	0.682	66	41	0.621
16	0.320	48	15	0.313
18	0.450	34	19	0.559
17	0.378	40	8	0.200
9	0.273	34	3	0.088
18	0.391	19	4	0.211
16	0.364	43	12	0.279
18	0.265	49	5	0.102
9	0.209	32	7	0.219
9	0.265	16	2	0.125
6	0.200	8	0	0.000
2	0.143	15	2	0.133
4	0.267	9	1	0.111
3	0.188	11	0	0.000
0	0.000	37	4	0.108
6	0.261	18	1	0.056
8	0.157	31	4	0.129
5	0.147	70	12	0.171
4	0.108	27	9	0.333
17	0.315	31	5	0.161
7	0.184	36	7	0.194
0	0.000	0	0	0.000
0	0.000	1	1	1.000
4	1.000	0	0	0.000
1	0.038	0	0	0.000
6	0.545	0	0	0.000
0	0.000	158	40	0.253
1089	0.585	1807	703	0.389

Endnotes

- 1 While one would expect the total number of homes that are above and below the median assessment to be fairly equal in size, there were a large number of homes (n = 54) assessed at the median value, which were grouped with those homes that were above the median assessment.

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