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THE MISSION OF THE ACADEMY IS TO PROMOTE THE INTERESTS OF URBAN EDUCATION IN BOTH PUBLIC AND PRIVATE SCHOOLS AND UNIVERSITIES IN THE METROPOLITAN AREA.

VISION
THE VISION OF THE ACADEMY IS TO CREATE AN AGORA FOR THE EXCHANGE OF IDEAS AMONG EDUCATORS WHO WISH TO ENCOURAGE AND UPHOLD THE PROMOTION OF THE HIGHEST STANDARDS AND IDEALS OF PUBLIC EDUCATION IN THE GREATER NEW YORK METROPOLITAN AREA.
As we ended the last school year and entered this new one, no one knew what would be in store for us. Although the Mayor of New York assured everyone that schools would open and instruction would take place as usual, the reality was far from it. Principals were sent scrambling to find enough teachers to staff their schools due to remote learning and teachers being granted waivers for health reasons. Schools eventually did open but some were immediately closed temporarily due to positive COVID test results for students and/or staff.

We are now well into the Fall of this school year and the Pandemic still rules what is happening not only in the schools, but also in our lives. Health and science experts caution us to remain socially distant from others and wear a mask whenever out in public. Most recently, the virus had made a horrible return, after a summer of regression.

Many of us have lost friends and loved ones, myself included. We owe it to our lost friends and relatives to fortify ourselves against COVID-19 and continue to fight on, waiting for an effective vaccine to be produced. As educators, we must continue to provide quality educational programs for our students whether they be in the early grades or in higher education. Many of today’s teachers are teaching as they never have before – remotely, in a hybrid program or in face-to-face situations. No two schools are operating in the same manner. Yet, educate our students, we must!

What does all of this mean? In an effort to try to bring some sanity and direction to our current world, we have decided to include in this year’s Research Journal of The New York Academy of Public Education a section devoted to remote and hybrid learning as it is occurring in our schools. The authors are practitioners who are experiencing what is happening in our schools, elementary through college, first hand. I would like to thank them and our authors of our traditional section for their contributions to this Journal.

*Stay well. Stay safe.*

John C. Jangl, Ed.D.
Editor-in-Chief
Dear Readers,

The New York Academy of Public Education (NYAPE) was founded in 1912 to recognize individuals who have earned special merit or contributed to the advancement of education. Its mission is to consider and to promote the interests of urban education in public schools across the Metropolitan area. Over the last 108 years, it has done exactly that – promote and advocate for the education of all children especially those in the New York City area. The New York Academy of Public Education has maintained a strong and timeless interest in a variety of areas. The listing of NYAPE Medalist Award winners (on our website) reflects the varied scope of influence in education, government, history, publishing, science, dance, drama, journalism, and advancement of schools at every level. Any organization fortunate enough to have the quality of membership that The Academy does clearly looks forward to expansion and development as it continues to move forward into this century. So hopefully, this issue of the New York Academy of Public Education Research Journal will spark a new beginning for Education and the Academy in these unprecedented and difficult times.

I would like to commend Editor-In-Chief, John Jangl, Ed.D. and the peer review committee for the work that they have done to ensure that the NYAPE Research Journal maintains its high quality and integrity in the world of research publications.

I would also like to thank the NYAPE board and officers who work daily to achieve the mission of The New York Academy of Public Education.

In addition, kudos to the authors who have contributed to the body of research which serves to inform and improve our schools, institutions and government.

Remember that the NYAPE Research Journal is published annually and can be found on our website. Please submit articles to our Research Journal Committee for review.

In addition, look for our newsletters which review our meetings, activities and the accomplishments of our members.

Let me know how the academy can work to meet your expectations for educational excellence.

Be Well, Be Safe and Continue to Support Our Schools,

Anthony P. Cavanna, Ed.D.

President, New York Academy of Public Education
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Abstract
This study explored the relationships between race, poverty, English language learners (ELLs), and college-going rates. The setting included 93 school districts that were located in two large adjacent suburban counties in New York State: Nassau and Suffolk. A Pearson Product-Moment correlation analysis, with a two-tailed test of significance with alpha set at .05, was used to analyze the relationships among the variables. It was found that poverty and ELLs were divided along racial lines, in a direction that put downward pressure on college-going rates for the Black or African American and Hispanic or Latino student groups. Based on these findings, the researchers made specific recommendations for school district policymakers and future studies to reduce the racial inequities on college-going rates.

Keywords: Race, poverty, ELLs, and college-going rates.

I. Purpose
The purpose of this study was to examine the relationships between race, poverty, English language learners (ELLs), and college-going rates. In 2017, the Education Trust-New York, an organization dedicated to racial equity and social justice, released reports on the lack of racial equity within the teaching profession within New York State. Their data showed that many K-12 Black and Latino students attended schools where there were no teachers of the same racial or ethnic backgrounds. Almost half of the White students attended schools without any Black or Latino teachers (Education Trust-New York, 2017). Was this inequality exclusive to the teaching profession or might it further extend to any profession that required a college degree for entrance?

Prior research by Markson, Forman, and Lindblom (2018) showed that poverty had the strongest relationship with college-going rates. As poverty went up by school district, their students’ college-going rates went down by 73.79 percent. As a result, one of the purposes of the current study was to examine the relationships between race and poverty, to see if poverty was divided along racial lines and this was the determinant of the lack of minority participation in the teaching profession, which required a college degree in New York State (“New York Teacher Certification and Licensing Guide 2019,” n.d.).

Prior research by Kanno and Cromley (2015) showed that ELLs, particularly racial minority ELLs, faced a number of problems in entering higher education and that these problems stemmed from the early stages of college planning. As a result, another purpose of this study was to investigate the relationships between race and ELLs, to determine if ELL populations were unequally divided along racial lines and this was another determinant of the lack of minority participation in the teaching profession, which required a college degree.

II. Literature Review
Race and College-Going Rates
Tierney and Duncheon (2015), in The Problem of College Readiness, identified that a disproportionate low percentage of Black and Latino students enrolled in higher education compared to White students. Although there was a perception that Asian students were a “model minority” group as far as college enrollments went, their percentages of college-going rates also trailed behind White students (Tierney & Duncheon, 2015).

In Status and Trends in the Education of Racial and Ethnic Groups (2016), Musu-Gillette et al. noted that: Among adults age 25 and older, the percentage who had not completed high school in 2013 was higher for Hispanic adults (35 percent) than for any other racial/ethnic group (Indicator 25). The percentage of adults age 25 and older who had earned at least a bachelor’s degree in 2013 was highest for Asian adults (52 percent). Of the other racial/ethnic groups, 14 percent of Hispanic adults, 15 percent of American Indian/Alaska Native adults, 16 percent of Pacific Islander adults, 19 percent of Black adults, 32 percent of adults of two or more races, and 33 percent of White adults had earned at least a bachelor’s degree (p. vi).

In the same study in discussing Postsecondary Education, the researchers found that while the gap in college enrollment narrowed between Whites and Hispanics from 18 to 8 percent from 2003 through 2013, the gap between Whites and Blacks did not significantly change during that period (Musu-Gillette et al., 2016).

In 2015, Carter in, The Multidimensional Problems of Educational Inequality Require Multidimensional Solutions, cited the following graph as to the relationship between poverty and race. The graph clearly indicated that Whites and Asians have the lowest levels of poverty while Blacks, Hispanics, American Indians and Others have higher levels of poverty.
Brey et al. in Status and Trends in the Education of Racial and Ethnic Groups (2018) found that:
Between 2000 and 2017, the percentage of U.S. school-age children who were White decreased from 62 to 51 percent and the percentage who were Black decreased from 15 to 14 percent. In contrast, the percentages of school-age children from other racial/ethnic groups increased: Hispanic children, from 16 to 25 percent; Asian children, from 3 to 5 percent; and children of two or more races, from 2 to 4 percent. The percentage of school-age American Indians/Alaska Natives remained at 1 percent and the percentage of Pacific Islanders remained at less than 1 percent during this time. (p. iii)
With this increase in of minority races and the decrease of White majority, the study found that more minority students have gone on to a post-secondary education.
In 2016, the total college enrollment rate was higher for Asian young adults (58 percent) than for young adults who were of two or more races (42 percent), White (42 percent), Hispanic (39 percent), Black (36 percent), Pacific Islander (21 percent), and American Indian/Alaska Native (19 percent). From 2000 to 2016, total college enrollment rates increased for White (from 39 to 42 percent), Black (from 31 to 36 percent), and Hispanic young adults (from 22 to 39 percent) but were not measurably different for the other racial/ethnic groups during this time period. (p. vi)

Poverty and College-Going Rates
In a study by Harvey, Slate, Moore, Barnes and Martinez-Garcia (2013), the authors cited research from Griffin, 2006; Harper, 2005, (p. 193) that found the overall enrollment of economically disadvantaged students enrolled in public schools increased, but there existed barriers for them that prevented them in attending an institution for postsecondary education. Tierney and Duncheon (2015) noted that minority students who were first generation Americans and living in poverty had faced greater odds in attending or completing college. For example, only 30 percent of students from the lowest income strata enrolled in college compared to 80 percent of students from the top income strata. Palomar-Lever and Victorio-Estrada (2017) found that students from high income families had more opportunities for diverse learning experiences that would develop their intellectual capacities more than students from poor households. This factor negatively impacted the college-going rates for poor students.

English Language Learners and College-Going Rates
Immigrant English language learners who enter the U.S. as adolescents faced significant challenges. Research suggested that these learners scored lower on standardized tests, graduated from high school at lower rates, and dropped out at higher rates than their native English-speaking peers (Lee, 2012). These newly arrived students often developed the social English necessary to chat with friends and consume popular culture quickly but needed four to seven years to develop academic English (Hakuta, Butler, & Witt, 2000). This made it challenging to have the academic English necessary to graduate from high school in four years (Lee 2012). Additionally, they also faced difficulties with high school exit exams because of these language issues. About six percent of newcomer immigrant students have experienced interrupted formal education in their home countries. In places like New York City, about
10% of all ELLs were students with interrupted formal education (Bartlett & Garcia, 2011; Advocates for Children, 2010). These students were typically two or more years behind their same-age peers in school, and many weren’t literate in their native languages (Lee, 2012).

Immigrant English language learners were typically tracked into English language learning classes that focused almost exclusively on acquiring English, often to the exclusion of academic content (Callahan, Wilkinson, Muller, & Frisco, 2009). ELLs were often unprepared to handle the academic content in mainstream classes because they haven’t been prepared to do so. It could be argued that the educational challenges experienced by students from culturally and linguistically different backgrounds, including immigrant ELLs, were the result of unrecognized and unappreciated cultural differences not cultural deficits (Ladson-Billings, 1995; Moll et al., 1992). These scholars highlighted the importance of drawing on students’ cultures, native languages, identities, and communities in promoting high academic engagement and achievement.

In New York, all students including ELLs in the system over one year must pass five Regents exams to earn a high school diploma. Since this mandate began, ELLs have consistently struggled to pass these exams and dropout rates among this group have increased. In 2005 only 33.2 percent of ELLs in New York City passed the English part of the Regents exam (Menken, 2008). Research suggested that ELL students faced substantial hurdles in passing these exams, and many must retake the exams again and again before earning passing scores (Lee & Walsh, 2012). Too often, the work of educating English language learners was seen as the sole responsibility of the ELL or bilingual staff, leaving the ELL staff and their students marginalized and isolated in schools.

According to the latest Census report, Latinos have outpaced the rest of the nation’s growth by roughly four times, increasing to 50.5 million as of 2010, or 16.3 percent of the estimated total U.S. population of 308.7 million (U.S. Census Bureau, 2011). A disproportionate percentage of Latino students came from low-income households. The poverty rate among Latinos in 2010 was 6.1 million. Of the 6.1 million Latino children living in poverty, more than two-thirds, or 4.1 million were the children of immigrants. The other two million were the children of parents born in the U.S. (Lopez & Velasco, 2011). These numbers are significant because poor children are at a greater risk to perform poorly in school (Brooks-Gunn & Duncan, 1997). In the 2009-2010 school year, Morris reported Latino tenth grade students had a 73% passing rate for the California High School Exit Exam English Language Arts test in comparison to a 91% passing rate for White tenth grade and Asian tenth grade students (Morris, 2013). Therefore, the learning needs of ELLs pose challenges to schools. ELLs had lower graduation rates, higher dropout rates, and lower percentages of students meeting federal or state proficiency targets (Gandara, 2010).

Over the past 30 years, from 1980 to 2010, the socioeconomic condition of ELL students has remained persistently low: in income, two-parent families, housing, and parental educational attainment (Lee, 2002). Poverty has been linked to low student academic achievement. A study conducted by Brooks-Gunn and Duncan (1997) concluded that family income can affect child and adolescent outcomes but that the negative effects of poverty were more pronounced for some depending on the depth and duration of a child’s exposure to poverty. Latino English Language Learners faced a compound challenge gaining entrance to four-year colleges. There existed a pattern of obstacles for Latinos in general, including parent education levels, access to AP courses, disparate income, and performance on standardized examinations (Contreras, 2005). Latinos who are ELLs must also contend with the burden of competing for college access with students proficient in English. A closer examination of the inputs that played a significant role in Latino college attainment begins with access to AP or Honors classes at the high-school level. Zarate and Burciaga (2010) suggested that large schools serving higher proportions of minority students do not offer as many AP courses as those serving White students. AP courses added one percentage to the student’s GPA and could earn college credits.

III. Data Sources and Definitions

The data were obtained from the New York State Education Department’s (NYSED) data site (2019) and were collected from the 2015 to 2016 school year. Data from a total of 93 school districts from New York State’s Nassau and Suffolk counties were included in this study. Several districts were excluded from this study because they had fewer than 50 test takers or they had no publicly available reporting of their students’ race and college-going rates. For the 2015 to 2016 school year, NYSED recorded student populations by school district under the following racial groupings: American Indian or Alaska Native; Black or African American; Hispanic or Latino; Asian or Native Hawaiian or Other Pacific Islander; White; or Multiracial. For this study, race was reported as a percentage per school district. The population of students classified as Multiracial were excluded from this study.

Poverty was measured by the percent of students collecting free and reduced lunch by school district. English Language Learners (ELLs) were defined by NYSED as the following:
Students classified as American Indian or Alaska Native did not have a statistically significant relationship with four-year college plans, \( p > .05 \). Students classified as Black or African American had a statistically significant relationship with four-year college plans, \( p < .001 \). This student population had a negative correlation with four-year college plans, accounting for 34.34 percent of the variance. As the Black or African American student population by school district increased, college-going rates decreased. Similarly, the percent of students classified as Hispanic or Latino had a statistically significant relationship with four-year college plans, \( p < .001 \). The Hispanic or Latino student population also had an inverse relationship with four-year college plans. As this population went up, college-going rates went down by 49.42 percent.

The Asian student population had a statistically significant but positive correlation with four-year college plans, \( p < .001 \). As the Asian student population increased, college-going rates increased by 15.13 percent. The White student population had a statistically significant relationship with four-year college plans, \( p < .001 \). The White student population had a positive correlation with four-year college plans, accounting for 37.45 percent of the variance. As the percentage of White students increased, college-going rates increased.

Poverty had a statistically significant but negative correlation with four-year college plans, \( p < .001 \). As poverty went up, four-year college plans went down by 73.44 percent. Similarly, ELLs also had a statistically significant and negative correlation with four-year college plans, \( p < .001 \). ELLs accounted for 39.94 percent of the variance on four-year college plans. As this population increased, college-going rates decreased.

VI. Conclusion

The variable in this study that had the greatest impact on college-going rates was clearly poverty, which had a strong inverse relationship with four-year college plans, accounting for 73.44 percent of the variance. The Hispanic or Latino racial group had the strongest positive relationship with poverty, accounting for an extremely large 79.39 percent of the variance. As a result, it was not surprising that this group also had the strongest negative relationship with four-year college plans. Conversely, the White racial group had the strongest negative relationship with poverty also had the strongest positive relationship with four-year college plans. This is indicative of a pattern that poverty is divided along racial lines.

Figure 1 below depicts the strength and direction of the correlations that the Hispanic or Latino and Black or African American student groups had with poverty. The American Indian student group was excluded because the low sample size in this region prevented a statistically significant relationship, \( p > .05 \).
Figure 1 clearly shows that as Hispanic or Latino and Black or African American student populations increased by district so did poverty.

Figure 2 below depicts the strength and direction of the correlations that the Asian and White student groups had with poverty.

Figure 2 clearly shows that as Asian and White student populations increased by district poverty declined. The racial divide on poverty was clearly evident when comparing Black or African American and Hispanic or Latino student groups with the White student group among Figure 1 and Figure 2.

The Hispanic or Latino student group also had a strong statistically significant relationship with another independent variable in a direction that put downward pressure on college-going rates. For example, as the ELL population increased, college-going rates decreased by 39.94 percent. The Hispanic or Latino student population had a strong positive relationship with ELLs, accounting for 87.61 percent of the variance. As the Hispanic or Latino student population increased by school district, so did students classified as ELLs. As previously discussed, ELLs had an inverse relationship with college-going rates, accounting for 39.94 percent of the variance on four-year college plans.

Figure 3 below depicts the strength and direction of the correlations that the Hispanic or Latino and Black or African American student groups had with ELLs. The American Indian student group was excluded because the low sample size in this region prevented a statistically significant relationship, p > .05. Furthermore, the Asian student population was excluded from the following figures because there was not a statistically significant relationship with ELLs, p = .085.

Figure 3 showed a strong correlation between the Hispanic or Latino student population and ELLs, accounting for 87.61 percent of the variance. The Black or African American population also had a positive correlation with ELLs. Although this correlation was not as strong, accounting for 24.9 percent of the variance, it was similarly in a direction that put downward pressure on college-going rates.

Figure 4 below depicts the strength and direction of the correlation that the White student group had with ELLs.

Figure 4 showed that the White student group had a negative relationship with ELLs, accounting for 62.88 percent of the variance. As the percentage of White students increased by school district, the populations of ELLs decreased. The racial divide on ELLs was clearly evident when comparing Black or African American and Hispanic or Latino student groups with the White student group among Figure 3 and Figure 4. The inverse relationship that the White student group had with ELLs gave this group another advantage with its chances of going to college.

VII. Implications of the Research and Recommendations

Given the strong relationships that the Black or African American and Hispanic or Latino student groups had with poverty and ELLs, two variables that put negative pressure on college-going rates, the researchers make the following recommendations:

• funding for programs ameliorating the negative effects that poverty has on student achievement;
• the creation of programs designed to support the ac-
qquisition of English language skills for ELLs to make them competitive in admission to four-year colleges;
• increased support services for Black or African American and Hispanic or Latino subgroups to facilitate their college admission;
• broad-based integration of school districts across Nassau and Suffolk counties;
• review of school district programs for districts with high number of ELLs to further support their college going rates;
• alter testing NYS requirements so that ELLs have additional time for English language acquisition skills;
• K-12 and higher education partnerships to reduce racial inequalities in college-going rates.

The researchers make the following recommendations for future studies:
• a meta-analysis of a significant portion of the existing research literature to determine the causes of poverty being divided along racial lines;
• best practices for supporting racial minority students living in poverty to be college ready;
• best practices for supporting racial minority ELL students to be college ready.

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Abstract

The following literature review advocates to emphasize the need to narrow the gap in the overall access to college education by urban high school students. In a realm of thoughts, the disparities observed over decades are profoundly related but not limited to gender, ethnicity and poverty. The extant literature presents findings on previous research forms the focal point in revealing the challenges and provides an analysis of more accessible modes adopted in reducing the gap in the quest to maximize literacy and college readiness. The paper also focuses on the new millennium and across the United States, there has been major buzz about the Common Core State Standards, reading motivation and the implications on English language learners. There is an obvious gap in the literature concerning English language learner and reading motivation, at the high school level. There is research on students in the lower grades, but there is a shortage in this arena and researchers should take the opportunity to address this issue. There is also the need to move students towards the four Cs of the Common Core State Standards, which is creativity, collaboration, communication and critical thinking. These tools will provide students with the advantage of being college and career ready.

Introduction

The 21st century is upon us and the pressing crisis of the achievement gap for urban high school students versus their less economically challenged counterparts still prevails. Moving from one state to the next, or even city to city, there was a difference in instruction across the curriculums. The standards were different and students in urban high schools were certainly being left behind. Some recent strides to revamp the curriculum have been evolving, with the inception of the Common Core State Standards (CCSS) which has been developed to serve as the backbone to educators instructional planning and implementation, and execution of their lesson units, and daily activities. It is meant to be a framework to help educators identify and target grade level academic and linguistic demands found within the CCSS. Schools are mandated and hold the responsibility of covering all of the CCSS, and are also expected to give students multiple opportunities to learn and showcase their level of mastery (CCSS, 2010). Unfortunately students in many urban high schools in the United States experience the effects of this gap that is inequitable and prevents them from having educational resources, which still hinders them from the academic success of their more economically stable counterparts. This current study examines various aspects necessary in the process of reducing achievement gap for urban high school students by providing more access to college by giving students exposure via field trips, providing access to advance placement courses. The achievement gap is considered as strains encountered in the process to achieving a specific goal. Some basic goals of most high schools is to give students a standard education, ensure that they are literate and adequately prepare them for college and career readiness. Despite the location of the learning institution, each school has a group of disadvantaged students. In most cases, such students undergo enormous difficulties to achieve their academic targets, which is usually to be prepared for a college education (Spillane, 2015).

According to the U.S. Department of Education (2013) collection of graduation rates among several ethnic groups, the findings indicate that 10% of African American students and 9% of Hispanic students earned a bachelor’s degree. These figures are said to have been an improvement in comparison with the 1999-2000 figures which revealed 9% and 6% respectively, and sharply contrasting to 72.9% of Caucasian students who have earned a college degree. This translates to, Caucasian students are seven times more likely to graduate with a bachelor’s degree than their urban minority and disadvantaged peers (U.S. Dept. of Education, 2013). In order for us to have students with college degrees, we must first have students who have access to college. Therefore, reducing achievement gap for urban high school students in their quest for college education calls for restructuring of the learning system to allow learning within and outside the classroom, giving students a variety of learning experiences as outlined in the Common Core State Standards. Such gaps include inadequate resources for urban students (Yue et al., 2018), lack of access to AP classes (Yearby, 2017), inappropriate identification of English Learner (EL) status (Olson et al., 2017)) and further exploration to identify why women and minorities are still being reported as having an adverse reception to math and science (Alvarardo and An, 2015). The resources involved in the learning process should be relevant and ample to facilitate learning. Also, students’ readiness and preparedness should be initiated through mentorship from role models which could be teachers, but the community should also be involved (Tate, 2015).
literature review also examine subtopics area such as, school leaders attitudes and beliefs, teacher characteristics and professional development, the relevance of content, students choice and autonomy in the context of reading motivation at the high school level. The impact of testing and the plight of students with formally interrupted education is also briefly explored.

**Literature Review**

**Access and Participation in Advance Placement, STEM and Academic Writing**

It has been proven that advance placement courses, help to increase students’ chance of college enrollment and success (Yearby, 2017). According to Yearby (2017), there is a disproportionate advance placement course access and participation which aids in keeping urban disadvantaged and minority students off the path to college readiness. As previously highlighted, lack of access to college means that students do not have, or have very limited access to courses and resources which are known to create greater impact during the college preparation process for students. This access includes advance placement courses, STEM courses, academic writing emphasis, along with other resources such as computers, computer science and science labs, supplemental instruction in basic reading, writing, and quantitative reasoning required for college success. Spillane (2015) confirmed the importance of urban and disadvantage students having access to STEM courses. The teachers in this study identified related experiences to understanding students’ thinking in STEM and how learning how to access technological resources for STEM was viable to the experience that will likely bring positive results and changes to their classroom instruction. According to Olson, Matuchniak, Chung, Stumpf, and Farkas (2017) study on Reducing Achievement Gaps in Academic Writing for Latinos and English Learners in Grades 7-12, “numerous reports from policy centers and blue-ribbon panels implicate poor understanding of cognitive strategies as the primary reason why adolescents struggle with reading and writing” (Olson et al., 2017, p. 4). They also linked this to the nations’ lack of uniform definition and classification of ELs, who are called many names such as English language learners, limited English proficient students, language or linguistic minority students, and second language learners. This type of practice has been limiting to the access to college for such students, as if students’ needs aren’t properly identified, they cannot be appropriately serviced. Therefore this issue proves to be cyclical, and there are gaps at many different levels in the overall educational process of urban minority and disadvantage students. Yearby (2015), Spillane (2015) and Olson, et al., (2017) all share similar sentiments in relation to access and participation in advance placement, STEM and academic writing. They all agreed that enrollment in these courses increase students’ opportunity for college readiness.

**School Leaders Attitudes and Beliefs**

School leaders’ influence, attitudes, and beliefs are of paramount importance in relation to increasing students’ academic achievement and success. Tate’s (2015) single case studies conducted at one high school entitled Produce and Achieve examined how school leader actions, events held, beliefs, and social structure in the school community resulted in school success. Tate (2015) emphasized that there cannot be a one size fits all approach and that teacher expectation and group mindset of success were key components in developing positive practices for students to follow. This study was similarly aligned to the discussions of Yue et al. (2018) which examined how supplemental instruction help disadvantage students who made it to college to become successful. Both studies argued that school leaders are mandated to structure and restructure relevant programs to ensure students have all resources including non-academic resources, such as advice and guidance from mentors to ensure gains and progress. "Institutions might consider improving existing programs or developing new interventions which allow or motivate students to participate on a regular basis” Yue et al. (2018, p. 22).

Olson et al. (2017) views were also in alignment to this discussion, as they suggested “Perhaps most importantly, socio-cultural theory values the establishment of community practice in which teachers actively encourage students to collaborate and provide ongoing opportunities and thoughtful activities that engage in shared inquiry.” Yearby (2017) also agreed that school leaders’ expectations that students will and should take advance placement course, open doors to greater college access for students. Principals are the final decision makers at the school level, and they bring promising programs to their schools to help students along the pathway to college access.

**Teacher Characteristics and Professional Development**

The literature articulates that teacher characteristics and professional development have positive effects on students’ outcome in relation to reducing the achievement gap for urban high school students by providing more access to college. According to Tate (2015), teachers are extremely important in the context of students’ achievement and success. Their attitudes and behavior have a remarkable and lasting impact on students whether it is positive or negative. Thus, it is important that teachers exhibit positive traits and characteristics. Tate (2015) also indicated that, “Like teacher expectations, academic emphasis can produce unexpected out-
comes among ethnic minority students that perceive rigor to be triggered by racial discrimination.” Spillane (2015) emphasized the positive effects on teacher and student learning as a function of collaborative professional development. Spillane (2015) argued that the act of collaboration showed changes in teacher’s beliefs, the implementation of classroom reforms, and student academic performance. However, Walker-Carlor (2016) whose sample was 76 students in the 11th grade at a charter school in Patterson, New Jersey is not necessarily in agreement with the prior reviews. “Linking teacher and students to each assessment has proven to be an issue that sparks much debate” Walker-Carlor (2016, p. 41). This sentiment has propensity for additional questions. However, Olson et al. (2017) is in agreement with argument on teacher development as proven by “The Pathway Project professional development takes a cognitive strategies approach to reducing the achievement gap between Latinos, ELs, and their native speaking peers in the area of text based academic writing.” Olson et al.’s study reveals that teacher development does aid in the reduction of closing the gap.

It is evident that narrowing the achievement gap to promote literacy in the society and is not just an event, but an ongoing evolving process. However, it is important to acknowledge the need to initiate learning on all platforms and avail equity in education to level the playing field for all constituencies. Urban high school students need more support as they strive to make academic gains, progress and experience success on their journey through high school and their aspirations to embark upon a college education which will endeavor them to prepare for future success in life. We need to properly identify and address the gaps that exists such as knowing who our EL students are and what they need in order to meet and exceed the standards to successfully complete high school and gain entry into reputable college programs for which they are equipped and prepared to succeed. This must be true for all students irrespective of their race, color, culture, income and gender (Olson et al., 2017).

Content
According to Wade and Moje (2000), reading researchers do not spend enough time schools and classroom when reading is being taught and learned and this is especially rampant at the middle to high school grades. As we know these are the adolescence years when students develop other interests which may not be connected to the content being presented in the classroom curriculum. The studies on students’ motivation to read and amotivation (the ability to read, but lack of interest in doing so) reveals that there is diminished interest in reading during the adolescent years. Teachers constantly complain that many students do not like to read and do not read outside of class. They also indicated that it is a rather difficult task getting some of adolescents to read in the classroom and some seem to have problems with retention (Reeves, 2004). This is primarily due to the disengagement and lack of connection with the content read.

As Moje, Tysvaer, and Morris (2008) posited, high schools are departmentalized and strongly focused on each content area. In many cases literacy classes are not taught grade six. Students in high school have to depend on their personal motivation to read in school and also out of school, as they do not have specific reading classes in the general education department. There are various socio-emotional issues taking place within a classroom which is very distracting and disruptive for many of these adolescents. In an effort to refocus the thinking, Wade and Moje (2000) suggested that researchers should examine the content that adolescents are reading outside of school. I do agree with this sentiment since students will read what they are interested in and this is highly relevant in particular to the Common Core State Standards and the development of new curriculum. We need to deliver content in a more related way to adolescence; meet them where they are throughout each content area.

Autonomy and Choice
Williams, Hedrick, and Tuschinski (2008) suggested that students’ interest increase when they feel that they have autonomy over what they read and it is the responsibility of educators to ensure that they do have choices. As we experience a global shift in the technological age, we should also take advantage of how we deliver the text across the context areas. The rationale being, adolescents love technology! Therefore, we can revamp the curriculum to increase access to a variety of content and better align with the preference of students. For example, a health class can have students use their digital recording devices to create their own public service announcements exploring topics such as suicide prevention, drug and alcohol abuse prevention, violence awareness, date rape, depression, understanding sexually transmitted infections and other very relevant topics that our young people need to be know and understand. They can use their handheld devices such as I phones and I pad or tablets to research these topics and create their own visual presentations and brochures which they will present to each other in class. They can also participate in webinars and conferences for study sessions when they are outside of the classroom. Although there are programs already being used in many classrooms, there is still considerable room for them to be mainstreamed with the revamping of the Common Core State Curriculum.

Testing
According to Williams et al. (2008) much of the current curriculum was designed to havesome type of
Additional Challenges for ELs

According to the New York State Education Department (NYSED), in order to be classified as SIFE, a student must have one of the following:

A SIFE student must come from a home in which a language other than English is spoken and must enter a school in the United States after the second grade. Have had at least two years less schooling than their peers. Function at least two years below expected grade level in reading and mathematics. May be pre-literate in their home language.

However, different states use varying definition of SIFE and this as I will later discuss is an issue in itself. A SIFE student can also be a student who was born in the United States but have had their education interrupted in some capacity. For example, a student whose single parent mother moves her children from one state to the next in order to ensure that she maintains the benefits she receives for her minor children. In this situation the student’s education is interrupted each time the student moves to a new school. Although, the typical SIFE student is usually identified as an English Language Learner (ELL) before he or she is classified as SIFE.

According to Ehren, Lenz, and Deshler (2014) ELs who are also SIFE are challenged to perform three times as much the work in order to bridge the gap in knowledge and literacy they didn’t learn in their home countries. These challenges are exacerbated at the high school level due to the limited time that a student have to complete graduation requirements. Newly arrived high school EL SIFE students enroll at an age beyond which literacy instruction is usually provided to students, making it very difficult to assimilate. Many teachers are not prepared to incorporate basic literacy components such as alphabetic principle, phonemic awareness, decoding, and fluency, due to their lack of training. Usually teachers in the lower grades are specifically trained for literacy, and teachers at the high school level are trained primarily in their content area specialty. It takes at least a decade or longer of schooling to develop a full English language proficiency. Many SIFE students become discourage and drop out of school while others age out by turning age 21 before they are able to meet the high school graduation requirements (Ehren et al., 2014).

As educational standards are currently being raised and accountability is being increased, schools with high numbers of SIFE students tend to experience a greater impact than schools with a smaller SIFE population. The research suggests that schools struggle to meet the needs of these students with limited resources and slashed budgets. With an increase in the amount of SIFE students, it is difficult to provide the appropriate and high quality education necessary to adequately meet the needs of such students. Schools struggle with low teacher to student ratio, appropriate instructional resources, timely and on-going teacher training and extended instructional time remain the unattainable commodities (Ehren et al., 2014).

Summary and Conclusion

Upon completion of the research, it is evident that narrowing the achievement gap to promote literacy in the society and is not just an event, but an ongoing evolving process. However, it is important to acknowledge the need to initiate learning on all platforms and avail equity in education to level the playing field for all constituencies. Urban high school students need more support as they strive to make academic gains, progress and experience success on their journey through high school and their aspirations to embark upon a college education which will endeavor them to prepare for future success in life. Based on the literature, there is a need for more investigations into programs that have proven track record of success. We need to properly identify and address the gaps that exists such as knowing who our EL students are and what they need in order to meet and exceed the standards to successfully complete high school and gain entry into reputable college programs for which they are equipped and prepared to succeed. This must be true for all students irrespective of their race, color, culture, income and gender.
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Math Anxiety & Growth Mindset in Community College Pre-Service Teacher Candidates
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BMCC

Abstract
This study examined the non-cognitive aspects and associations that math anxiety and fixed mindsets can have on community college pre-service teacher candidates. Research suggests that when pre-service teachers are exposed to math trauma, there can be lasting effects that negatively influence the mindsets of their P-12 students. The theoretical framework of this study focuses on the tenets of the principle theory of flexible versus fixed mindsets, attitudes, and perceptions towards mathematics. A pre and post study was conducted using 32 pre-service teacher candidates in the Northeastern area of United States. An ANOVA focusing on self-perceptions - an aspect of growth mindset and math anxiety - revealed statistically significant results regarding math mindsets. Moreover, it highlighted the concept of a fixed mindset serving as a barrier for some students towards successful college course completion. Consequently, results also suggest that math anxiety is highly associated with perceived mathematic abilities. Implications for college teacher education programs and in-classroom teachers will be furthered discussed.

Math Anxiety & Growth Mindset in Community College Students
Students who enter two-year community college programs often find that passing gateway math courses become an impediment to their timely progression toward degree completion and transfer. This challenge is also a contributing factor to low retention rates in some programs but for the purposes of this research, there is a high concern for pre-service teachers who enroll in childhood and early childhood education programs. Although students who attend and graduate from community colleges often show more grit than students attending a four-year college, the dropout rates at community colleges can be as high as 80% (Duckworth, 2016). Currently, around 68% of new college freshmen in public community colleges are placed in developmental math courses (Chen, 2016). Students must first place out of or complete developmental classes before they can move on to credit-bearing college level classes (Grubb, Boner, Frankel, Parker, Patterson, Gabriner & Wilson, 2018). Part of the problem is that more than 60% of freshmen students are underprepared for college level mathematics courses (Lee, Licwinko & Taylor-Buncker, 2013). Every year the number of students requiring developmental classes increases (Howard & Whitaker, 2011). Those students are usually placed in elementary algebra classes, but more than 70% of them repeat the course more than once (Lee, et. al., 2013; Logue, Watanabe-Rose, & Douglas, 2016). Mathematics can be a challenging subject for some students, and they often have difficulty moving from developmental to credit-bearing classes. Part of this can be attributed to inequities that begin in high schools when assigning students to accelerated algebra courses.

Recent math pass rates for pre-service teachers entering community college continue to raise concerns as they are at a high percentage. According to a Northeastern community college Enrollment, Retention, and Completion Report (2018), students in the secondary education program passed their remedial math course at a rate of 42.9%, childhood education at a 52.7%, and early childhood education at a 54.2%. The need to address the cognitive and non-cognitive barriers to successful completion of required remedial math courses is of utmost importance to the retention and transfer of these pre-service teacher candidates. Moreover, the importance of looking at pre-service teacher candidates’ non-cognitive attitudes towards math is due to the potential impact it can have on P-12 students. The effects and/or impact that taking developmental math courses can have on pre-service teacher candidates’ mindset can affect the strategies they use in their own classrooms. The mathematical environment that P-12 teachers create can be influenced by the growth or flexible mindset of each pre-service candidate, which can be supported in math and teacher education college programs (Hochanadel & Finamore, 2015).

For this study, a community college in the Northeastern United States conducted a pre/post study looking at pre-service teacher candidates’ attitudes, which can be supported in math and teacher education college programs (Hochanadel & Finamore, 2015).
The workshops, therefore, embedded both math content and teaching strategies for pre-service teacher candidates. The focus of the workshops was to tackle non-cognitive issues of the utmost importance that served as barriers for some of our entering candidates. In turn, this study demonstrated that teacher candidates would need resources similar to those included in workshops in order to reduce anxiety and increase confidence in the field.

The teacher education program at the aforementioned Northeastern college conducted a three series mindset and anxiety workshop for pre-service education candidates. The workshops that embedded teacher mindset and math anxiety were implemented for both lower and upper sophomores in a community college in a Northeastern area. These workshops can also be used as a model for implementation within other college education programs in order to begin addressing the role of mindset in the retention, successful completion, and transfer of all students from said Northeastern community college. It is critical for teacher education candidates to partake in these workshops, as this can possibly have a positive impact on the mindset regarding the students that teacher candidates will teach. It is also a goal to disseminate the workshop materials to the wider community and provide an opportunity for a face-to-face or online seminar that students outside the teacher education department can access. Assessing teachers’ approaches to math is key to the way in which they will present the material to their students (Boaler, 2016); providing learning opportunities to them such as these workshops, therefore, is critical to ensure future success.

Theoretical Framework
According to Huberty (2009), “Anxiety is a normal human emotion that can be detrimental in a school setting, but good communication and support can help minimize its negative impact” (p. 12). Young adults in twenty-first century classrooms suffer from anxiety symptoms that are directly related to high-stakes mathematics testing and performance expectations (Huberty, 2009). Dweck’s (2008) research demonstrated the benefits of training students on how to change their brains in order to develop perseverance and a growth mindset. When adults focus on giving praise for perseverance and hard work, children develop a growth mindset and tend to build their problem-solving abilities when faced with adversity or new situations. Educating students on the importance of trying new things and making mistakes can train their brains to develop and apply critical thinking skills (Boaler, 2016). According to Haimovitz, Wormaltong, and Henderlong’s (2011) beliefs about intelligence and abilities serve as better predictors for motivation. The authors found that students who believe they are not capable or intelligent had a decrease in intrinsic motivation as it relates to academics.

Mindset and Mathematics
Students with a fixed mindset believe people are born with a certain amount of intelligence, while students with a growth mindset believe that intelligence is malleable. One can change the way in which one learns, and this can lead to skill competency (Dweck, 2006). Like many college students, pre-service teacher candidates with a fixed mindset often fear failure. This fear prevents them from taking on new challenges, from asking questions, and from getting help - particularly in mathematics. Often, this lack of advocacy translates to an inability to succeed in a chosen discipline (Boaler, 2016). As a result, they set few or no long-term goals and possess a negative sense of self-identity (Howard & Whitaker, 2011). By contrast, students with a growth mindset are more likely to seek help, leave their comfort zone, and commit to learning (Miller & Gerlach, 1997), leading them to be more likely to persevere when they are challenged and understand that the need for putting in effort is not indicative of a lack of intelligence (Wiersema, Licklider, Thompson, Hendrich & Haynes, 2015). Additionally, the goal of these students is to acquire knowledge, not just earn a grade (Dweck, 2006; Pink, 2009).

A growth mindset allows students’ minds to expand. In mathematics, this means they are not just seeing right and wrong answers; they are seeing creativity and the aesthetic of mathematics (Boaler, 2016). Students become innovative problem solvers (Wagner, 2012). While there is research on growth mindset in the K-12 classroom, there is a paucity in the research that links growth mindset with post-secondary classrooms. The transition from high school to college can be a difficult one. Students perceive that it will be easy, then experience distress when it is not as anticipated and when the skills they acquired in high school are not always applicable (Wiersema, et al., 2015; Yeager et. al., 2016). Changing their mindset at this juncture can be critical (Yeager & Walton, 2011). The challenges they face can affect their health and their financial security. Wealth is often a factor in college success and mindset. Students who come from low income backgrounds are more likely to have fixed mindsets due to disparities in the quality of resources they are offered in less affluent schools (Claro, Paunesku & Dweck, 2016). It is critical to point out that while there are many factors and structural inequalities that cannot be controlled by students, these factors can lead to psychological inequalities. And, while these psychological inequalities cannot be
completely fixed, they can be addressed in the classroom to create change in students. Addressing their adversities can be helpful in improving their academic success and addressing post-secondary inequalities. Students who learn that difficulties are common and are not indicative of a lack of intelligence are more likely to get better grades. The recognition that everyone faces adversity and an understanding of the causes of their difficulties can make students more likely to ask for help, attend office hours, and take chances on making friends (Yeager et. al., 2016).

Changing mindset takes time, but when students’ beliefs about learning change, their behaviors change as well (Wiersema et. al., 2015). Academic motivation increases as does commitment to learning (Cavanagh, Chen, Bathgate, Frederick, Hanauer & Graham, 2018). Wiersema et. al. (2015) found that when students changed their mindset in their hardest class, the class was no longer their hardest. They realized the value of their effort. Educating students in growth mindset and helping them understand that challenges help our brains make connections leads to improved academic success for all students (Cavanagh, et. al., 2018; Claro, Paunesku & Dweck 2016; Wiersema, et. al., 2015; Yeager & Walton, 2011; Yeager, et. al., 2016).

It should be made clear that changing mindset does not automatically mean all students will succeed. In addition, success does not always mean higher course grades (Cavanagh, et. al., 2018). A growth mindset is not a substitute for adequate preparation, and it cannot exist in isolation; it must exist in tandem with other support systems (Yeager, et. al., 2016). Students may believe they can learn, but then they must learn how to learn and how to engage in deeper thinking (Wiersema, et.al., 2015). When growth mindset is taught, it must be reinforced at regular intervals, and it should be recognized that the success of any reform is dependent on who is delivering it (Yeager & Walton, 2011). Psychological reform is critical, but it is not a replacement for traditional reforms. The purpose of this research is to measure the mathematical mindset of P-12 pre-service teacher candidates as they will then go on to foster similar mindset in P-12 students (Hochanadel & Finamore, 2015).

Research Hypothesis
H1: There is a significant difference between changes in perceptions/attitude of math anxiety in young adults before participating in mathematical mindset instruction compared to after participating in three mathematical mindset workshops.

Methods
The purpose of this study was to determine whether growth mindset instruction in math led to changes in math mindset, math anxiety, and overall perception of math. Specifically, a pre and post survey instrument served as the dependent variable in this study and was used to gather data on perceptions of math mindset, math anxiety, and perception of math from all n=32 participants (See Appendix A). A t-test of independent samples was conducted comparing mean values of the pre- and post-test scores. A two tail paired analysis was conducted after all three workshops were completed. This was an eight-week study where students were given a two-hour workshop every three weeks.

Measure
The instrument was designed by CUNY for the purpose of remediation research. Students were given surveys designed to assess attitudes towards mathematics before the implementation of the growth and math anxiety workshops and then again towards the end of the semester (See Appendix A). The same survey was given both times. The survey contained 17 statements to which students were asked to reply using a seven-point Likert scale, reporting the extent to which they agreed with each statement in a range from 1) Strongly Agree, 2) Agree, 3) Somewhat Agree, 4) Neutral 5) Somewhat Disagree, 6) Disagree, to 7) Strongly Disagree.

Intervention
A series of three workshops was held during the spring 2019 semester. These workshops were developed and implemented through the collaboration of faculty from a teacher education program and math program with a background in Dweck’s framework as it relates to math anxiety and math mindsets. The workshops provided were as follows:

1) Math Anxiety
For many students, the word math can cause feelings of anxiety. Math anxiety is a common and sometimes serious problem that can impede students from moving forward or building key foundational math concepts. In an effort to reduce these feelings, it is critical that students explore their own experience with math and think about how these feelings of anxiety can be passed down to their future students. This session allowed students to reflect on previous internal/external experiences or associations with peers and teachers that may have caused behavioral and emotional transfers to their math mindset. It taught students seven highly rated study and note-taking skills techniques in math (Swenson, 2018). We offered tips on learning positive thinking prior, during, and after the test. Students would have an opportunity to share their own helpful hints as well.
2) Mathematical Growth Mindset and the Power of Mistakes
Every mistake creates a new synapse; knowing this can sometimes help change the way we can see and feel about math (Boaler, 2016). Learning about mindfulness can help students to focus on the present moment and reduce anxiety and stress levels. The Teacher Education Club will explore the idea of mindfulness, practice some techniques, and discuss its application in students’ everyday lives.

3) Time Management and Study Skills
Time management can be challenging for entering college students. Students need to learn how to balance their personal, professional, and school lives. This alone is a process that takes time. As a result, it is important to acknowledge these complex and newly acquired student responsibilities and teach the necessary tools needed to manage their time and normalize their procrastination. This workshop did not only show students the benefits of time management but aided them in discovering how they can learn to manage their time and their responsibilities. Such benefits included, but were not limited to, stress reduction, accomplishing goals, increased energy, increased productivity, and an overall holistic approach that is not just effective but efficient for the time that students have.

Participants
This was a convenience sample of 32 lower and upper freshmen education students who were part of the Teacher Education Club and had declared education as their major. Of the sample, 54% had not taken a math course at a community college in the Northeastern area, while the other 46% were in the process of taking the first of two educational math courses. Of the sample, 29 were female students and 3 were male students.

Findings
A two-tail paired-samples t-test was conducted to compare the levels of anxiety and math perspectives in a pre-workshop and post-workshop condition. There was a significant difference in the scores for key questions regarding mindset and levels of anxiety. Specifically, question 1: To understand math I sometimes think about my personal experiences, P = .02 was highly significant. Question 2: I am good at math, was highly significant, P = .01. Question 8: I often feel like I’m missing something important in math class, P = .05 and question 15: Learning mathematics makes me nervous, P = .02. An ANOVA was conducted on question two, which was determined to be aligned with self-perceptions - an aspect of growth mindset.

Chart 1
ANOVA Results for Question 2: I am Good at Math

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<th>Groups</th>
<th>Count</th>
<th>Sum</th>
<th>Average</th>
<th>Variance</th>
</tr>
</thead>
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<tr>
<td>Pre-Test</td>
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<td>10.40</td>
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<tr>
<td>Post-Test</td>
<td>32.00</td>
<td>111.00</td>
<td>3.47</td>
<td>1.10</td>
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</tbody>
</table>

Chart 2: ANOVA Results for Math Mindset and Math Anxiety

<table>
<thead>
<tr>
<th>Groups</th>
<th>Count</th>
<th>Sum</th>
<th>Average</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post-Test Q2</td>
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<td>111.000</td>
<td>3.469</td>
<td>1.096</td>
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<tr>
<td>Post-Test Q15</td>
<td>32.00</td>
<td>94.000</td>
<td>2.938</td>
<td>1.286</td>
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</table>

Implications
The results suggest that students do feel anxious when they have to take a math class. While there are several aspects in the college classroom that influence the levels of anxiety in students, such as teaching style, scaffolding of content, and collaboration among students and professors, the most influential on math anxiety is the way in which students rate their math abilities and their perceived content competence. As a result, a one-way between subjects ANOVA was conducted to compare the effect of mindset workshops on one’s perspective of math abilities. There were significant effects with regard to the mindset workshops on one’s perception of math abilities at the p< .05 level [F(1, 62) = 4.71, p = 0.03].

Results suggest that educating and trying to change students’ mindsets becomes a critical non-cognitive aspect to one’s view on mathematical performance (See Chart 1). There were statistically significant results supporting changes in math mindset, but there was no statistical significance with regard to math view. Students still view math in their careers as an unimportant requirement. Based on the results, there was significance between student math mindset and math anxiety (See Chart 2). ANOVA results between the post-test of math mindset question 2 and math anxiety question 15 show statistical significance [F(1, 62) = 3.79, p = .056]. This suggests that changing student mindset can influence the level of math anxiety. Specifically, these results can influence teacher education programs and P-12 settings to provide workshops for teachers to change the way in which the mindset of the mathematical classroom is supported. Henceforth, the implications for early, childhood, and high school settings are as follows:

1) The need for administrators and math coordinators to provide incoming teachers the skills they need to foster a math environment where students’ interests are...
accounted for and embedded in the lesson plans are important. Creating student engagement through the teacher’s own interpretations of mathematical concepts as well as a shared perspective of math being exciting, challenging, and interesting will resonate more with students than a didactic approach where teaching rules and/or algorithms becomes the most important part of learning.

2) Mistakes must be encouraged in class; students need to be made aware that they have contributed to the learning process in making and rectifying them. Teachers can also teach by taking into consideration the common mistakes in math and promote how these mistakes can help students understand.

3) Introducing not only math vocabulary but self-efficacy vocabulary, where students learn to refer to their lack of understanding or mistake as a work in progress. Specifically, by using phrases such as “I do not understand this yet.”

4) Teacher education programs, as well as math departments at the college level, need to address the mathematical mindset of pre-service teacher candidates in order to reduce any negative attitudes that may influence P-12 students.

The way in which a teacher exposes students to mathematical content can nurture a growth rather than a fixed mindset. Teachers need to practice their own sense-making and model it for their students (Boaler, 2016). Therefore, understanding one’s own mindset can change the way one fosters the P-12 math environment; this is where higher education programs should play a larger role in redesigning programs for pre-service candidates that address such non-cognitive skills.

References

Appendix A

**STUDENT MATH ATTITUDE SURVEY**

Fill in one of the numbered bubbles according to the following:

**Strongly Agree:** (2)-Agree: (3)-Somewhat Agree: (4)-Neutral: (5)-Somewhat disagree: (6)-Disagree: (7)-Strongly Disagree

<table>
<thead>
<tr>
<th></th>
<th>Agree</th>
<th>Strongly Agree</th>
<th>Disagree</th>
<th>Neutral</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. To understand math I sometimes think about my personal experiences.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2. I am good at math.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>3. If I work at it, I can do well in math.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>4. Math helps me understand the world around me.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>5. I enjoy learning new things in math.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>6. I have taken some math courses in high school and college that were taught in a very interesting way.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>7. Many situations in the world around me can be modeled mathematically.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>8. I often feel like I’m missing something important in math class.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>9. I want to study more mathematics.</td>
<td>0</td>
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<tr>
<td>10. Working in groups helps me learn math.</td>
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<tr>
<td>11. I rarely encounter situations that are mathematical in nature outside school.</td>
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<tr>
<td>12. I try to avoid courses that involve mathematics.</td>
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<tr>
<td>13. In mathematics you can be creative and discover things for yourself.</td>
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<tr>
<td>14. I’m never sure my answer is right until I’m given the solution.</td>
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<tr>
<td>15. Learning mathematics makes me nervous.</td>
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<td></td>
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<tr>
<td>16. Mathematical thinking helps me make intelligent decisions about my life.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17. I don’t need a good understanding of math to achieve my career goals</td>
<td></td>
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</tr>
</tbody>
</table>

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Elisabeth Jaffe, Ed.D is an Assistant Professor of Mathematics at Borough of Manhattan Community College. Her research is primarily centered on helping students, pre and in-service teachers become metacognitive learners with a growth mindset.
Advancing Conversations of Equity and Inclusion in Mathematics Teacher Education
Alesia Mickle Moldavan, Ph.D.
Fordham University

Abstract
Mathematics teacher educators are responsible for preparing effective teachers to meet the mathematical needs of a growing diverse student population (AMTE, 2017). With research suggesting that effective mathematics teachers have a comprehensive understanding of equity-based teaching practices (Chao, Murray, & Gutiérrez, 2014), mathematics teacher educators are exploring ways to equip preservice teachers with the knowledge, skills, and dispositions necessary to support equitable mathematics instruction, recognize systems of inequity, and advocate for all learners. This study reports on the various efforts made by mathematics teacher educators to engage preservice teachers in conversations of equity and inclusion in their methods courses. Recommendations are made to advance such conversations in teacher education by examining equity and inclusion in terms of access, achievement, identity, and power.

Significance of the Study
The growing diverse student population in New York City and around the country makes it imperative for teacher education to stay current with the needs of today’s schools and prepare teachers with the professional knowledge and practices to meet the ever-changing teaching demands. In recent decades, reform initiatives led by various professional organizations, such as the Association of Mathematics Teacher Educators (AMTE), the National Council of Teachers of Mathematics (NCTM), the National Council of Supervisors of Mathematics (NCSM), the North American Study Group on Ethnomathematics (NASGEm), TODOS: Mathematics for All (TODOS), and Women and Mathematics Education (WME), have targeted efforts to create, support, and sustain a culture of excellence and equity in mathematics education. The strategic efforts of these professional organizations and many others have introduced standards and recommendations (e.g., AMTE, 2015, 2017; NCTM, 2000, 2014a, 2014b) that serve to (a) advance educators’ understanding of equity in the mathematics classroom and (b) promote equitable access to high-quality mathematics instruction with support and resources that maximize the learning potential of all students. These efforts have paved the way for a transformative vision of mathematics education and challenged the field to conceptualize the complexities of equity and define what that looks like in our practice.

With research suggesting that effective mathematics teachers have a comprehensive understanding of equity-based teaching practices (Chao, Murray, & Gutiérrez, 2014), mathematics teacher educators are exploring ways to equip preservice teachers with the knowledge, skills, and dispositions necessary to support equitable mathematics instruction, recognize systems of inequity, and advocate for all learners. The purpose of this study is to examine how mathematics teacher educators engage preservice teachers in conversations of equity and inclusion in their methods courses. Specifically, I report on four participants who were part of a larger study (viz., Moldavan, 2018) that examined how mathematics teacher educators developed preservice teachers’ understandings of the social contexts of mathematics teaching and learning while negotiating assessment (e.g., edTPA) and professional organizations’ reform initiatives. I further describe how the findings from this research have impacted my own instruction as a mathematics teacher educator and the implications for how such conversations about equity and inclusion can specifically advance discussions about access, achievement, identity, and power.

Research Questions
This study reports on the various efforts made by mathematics teacher educators to engage preservice teachers in conversations of equity and inclusion in their methods courses. Specifically, the following research questions guide this study:
1. What are mathematics teacher educators’ understanding of equity?
2. How do mathematics teacher educators address equity and inclusion in their methods courses?
Theoretical Framework

Gutiérrez’s (2007) equity framework was used to situate mathematics teacher educators’ understanding of equity and position their efforts to engage preservice teachers in such conversations in their methods courses. The framework unpacks equity as a complex notion by describing it in terms of four dimensions (i.e., access, achievement, identity, and power) mapped onto two axes (i.e., the dominant axis and the critical axis). I provide a brief review with supporting literature of each dimension to provide context to how I framed my inquiry and organized my findings.

The dominant axis of Gutiérrez’s (2007) equity framework is comprised of two dimensions referred to as access and achievement. Gutiérrez (2009) describes the dimension known as access as the resources available to students that enable participation in mathematics (e.g., rigorous curriculum, high quality teachers and instruction, inviting classroom environments, appropriate texts and technology). When considering access as it relates to equity, the dimension may contribute to the misleading idea that learning mathematics is affected by students’ opportunity to possess equal resources. Instead, access must be dissociated with the idea of equal resources as such actions perpetuate sameness and fail to address the specific needs of students and schools. Conscious efforts must be made to ensure resources in the mathematics classroom fairly support students’ mathematical, cultural, and linguistic needs (AMTE, 2017; NCTM, 2014b).

The second dimension of Gutiérrez’s (2007) equity framework addresses concepts of identity and power mapped onto what is known as the critical axis. Attending to identity in the mathematics classroom recognizes the need for students to reflect on themselves and others when learning mathematics (Gutiérrez, 2009). Pedagogical strategies (e.g., culturally responsive mathematics teaching) should be used to privilege students’ cultural and linguistic backgrounds as well as leverage students’ mathematical strengths to make learning relevant and effective (Gay, 2009). This dimension, therefore, not only draws attention to students’ assets and how they can be used to make meaningful connections in mathematics but also recognizes the ways students have been (and still are) racialized, gendered, and classed (Gutiérrez, 2009).

The other dimension of the critical axis is power, which can be used to examine who is privileged (and silenced) in the mathematics classroom (Gutiérrez, 2007). Power can serve as agency to challenge injustices and advocate for all learners (Gutiérrez, 2008, 2009). Thus, the critical axis acknowledges the need for mathematics education to offer students ownership in their mathematics learning so they can be empowered individuals with the skills to use mathematics as an analytical tool to critique societal norms.

Research Design

A qualitative case study was conducted to examine how mathematics teacher educators from various institutions of higher education (i.e., public and private) addressed equity and inclusion in their methods courses. Although a total of nine participants were involved in the larger study, I report on four participants’ targeted efforts as these findings influenced my own instruction as a mathematics teacher educator addressing topics of access, achievement, identity, and power in my methods courses. The participants were responsible for preparing preservice teachers in initial teacher preparations programs and taught mathematics methods courses. The participants were self-identified as knowledgeable of the recent initiatives led by professional organizations to advocate for equity in mathematics teaching and learning (e.g., AMTE, 2017; NCTM, 2000, 2014b).

The participants were selected by the researcher using stratified purposeful sampling to offer information-rich cases from various contexts to provide meaningful comparisons (Patton, 2002). Table 1 identifies the
participants with their associated institutions classified by the size (number of students enrolled) and the type (private or public) as reported by the participant and cross-checked with the Carnegie Classification of Institutions of Higher Education (2017). I used the following scale to compare the participants’ institutions for this study: large public institutions (20,000+ students) and small private institutions (approximately 2,000-5,000 students). The participants’ institutions also represented a variety of student demographics (see Table 2). To respect anonymity and confidentiality, I used a pseudonym for each participant.

### Table 1

**Participants’ Associated Institutions of Higher Education**

<table>
<thead>
<tr>
<th>Type of Institutions</th>
<th>Participant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large Public Institutions</td>
<td>Heather</td>
</tr>
<tr>
<td></td>
<td>Patrick</td>
</tr>
<tr>
<td>Small Private Institutions</td>
<td>Kevin</td>
</tr>
<tr>
<td></td>
<td>Sara</td>
</tr>
</tbody>
</table>

*Note. Participants’ names are pseudonyms.*

### Table 2

**Student Demographics Percentages of Participants’ Institutions**

<table>
<thead>
<tr>
<th>Participant’s Institution</th>
<th>Asian</th>
<th>Black</th>
<th>Hispanic</th>
<th>White</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heather</td>
<td>10</td>
<td>8</td>
<td>6</td>
<td>73</td>
<td>3</td>
</tr>
<tr>
<td>Patrick</td>
<td>8</td>
<td>20</td>
<td>6</td>
<td>60</td>
<td>6</td>
</tr>
<tr>
<td>Kevin</td>
<td>4</td>
<td>21</td>
<td>9</td>
<td>60</td>
<td>6</td>
</tr>
<tr>
<td>Sara</td>
<td>1</td>
<td>26</td>
<td>5</td>
<td>65</td>
<td>3</td>
</tr>
</tbody>
</table>

**Data Analysis**

Each participant completed two semi-structured interviews and a follow-up interview for member-checking. The participants also submitted artifacts (e.g., syllabi, course readings, activities, assignments, work samples), which served as corroborating sources of evidence and discussion topics for the second interview. Data sources were coded using in vivo and descriptive code (Saldaña, 2016) and interpreted using Kvale’s (1996) meaning-making methods to capture the participants’ shared experiences. Throughout the data collection and analysis, I also kept reflective commentary/analytic memos to understand my thoughts (e.g., coding processes, assumptions) and extract relevant information to guide my synthesis.

**Results**

The findings of this study revealed that the mathematics teacher educators made purposeful efforts to address equity and inclusion in their methods courses. In doing so, the participants reported (a) preservice teachers’ increased understanding of equity by engaging in activities that elicited such conversations and (b) the need for more effective ways to address issues pertaining to power, privilege, marginalization, and oppression. With the research questions in mind, I report on the mathematics teacher educators’ understanding of equity and share examples of how they addressed equity and inclusion in their methods courses. The varied efforts reaffirm that equity is a complex notion that can be addressed differently based on one’s understanding and experience of issues of access, achievement, identity, and power in mathematics education.

**Access**

Several participants defined access as tangible resources, supports, and self-differentiated tasks that position learners for participation in the mathematics classroom. To address access in methods courses, Sara shared how she models a situation in which preservice teachers are asked to complete computations using a non-Western numerical system. During the activity, some preservice teachers receive access to supports (e.g., translation charts), while others do not. Afterwards, she asks her preservice teachers to discuss how appropriate supports can be used to break down cultural and language barriers to ensure all learners have access to the mathematics. Similarly, Kevin has his preservice teachers examine videos of teachers and reflect on equity-based teaching practices, including where teachers referenced students’ cultural assets, interests, and prior knowledge of mathematics. Several participants also shared how they have their preservice teachers create self-differentiated tasks that allow for multiple entry points. The tasks communicate high expectations focused on individualized learning with appropriate supports for all learners.

**Achievement**

When describing achievement in mathematics education, several participants commented on how “success” in mathematics is often defined by student performance on standardized tests and participation in high-level mathematics courses. Viewing achievement through this narrow lens ignores the broader notions of mathematical literacy, including one’s use of mathematics.
to engage in problem-solving situations in out-of-school experiences (e.g., afterschool programs, work, homelife). With this in mind, the participants made conscious efforts to mention to their preservice teachers about the dangers of tracking. For example, Patrick described how he has his preservice teachers discuss how school systems may be structured in ways that disadvantage marginalized students. The preservice teachers also examine how success in mathematics can be used as a sorting mechanism for access into colleges and high-paying careers. Likewise, Sara shared how she assigns an equity report where the preservice teachers analyze data from the National Assessment of Educational Progress database for discrepancies in student achievement. In their reports, the preservice teachers reflect on the “achievement gap” and identify student success stories that disrupt the discourse found in deficit narratives.

Identity
The participants recognized that identity in the mathematics classroom not only impacts how students see themselves as mathematicians but also how students participate in mathematical activities. Most of the participants’ shared efforts addressing identity with their preservice teachers pertained to topics of mind-sets; inclusive and culturally responsive mathematics instruction; and recognizing student diversity (e.g., mathematical knowledge, cultural and linguistic backgrounds, socioeconomic status, family structures). To better understand how preservice teachers picture themselves and their students as mathematicians, Sara has her preservice teachers draw a model of a mathematician and critique the stereotypical images of Albert Einstein. Similarly, Patrick assigns a mathematical autobiography that provides an opportunity for preservice teachers to identify and reflect on their own mathematical identities. Other conversations mentioned by Heather and Kevin include comparing growth versus fixed mindsets, identifying deficit-based thinking versus strengths-based thinking, and leveraging students’ interests to motivate learning.

Power
Embedded in the shared efforts of the participants to address power included issues of privilege, race, class, gender, and other systems of oppression. Several participants shared specific examples of how they engaged their preservice teachers in such conversations. For instance, Heather shared how she facilitates conversations about privilege with an activity called “Race Cards.” Preservice teachers organize themselves in groups and pull cards of different themes (i.e., attributes, grade-levels, mathematics courses, race, and gender). The attributes identify descriptors about socioeconomic status, family dynamics, mental and physical health, behavior, sexuality, and accolades (e.g., awards, leadership positions, club involvement). The preservice teachers discuss which students might be more privileged in school based on the descriptors on the cards. The activity assists preservice teachers with identifying their biases and challenging stereotypes.

Some participants also stated that they were hesitant to address some power issues in their methods courses because they did not want to start heated debates or were still looking for sample activities and prompts that would help them facilitate productive conversations. For example, Kevin shared: “We talk about myths in mathematics education, like the myth that boys are better at mathematics than girls, children with learning disabilities cannot learn mathematics, and children from lower socioeconomic areas do not learn mathematics well.” However, he did mention: “I do not specifically talk about race in my classes, but I do talk about how many people have been neglected and refused opportunities.” Kevin acknowledges his need to be more purposeful in addressing race, but he feels that his conversation about power still speaks to teachers’ responsibilities to advocate for all students. Similarly, Patrick also shared his wishes to teach preservice teachers to “recognize that power is a perpetuation of White privilege,” but he asserted, “I do not have a nice lesson that is digging into that well yet.” The participants wish to enhance their conversations in their methods courses so that preservice teachers can question what mathematics is privileged in society and who is recognized for the mathematics.

Discussion
The impetus for this research was two-fold in that I hoped the findings would not only advance frameworks and efforts for addressing equity in mathematics teacher education but also contribute resources for those preparing preservice teachers in their methods courses. As a mathematics teacher educator, I often find myself looking for guidance on what has been used
successfully in the field to engage preservice teachers in conversations of equity work. I am hopeful when I find colleagues who share how they do “great work” in their courses addressing topics of diversity, inclusion, and equitable-teaching practices. When I ask to learn more, I find it disheartening when they tell me that they will send the reading and the discussion prompt that they assign at the end of the semester. Equity work should not be seen as a “one stop shop” lesson where everything pertaining to equity can be addressed in one reading, activity, or written reflection. While I do not discredit the effort to make space for such discussion pertaining to equity, I caution that we must also not see it as an “add-on” topic if time permits in our curriculum. Instead, equity should be the foundation on which we build our curriculum from the first day of the semester. This way, equity is considered in every aspect of teaching and learning in our methods courses (e.g., lesson planning, differentiated instruction, teacher questioning, assessment, classroom management). I acknowledge that this is not an easy task; thus, equity work is not something we should do in isolation. We must have outlets to share our stories of successes and failures and build relationships with other equity-minded colleagues to promote, support, and advocate for the work we do. Through this research, I had the opportunity to build my own network of equity-minded colleagues at various pursuits on their own paths to understand and facilitate equity work. While I collected resources to contribute to my research objective, I also pocketed several resources to add to my own toolbox for purposes of strengthening my methods courses with equity as its core foundation. Next, I share some of my own experiences adopting two of the activities previously mentioned, which I named as follows: (a) Draw-a-Mathematician at Work and (b) Decoding Mayan Mathematics. These activities, and countless others, have assisted me in discussing issues of accessibility, achievement, identity, and power to prepare my own preservice teachers who plan to teach in diverse schools in the New York City area.

**Draw-a-Mathematician at Work**

After learning how one of my study’s participants has her preservice teachers draw a model of a mathematician, I wanted to research more about the origins of the task and modify the task to guide discussion about mathematics identity and disposition. I learned that the task was adopted from Chamber’s (1983) Draw-a-Scientist Test (DAST) that was used to determine the age at which children developed stereotypic images of scientists. While the DAST based its inspiration from Goodenough’s (1926) Draw-a-Man Test, a drawing assessment used to measure children’s intelligence, other variations of these tests have been modified and used by researchers in preservice teacher education to assess beliefs, attitudes, and biases toward mathematicians (e.g., Lake & Kelly, 2014; Mewborn & Cross, 2007). As a precursor to a class discussion on mathematics identity and disposition, I had my preservice teachers draw what they envisioned when they pictured a mathematician at work. They also responded to the following prompts: “Where is your mathematician?,” “What is your mathematician doing?,” and “What kinds of tools or materials is your mathematician using?” I found it interesting to learn that most of the preservice teachers drew an old, male mathematician either in a lecture hall teaching about complex equations or sitting at a desk analyzing data. However, I did have some preservice teachers draw a person crunching numbers at a store (see Figure 1). The activity encouraged discussion about stereotypes and the need to acknowledge applications that require mathematics in everyday contexts. Preservice teachers also discussed how they self-identify as doers of mathematics and the ways they can help students learn of stories of mathematicians from underrepresented backgrounds.

![Figure 1: Draw-a-Mathematician at Work. Sample work submitted by my preservice teachers.](image)

**Decoding Mayan Mathematics**

Later in the semester, I role-played a situation in my methods course where I started class with complicated arithmetic on the board using the Mayan numeration system. The Mayans used a base-20, or vigesimal, system that consisted of three symbols: a dot representing a value of one, a bar representing five, and a shell representing zero. I provided half of the preservice teachers with a translation chart showing the first 20 numbers and their symbols. They also received manipulatives (i.e., unit cubes, shells) to model regrouping. The other half of the preservice teachers attempted to engage in the task but quickly became off-task and appeared unmotivated. I received no additional support. Several preservice teachers with the additional resources felt confident in their computations and wanted to be challenged with the task. I provided them with additional activities or materials to work with. I started class with complicated arithmetic on the board using the Mayan numeration system. Later in the semester, I role-played a situation in my methods course where I started class with complicated arithmetic on the board using the Mayan numeration system. Later in the semester, I role-played a situation in my methods course where I started class with complicated arithmetic on the board using the Mayan numeration system.
system. The Mayans used a base-20, or vigesimal, system that consisted of three symbols: a dot representing a value of one, a bar representing five, and a shell representing zero. I provided half of the preservice teachers with a translation chart showing the first 20 numbers and their symbols. They also received manipulatives (i.e., unit cubes, shells) to model regrouping. The other half of the preservice teachers received no additional support. Several preservice teachers with the additional resources felt confident in their computations and wanted to be challenged with additional questions. On the other side of the room, many preservice teachers attempted to engage in the task but quickly became off-task and appeared unmotivated to learn. I used this activity to remind preservice teachers what it is like learning new concepts in mathematics and how teachers can strategically use resources to ensure all students receive the necessary support to be successful. Many preservice teachers began to question why they never learned of the Mayan numeration system in K-12 curriculum and how studying mathematics from other cultures (e.g., ethnomathematics) and historical time periods recognizes the importance of non-Westernized mathematics that is not privileged in our current curriculum.

**Conclusion**

Without a doubt, mathematics teacher educators (and all teacher educators) are influential in preparing teachers with the practices necessary to enable all learners to participate in meaningful learning that advances knowledge and challenges oppressive norms. This study reports on the various efforts of mathematics teacher educators to engage preservice teachers in learning about equity and inclusion in their methods courses. With awareness that Gutiérrez’s (2007) dominant (i.e., access and achievement) and critical (i.e., identity and power) axes are equally important to address equity, mathematics teacher education must look for ways to advance preservice teachers’ knowledge about the socio-cultural, -historical, and -political contexts of mathematics education and develop opportunities to critically respond to inequitable learning experiences for marginalized students (Gutiérrez, 2013). Mathematics must be viewed as more than a “depoliticized body of knowledge” (Felton & Koestler, 2012, p. 25) and, instead, an analytical tool that can be used to challenge the status quo and critique societal issues, such as racism, discrimination, resistance, and oppression (Frankenstein, 1990; Gutstein, 2003, 2006). When preservice teachers acquire the critical consciousness to question inequities and advocate for access to high-quality mathematics instruction for all learners, they can serve as role models and leaders in mathematics education.

**References**


Currently in education, we are experiencing new ways of engaging, motivating, teaching, and assessing our students. They are sometimes no longer in a face-to-face situation and are sometimes at home learning. Due to problems that students are facing at home with technology including the lack of working computers and the lack of internet services, among many other reasons, there is a growing achievement gap that continued to grow when schools closed last March and forged a path through remote and hybrid learning situations.

The following section is devoted to manuscripts that have been written to address some of these problems. It is our hope that these articles will help you to navigate your way as we all strive to do the very best that we can in a new world of education.
In these uncertain times, there is one thing that I am sure of – I believe that these times will define us as educators as we rise to meet the challenges of educating our students in ways that differ from the past. I know that past reform efforts have raised achievement in one school or here and another there, such piecemeal approaches have not yet yielded the effects that are needed to address the inequities that exist in our schools. The retooling of our schools and the delivery of instruction driven by the global pandemic can provide the opportunity to make fundamental changes that can support all students to be successful in school and career.

What We Know
In past decades, I have been involved in efforts to improve the performance of urban school districts across the United States. My interest in an alternative approach to educating students is based in part on my experience in schools and the research that I have conducted to help answer the question, “What does it take to create high-performing schools, particularly ones serving low-income students?” I have reviewed dozens of major reports and policy statements that support the idea that successful schools have a “theory of action” for effecting improvement. These schools establish clear goals and use data to monitor progress. They have educators who accept personal responsibility for improving student learning and are led by supportive and knowledgeable principals. So, we know that successful schools have competent, caring teachers led by committed, knowledgeable principals—the two most important variables in raising student achievement.

The New Order
The unexpected switch to remote learning canceled out academic gains for many students in America and widened racial and economic gaps. Catching up won’t be easy, especially with the many delayed beginning of the term openings and expected abrupt closings due to outbreaks. As teachers and administrators got up to speed with remote and hybrid learning, the inequities in our school system became more evident, and learning slowed and, in some cases, stopped. Homeschooling became the status quo, and a picture is emerging of learning loss among our students, and schools will be asked to fill those gaps as they have in the past. It won’t be easy (Goldstein 2020).

Research Brief: The Potential of a New Paradigm for K-12 Teaching Driven by the Pandemic
Anthony Cavanna, EdD

What Does the Research Say?
Hundreds of studies (What Matters Most 1996) have said that the most significant factor in improving student learning is a knowledgeable and skillful teacher. The teacher is the most important factor. Study after study indicates that having an effective teacher is the most important variable in determining future success. As a matter of fact, teacher expertise accounts for more than 40% of the variability in student performance (Ferguson 2015).

Research over the past decades also indicates that principals are the second most important factor in improving student learning. Principals are key to supporting and developing teacher expertise and creating a learning environment that supports instruction. They accomplish these two tasks through robust professional development, program alignment and engagement with parents. These efforts matter for student achievement to the extent that they facilitate professional collaboration. In turn, a strong school learning climate facilitates teaching and learning so that all teachers and students are more successful than they would be without those schoolwide supports. So, research indicates that principals primarily influence student learning by fostering strong learning climates in their schools.

Implications for Practice
• Make sure that teachers are respected and valued.
• Provide principals with the autonomy that they need in order to develop new twenty-first-century learning environments that do not depend on the constraints of time and place.
• Give teachers and principals the professional learning opportunities that they need in order to make the changes that are required in our system to ensure equity and access for all students.
• Fund school adequately and equitably.
• Encourage opportunities for experiential learning.
• Move to alternative assessments to measure student growth instead of standardized tests.

What Can Be Done
To ensure that we seize the opportunity to fundamentally change the way we approach learning:
• Common performance standards and assessments. Clearly articulate grade-by-grade expectations for learning and apply them uniformly to all students in all schools. Measure student achievement consistently and use it to guide decision making at the classroom and school levels.
Commitment to multiple instructional models and academic programs. Support a portfolio of different models and programs, such as district-run schools and schools run by non-traditional organizations.

District systems that are aligned with equity and flexibility should allow schools autonomy to run independently-free from interference from central office or politicians. Develop administrative systems—for example, in the areas of finance, human resources, and student assignment—that ensure consistent and equitable access to schools and resources. Student funding should be based on student need and follow students to the school they choose.

Significant decision-making authority at the school level. Give individual schools decision-making authority over their programs and operations, including budget and staffing.

Flexible and supportive central office services. Have the district’s central office provide an array of services and supports to meet schools’ differential student needs and programmatic interests.

Broad-based commitment to leadership development. Develop a distributed leadership culture that engages the entire education community in the improvement effort (Cavanna et al. 2006). But commitment to changing the status quo is not enough. Those who are going to undertake school reform need frameworks to judge whether a system is on track to achieving its improvement objectives. For this work, we need to develop detailed rubrics that enable principals to determine how well they are achieving the key variables of student learning and hold them accountable for meeting goals.

Educators Take Note
Implementing a new order can be challenging, as we are reminded by the medieval author and politician Machiavelli:

“It must be considered that there is nothing more difficult to carry out, nor more doubtful of success, nor more dangerous to handle, than to initiate a new order of things.” (Machiavelli The Prince)

Everyone in the system—local government officials, school board members, superintendents, central office administrators, principals, teachers, and other school staff—must do his or her job in new ways. Moving the system toward flexibility of means and clarity of ends is more likely to result in long-term achievement gains and uniformly high-performing schools within schools. Giving those closest to the students and their families the ability to make decisions will foster ownership and progress.

Some schools, principals, and teachers may want to pursue a more centrally directed reform approach that promotes more uniform instructional programs and operations. However, my experience suggests that having confidence in our teachers’ and administrators’ ability to make decisions will foster increased student achievement, equity in educational outcomes, and create a professional environment for professionals.

References
Lessons Learned During the COVID-19 Health Crisis  
Raquel Plotka, Ph.D. - Pace University  
Ruth A. Guriguis, Ed.D. - Borough of Manhattan Community College

Health Crisis  
Early childhood teacher preparation programs train teacher candidates to engage young children in hands-on, multisensory, and multidisciplinary social learning experiences while involving families and communities. In recent years, higher education programs have shifted towards online instruction (Govindarajan & Srivastava, 2020). However, it is unclear whether or not the online environment is an effective platform to train teachers in supporting young children’s development and learning. Similarly, while the assumption is that many young adults prefer online learning, it is uncertain whether this preference extends to young adults training to become teachers of young children. This study attempts to explore teacher candidate experiences and preferences related to remote learning while training to become early childhood educators. The current novel COVID-19 health crisis had forced early childhood teacher education programs in many parts of the world to shift teacher preparation to the online setting. This situation has presented the opportunity to explore the effectiveness of online training for early childhood teacher candidates. Higher education institutions had been shifting coursework to remote learning in the past years, and this shift is expected to continue to grow, even after the health crisis has been overcome (Govindarajan & Srivastava, 2020). This study proposes that the opinions of teacher candidates should help inform this shift.

Theoretical Background  
The assumptions that learning is an active process fostered by an environment that supports exploration, manipulation, social interactions, and play are at the core of the early childhood education field. These assumptions are based on the works of theorists such as Piaget and Vygotsky as well as the main early childhood educational approaches such as Reggio Emilia and Montessori (Dodd-Nufrio, 2011; Edwards, 2002). Piaget (1972) believed that children are active learners and create knowledge by manipulating the environment around them. Piaget considered that children act as “little scientists” developing hypotheses and testing them throughout play and exploration, and therefore inadvertently learning through their conclusions. From an early age, children conduct research on the world around them through their senses, by coordinating experiences from physical and motor interactions with objects. Children progress from manipulating objects to developing the ability to manipulate symbols. Symbolic play is one of the main ways children use symbols and ideas to explore and understand the world. Similarly, the use of language, drawing, and eventually writing, constitute symbols that give children the ability to explore, categorize, organize, and understand ideas about the world around them. Thus, according to Piaget, learning is based on active exploration of the physical world. Similar to Piaget, Vygotsky (1978) believed that young children make meaning of their world through learning environments that support social interactions. Young children develop emotion, language, meaning and knowledge with the help of peers, older children, and adults. Stimulating and supportive social interactions within the family and community provide the ideal setting for learning. Thus, according to Vygotsky learning is a social process. Most contemporary approaches to early childhood education incorporate these theoretical backgrounds and stress the need for curriculum and educational environments that support active learning, exploration, play, and socialization. For example, the Reggio Emilia approach to early childhood education prioritizes exploration through play, music, and the arts (Dodd-Nufrio, 2011). Similarly, the Montessori approach stresses hands-on learning and exploration of materials and manipulatives (Edwards, 2002). These theories and approaches to early childhood education that stress hands-on exploration and socialization might be at odds with remote learning and the virtual environment, making early childhood teacher candidates less likely to appreciate this mode of instruction. This study aims at exploring this assumption.

Key Competencies for Early Childhood Teacher Preparation Programs  
The National Association for the Education of Young Children (NAEYC, 2019) outlines key competencies for effective teachers in early childhood education. These competencies are integrated into early childhood education teacher preparation programs throughout the United States and guide framework, objectives, coursework, and outcomes for programs. NAEYC (2019) proposes that early childhood educators must integrate knowledge from all aspects of a child’s development. This encompasses several disciplines including family dynamics, mental health, speech and language therapy, special education, and bilingual education. Early childhood teachers must integrate multiple sources of knowledge into a coherent approach in order to support young children’s devel-
Development and guide/support their respective families. With this, becoming an early childhood educator is a complex process and requires candidates to be competent in many disciplines, in addition to classroom instruction and management. A key competency for teachers is to understand current research in child development, including cognitive, language, social, emotional, and physical development and the extent to which these areas in development are interrelated. Educators must be trained to considerer the critical role of relationships and interactions, and the role of play in development (NAEYC, 2019). In addition, educators must recognize the role of adverse early life experiences, including the role of inequality and socio-economic class and immigration and other factors that affect development. Furthermore, teachers must be familiar with the identification of delays or disabilities and the use of individualized supports needed to help children reach their potential (NAEYC, 2019). Effective programs prepare teachers who collaborate with families by providing training on effective communication skills that respect linguistic and cultural diversity. They connect families with community resources in order to better support the development of young children (NAEYC, 2019).

In addition, a fundamental competency for teacher candidates is to learn to craft developmentally appropriate curriculum that engages young children in exploration. Teachers need to be prepared to employ a diverse array of practices in order to deliver curriculum strategies in effective ways and engage young children in stimulating and challenging learning experiences (NAEYC, 2019). Educators must acquire the ability to support language development, foster literacy skills, engage young children in scientific inquiry, as well as interest them in learning about social studies and the community around them. Effective programs prepare candidates to use multiple observation and assessment strategies in order to fully understand a child’s development and progress in learning in order to tailor instruction for children individual needs (NAEYC, 2019).

Lastly, a key competency in teachers of young children is the ability to create a positive and safe environment in which children learn about appropriate social behaviors in developmentally appropriate ways. This involves supporting the emotional needs of every child and creating opportunities for socialization and positive social development through healthy peer interactions (NAEYC, 2019).

These key competencies of early childhood education elucidate the collaborative, inter-disciplinary, hands-on nature of the early childhood education field. These competencies require teacher education programs to employ a variety of instructional strategies that do not always translate well to the virtual environment. This study aims to explore how these competencies are met in the virtual environment.

**Teachers Priorities and Goals in Early Childhood Education**

As discussed, early childhood teacher education programs train individuals to collaborate with families in meaningful ways, and to team up with other professionals with an interdisciplinary approach to support children growth in all areas of development, including motor development and speech. Because of their training and their choice of profession, it is possible to assume that most early childhood professionals have a tendency to value teamwork, group work, and learning through social interactions in in-person environments. For higher education students choosing this career, social networking and building a community of educators might be an important goal in their educational experience, in addition to learning content and being granted a degree. For this reason, it is possible to assume that teacher candidates in early childhood will prioritize in-person education more than students in other fields. However, little research addresses this question.

In addition, educators tend to view the most important goals of an early childhood education differently from one another. Educators of young children prioritize different areas of development depending on the early childhood program philosophy, approach and major goals. For example, programs like High Scope or Head Start have as one of the most important goal to develop academic skills in young children in order to better prepare them for school (High Scope, 2020). The Reggio Emilia approach to early childhood education results in preschool classrooms that value self-expression, art, and community exploration (Dodd-Nufrio, 2011). Montessori schools prioritize self-regulation skills in young children, while many programs have socialization, play, and the development of friendships as the main goal of their curriculum (Edwards, 2002).

For this reason, teachers and teacher candidates view their roles and the most important goals in early childhood education differently from one another. Some view play and exploration as the most important goal in early childhood education and facilitating this process as the teacher’s main role. Some teachers value socialization opportunities, while others prioritize academic knowledge and school readiness. Some of the skills to support teachers’ priorities and goals are harder to develop in a remote learning environment than others. For example, training teachers to deliver content knowledge might be easier to do online than training teachers to help children regulate their emotions or behaviors. Because different teacher candidates might have different goals in the education of young children and might see their role as a teacher differently, they
will also experience remote learning differently. Yet, very little research was conducted to answer these questions.

**Gap in the Literature and Research Questions:** Higher education has increasingly shifted to online instruction. The assumption is that young adults prefer virtual learning (Lederman, 2019). Yet, little is known about the preferences of early childhood teacher candidates. At the same time, the early childhood teacher preparation field guidelines demand training teachers in the use of the multidisciplinary, collaborative team approach while fostering child learning through interactions, exploration, and play (NAEYC, 2019). Very little is known about how effectively these skills can be learned through online instruction. Similarly, early childhood preparation programs attempt to foster key competencies in new teachers, and some of these competencies might be easier to achieve in a virtual format than others. Lastly, contemporary early childhood education approaches such as those Reggio Emilia, Montessori, Head Start or High Scope differ significantly in their goal and priorities (e.g. HighScope, 2020; Dodd-Nufrio, 2011; Edwards, 2002). Similarly, teachers and teacher candidates tend to align with different approaches and view their role in the classroom in many different ways. Teacher candidates have different views about the most important goals of early childhood education programs; some of those goals might be easier to develop online than others. This way teachers’ views might shape their respective online experiences.

Lastly, while online programs might not be sufficient to train early childhood educators, a combination of online and remote learning might be an effective way of training early childhood teachers. However, little research addressed the preference for format in early childhood. Lastly, biases exist about the effectiveness of online early childhood teacher preparation; students’ perspectives need to be taken into account when making recommendations. This study aims at exploring these issues by answering the following research questions:

1. What format has best helped teacher candidates acquire the key competencies of early childhood educators as outlined by NAEYC? What learning modality has best helped teacher candidates stay engaged in their learning?
2. Given a choice, what is the ideal instruction modality for teacher candidates in early childhood; in-person, online, or a combination of both? Was this preference similar for candidates seeking different degrees (such as graduate or undergraduate)?
3. How important is it to build social connections and social networks to early childhood teacher candidates during their training? Are candidates who value the social aspects of their training more likely to prefer an in-person education?
4. What do teachers view as the most important goal(s) in early childhood education? Are these views related to their preference between online and in-person instruction?

**Method**

**Participants**

The participants for this study were 101 college students working towards a degree in early childhood education. Participants were drawn from two large universities in a large metropolitan city in the Northwestern U.S. All participants were enrolled in Spring Semester 2020 coursework preparing them to work with young children. All participants had taken in-person courses to prepare them to become teachers. In the middle of this semester, all courses had shifted to online instruction due to the novel COVID-19 health crisis. Table 1 describes the degree students were seeking; 47 participants were working toward an Associate Degree, 16 were working towards a BS or BA degree, and 38 were working towards a Master’s Degree. The largest number of respondents were working toward an AS.

<table>
<thead>
<tr>
<th>Degree Working Toward</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS</td>
<td>47</td>
<td>46.5</td>
</tr>
<tr>
<td>BS/BA</td>
<td>16</td>
<td>15.8</td>
</tr>
<tr>
<td>MA</td>
<td>38</td>
<td>37.6</td>
</tr>
<tr>
<td>Total</td>
<td>101</td>
<td>100.0</td>
</tr>
</tbody>
</table>

**Instrument and Procedure**

Participants were recruited by faculty in the early childhood education courses they were enrolled in during the Spring Semester of 2020. Participants were notified that participation was fully voluntary, and they all signed consent forms. All participants were asked to fill out a short online survey. The survey was designed especially for this study by the study authors. A small group of students reviewed the survey before it was administered to make sure the questions addressed their experiences.

The study attempted to tap on the following constructs:

- Learning modality that has best helped teacher candidates acquire the key competencies of early childhood educators as outlined by NAEYC;
- Learning modality that has best helped teacher candidates stay engaged in their learning;
- Ideal instruction format for teachers candidate, given a choice;
- Importance of social interactions and networking as
part of their higher education experience; and
• Early childhood education goals prioritized by
teacher candidates
Item by item description of the instrument is presented
in the result section.

Results
The data were analyzed in SPSS using descriptive
statistics. The first research question asked what
learning modality has best helped teacher candidates
acquire the key competencies of early childhood
educators as outlined by NAEYC. For each compe-
tency, teacher candidates were asked to indicate what
learning modality has helped them most: in-person,
online, or both equally. Table 2 shows the frequencies
and percentages for their answers. Most respondents
(n = 72, 71.3%) indicated that in-person learning
better prepared them “to understand child develop-
ment.” Similarly, most indicated (n = 68, 67.3%) that
in-person learning better prepared them “to under-
stand young children’s needs.” The majority also
indicated that in-person learning better prepared them
for the following: (a) to design hands-on interactive
curriculum (n = 77, 76.2%); (b) to deliver hands-on
interactive curriculum (n = 76, 75.2%); (c) to create
supportive learning environments (n = 73, 72.3%); (d)
to collaborate with family and other professionals
(n = 65, 64.4%); (e) to observe and document young
children’s learning and development (n = 70, 69.3%); (f)
to support young children’s social and emotional
needs (n = 65, 64.4%); (g) to manage young children’s
behaviors (n = 71, 70.3%), (h) to address the needs
of young children with delays or disabilities (n = 71,
70.3%). Overall, the majority of respondents indicated
that an in-person learning modality better prepared
them. The first research question also explored what
learning modality has helped teacher candidates stay
most engaged in their learning. The majority (n = 83,
82.2%) felt that in-person learning helped them “feel
most engaged in my learning,” as described in Table 2.

Table 2
Learning Modalities and Key Competencies
Survey Question: What type of learning modality bet-
ter prepared respondents for the following?

<table>
<thead>
<tr>
<th>Survey Question</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Better prepared me to understand child development</td>
<td>72</td>
<td>71.3</td>
</tr>
<tr>
<td>In-person</td>
<td>28</td>
<td>27.7</td>
</tr>
<tr>
<td>Equal</td>
<td>1</td>
<td>1.0</td>
</tr>
<tr>
<td>Total</td>
<td>101</td>
<td>100.0</td>
</tr>
<tr>
<td>Better prepared me to understand young children’s needs</td>
<td>68</td>
<td>67.3</td>
</tr>
<tr>
<td>In-person</td>
<td>30</td>
<td>29.7</td>
</tr>
<tr>
<td>Equal</td>
<td>3</td>
<td>3.0</td>
</tr>
<tr>
<td>Total</td>
<td>101</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Better prepared me to design hands-on interactive curriculum
In-person                                                                        77  | 76.2|
Combination                                                                      18  | 17.8|
Online                                                                           6   | 5.9 |
Total                                                                              101| 100.0|

Better prepared me to deliver hands-on interactive curriculum
In-person                                                                        76  | 75.2|
Combination                                                                      21  | 20.8|
Online                                                                           4   | 4.0 |
Total                                                                              101| 100.0|

Better prepared me to create supportive learning environments
In-person                                                                        73  | 72.3|
Combination                                                                      23  | 22.8|
Online                                                                           5   | 5.0 |
Total                                                                              101| 100.0|

Better prepared me to collaborate with family and other professionals
In-person                                                                        65  | 64.4|
Combination                                                                      29  | 28.7|
Online                                                                           7   | 6.9 |
Total                                                                              101| 100.0|

Better prepared me to observe and document young children’s learning and development
In-person                                                                        70  | 69.3|
Combination                                                                      24  | 23.8|
Online                                                                           7   | 6.9 |
Total                                                                              101| 100.0|

Better prepared me to support young children’s social and emotional needs
In-person                                                                        65  | 64.4|
Combination                                                                      30  | 29.7|
Online                                                                           6   | 5.9 |
Total                                                                              101| 100.0|

Better prepared me to manage young children’s behaviors
In-person                                                                        71  | 70.3|
Combination                                                                      25  | 24.8|
Online                                                                           5   | 5.0 |
Total                                                                              101| 100.0|

Better prepared me to address the needs of young children with delays or disabilities
In-person                                                                        71  | 70.3|
Combination                                                                      22  | 21.8|
Online                                                                           8   | 7.9 |
Total                                                                              101| 100.0|

Better prepared me to address the needs of young children with delays or disabilities
In-person                                                                        83  | 82.2|
Combination                                                                      12  | 11.9|
Online                                                                           6   | 5.9 |
Total                                                                              101| 100.0|
The second research question asked what mode of instruction teacher candidates preferred if they were given a choice. Table 3 shows that the majority preferred a combination of online and in-person courses as the ideal education format (n = 63, 62.4%); and about one in three students preferred all in person (n = 37, 36.6%). Only one respondent (1%) indicated online was the ideal education format.

**Table 3**

**Preferred Learning Modality**

*If I had a choice, my ideal education would be:*

<table>
<thead>
<tr>
<th></th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>All In-person</td>
<td>37</td>
<td>36.6</td>
</tr>
<tr>
<td>A Combination</td>
<td>63</td>
<td>62.4</td>
</tr>
<tr>
<td>All Online</td>
<td>1</td>
<td>1.0</td>
</tr>
<tr>
<td>Total</td>
<td>101</td>
<td>100.0</td>
</tr>
</tbody>
</table>

The second research question also asked whether there was a difference in preferred learning modality among candidates seeking different degrees. Chi-square tests of association were used to assess the degree of association between degree level and preferred learning modality (in-person versus a combination of online and face-to-face). For preferred modality, the online category was excluded to meet the assumptions of chi-square analyses. Chi-square assumes a minimum expected sample size of 5 in each category; there was a frequency of 1 for those who chose online as the ideal educational modality. The assumption that all cells have expected counts greater than five was met and all expected cell frequencies were greater than five. Therefore, there was an adequate sample size to run the chi-square test of association. There was no statistically significant association between degree working toward (AS, BS/BA, MA) and ideal education format, x²(2) = 2.97, p = .22.

The third research question asked how important it was to build social connections and networks to early childhood candidates, and whether candidates who value the social aspects of their training are more likely to prefer an in-person education. Most teacher candidates felt that being able to socialize and/or network in person with others was very important (n = 66, 65.3%). Table 4 summarized these results. In addition, a one-way ANOVA test was performed to see if those candidates who prioritize social interactions also prefer in-person instruction. The results of the one-way ANOVA were significant [F (98,2) = 6.65 p = .002] and show that those candidates who prefer in-person instruction had the highest scores for valuing social interactions and networking; this was followed by the candidates who preferred a combination of in-person and online. Only one candidate preferred online instruction and had the lowest scores for valuing social interactions. This is summarized in Table 5.

**Table 4**

**Importance of Social Interactions and Networking**

One important goal for me in my education experience is being able to socialize and/or network in person with others.

<table>
<thead>
<tr>
<th></th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not important</td>
<td>2</td>
<td>2.0</td>
</tr>
<tr>
<td>A little important</td>
<td>5</td>
<td>5.0</td>
</tr>
<tr>
<td>Somewhat important</td>
<td>28</td>
<td>27.7</td>
</tr>
<tr>
<td>Very important</td>
<td>66</td>
<td>65.3</td>
</tr>
<tr>
<td>Total</td>
<td>101</td>
<td>100.0</td>
</tr>
</tbody>
</table>

**Table 5**

**Scores for Importance of Social Interactions by Preferred Learning Modality**

<table>
<thead>
<tr>
<th>Preferred Learning Modality</th>
<th>Scores for Importance of Social Interactions</th>
</tr>
</thead>
<tbody>
<tr>
<td>All in-person (n = 37)</td>
<td>3.81</td>
</tr>
<tr>
<td>A combination (n = 63)</td>
<td>3.44</td>
</tr>
<tr>
<td>All online (n = 1)</td>
<td>2.00</td>
</tr>
</tbody>
</table>

Lastly, the fourth research question asked what teacher candidates viewed as the most important goal(s) in early education. This is summarized in Figure 1. Table 6 shows the frequencies and percentages to teachers’ ratings of what they thought were the most important goals of early childhood education. The majority of teachers felt that play and exploration were most important (n = 72, 71.3) following by the following goals:

- Learn to regulate emotions (n = 49, 48.5% rated as most important)
- Friendships and social skills (n = 48, 47.5% rated as most important)
- Language and vocabulary (n = 48, 47.5% rated as most important)
- School readiness / academic skills (n = 39, 36.6% rated as most important)

**Table 6**

**Goals and Priorities in Early Childhood**

*Survey Question: As a teacher, I think the most important goal of early childhood education is:*

<table>
<thead>
<tr>
<th>Play and exploration</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Least important</td>
<td>10</td>
<td>9.9</td>
</tr>
<tr>
<td>Not so important</td>
<td>2</td>
<td>2.0</td>
</tr>
<tr>
<td>Important</td>
<td>8</td>
<td>7.9</td>
</tr>
<tr>
<td>Very important</td>
<td>9</td>
<td>8.9</td>
</tr>
<tr>
<td>Most important</td>
<td>72</td>
<td>71.3</td>
</tr>
<tr>
<td>Total</td>
<td>101</td>
<td>100.0</td>
</tr>
</tbody>
</table>
Learn to regulate emotions

<table>
<thead>
<tr>
<th>Importance</th>
<th>Least important</th>
<th>Not so important</th>
<th>Important</th>
<th>Very important</th>
<th>Most important</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>7</td>
<td>9</td>
<td>13</td>
<td>23</td>
<td>49</td>
<td>101</td>
</tr>
<tr>
<td>Percentage</td>
<td>6.9</td>
<td>8.9</td>
<td>12.9</td>
<td>22.8</td>
<td>48.5</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Friendships and social skills

<table>
<thead>
<tr>
<th>Importance</th>
<th>Least important</th>
<th>Not so important</th>
<th>Important</th>
<th>Very important</th>
<th>Most important</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3</td>
<td>9</td>
<td>11</td>
<td>30</td>
<td>48</td>
<td>101</td>
</tr>
<tr>
<td>Percentage</td>
<td>3.0</td>
<td>8.9</td>
<td>10.9</td>
<td>29.7</td>
<td>47.5</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Language and vocabulary

<table>
<thead>
<tr>
<th>Importance</th>
<th>Least important</th>
<th>Not so important</th>
<th>Important</th>
<th>Very important</th>
<th>Most important</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>6</td>
<td>141</td>
<td>12</td>
<td>21</td>
<td>48</td>
<td>101</td>
</tr>
<tr>
<td>Percentage</td>
<td>5.9</td>
<td>3.9</td>
<td>11.9</td>
<td>20.8</td>
<td>47.5</td>
<td>100.0</td>
</tr>
</tbody>
</table>

School readiness/academic skills

<table>
<thead>
<tr>
<th>Importance</th>
<th>Least important</th>
<th>Not so important</th>
<th>Important</th>
<th>Very important</th>
<th>Most important</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>16</td>
<td>14</td>
<td>12</td>
<td>20</td>
<td>39</td>
<td>101</td>
</tr>
<tr>
<td>Percentage</td>
<td>15.8</td>
<td>13.9</td>
<td>11.9</td>
<td>19.8</td>
<td>38.6</td>
<td>100.0</td>
</tr>
</tbody>
</table>

![Figure 1. Teacher’s Most Important Goals in Early Childhood Education](image)

Discussion

The COVID-19 health crisis presented the opportunity to study whether in fact young adults consider the online environment optimal for their career preparation. Higher education institutions had been shifting coursework to remote learning in the past years (Govindarajan & Srivastava, 2020). This shift is expected to continue to grow, even after the health crisis has been overcome. This study proposes that the opinions of teacher candidates should help inform this shift.

Early childhood educators value interdisciplinary, hands-on, collaborative learning that stresses exploration and social interactions. For these reasons, early childhood candidates were thought to be less inclined to favor an online learning environment. Similarly, the competencies to become an effective early childhood educator might not be easily achieved in an online environment.

Major Findings

Preferred Learning Modalities

The results of this study have indicated that an overwhelming number of early childhood teachers favored the in-person learning format, expressing that all the key competencies for early childhood educators were better acquired in-person. Similarly, the majority felt that the in-person environment helped them stay engaged in learning.

Moreover, the results have shown that this preference did not differ among candidates seeking different degrees. The assumption was that undergraduate students would have valued in-person learning because of the social experiences. At the same time, the assumption also was that graduate students would have preferred the online or combination options, since they would have been more focused on professional preparation than on social experiences. Yet, these assumptions did not play out and the preference for a combination of an in-person and online experience was uniform across education levels.

Social Interactions as Part of the Learning Experience

Another major finding of this study was that the ability to socialize and network in person with other people constituted a very important component...
of most students’ higher education experience. In addition, the extent to which students considered the ability to build social connections and networks to be very important was related to their preferred learning modality. Thus, students who chose in-person education as their preferred learning modality also tended to have the highest scores in responses to questions regarding social interactions.

Teachers’ Goals
The findings have shown that teacher candidates found play and exploration to be their most important goal in early childhood education, whereas school readiness and academic skills were the least important. The assumption was that teachers who valued play and exploration more would have been more likely to prefer in-person learning modalities than teachers who have valued academic skills, since academic skills are easier to develop online. Nevertheless, these goals did not impact teacher candidate choice for in-person or online learning. Teachers uniformly chose the combination option.

Conclusion: Lessons for the Future
These tumultuous times have given us the opportunity to learn lessons that might serve higher education institutions offering early childhood teacher preparation programs in the future. Students don’t feel that the online environment is adequate to form them as early childhood educators and achieve the key competencies in their field. They do not want to shift their education online, but they do appreciate a combination of online and in-person options. Teacher candidates see their ability to socialize and develop professional networks as an important part of their education; as one teacher candidate expressed “online classes are not as effective, because they lack the environment of being among many like-minded teachers motivated to grow in our profession.” Institutions should consider teacher candidate preferences as they design programs in these new circumstances.

References

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Ruth Guirguis, Ed.D is an Associate Professor of Teacher Education at BMCC. Her research centers around executive functioning skills, and play perceptions and mindset in teacher preparation programs.
A case study in online teaching and learning excellence as a result of COVID-19  
By Dr. Craig Markson and Dr. Kenneth Forman

Introduction
Stony Brook University which is part of the State University of New York, has grown tremendously over the years and is now recognized as one of the nation’s important centers of learning and scholarship and has become a university that would “stand with the finest in the country” (“Communications,” History and Mission section, para 2). Stony Brook lies about 60 miles east of Manhattan; it is only a short distance to the Atlantic beaches of the south shore and the vineyards of the East End. Situated on 1,039 acres on the north shore of Long Island (“Communications,” n.d.). Stony Brook University is listed as “Top 1% of universities in the world” by QS World University Rankings (2018), Top 15 of Best Value Public Colleges by Forbes magazine (2019), Top 10 Most Diverse US University by USA Today, and Top 40 Public University by US News and World Report (“Communications,” n.d.-b, Fast Facts & Rankings section).

The Educational Leadership Program
The Educational Leadership (EDL) program prepares K-12 educators for advancement into positions as school district leaders (SDL) and school building leaders (SBL). Such positions include superintendent of schools, assistant superintendent, principal, assistant principal, subject area supervisor, chairperson, or athletic director. Our dual certification advanced graduate certificate program includes 36 credits of study. As of fall 2007, this is the first program of its kind in New York State that serves as a pathway for both district and building certifications via face to face and online delivery models (“Educational Leadership Program | School of Professional Development,” n.d.). Therefore, the Educational Leadership Program continues to have a rich face to face and online presence, offering courseware synchronously face-to-face and asynchronously online via Blackboard (our online delivery system). When the COVID crisis emerged, instruction seamlessly shifted from face to face to online without disruption. Students and faculty were provided immediate technical assistance and support via the university’s Keep Teaching initiative to ensure faculty and students’ familiarity with Blackboard. The Center for Excellence in Learning and Teaching (CELT) provided a variety of synchronous and asynchronous learning opportunities for both instructors and students to support instruction (“Beyond IT | Division of Information Technology,” n.d.).

Introduction to Online Instruction:
What does the research say?

There were two fundamental questions that were asked in this brief review of the research literature. First, how did online teaching and learning compare with traditional face-to-face instruction? Second, how did online instruction evolve and innovate over time? Regarding the efficacy of online teaching and learning, the results of Hoban, Neu, and Castle’s (2002) study were based on student scores on wide-ranging exit assessments. Surveys were distributed to both faculty and students who had participated in online and face-to-face courses in a K-12 school leadership preparation program. They concluded that online courses were comparable with face-to-face courses on quality and rigor. According to Hoban, Neu, and Castle (2002), “online instruction in educational administration will and can be a significant aspect of administrator preparation in the future” (p. 24).

Danzig, Zhang, and Your (2005) found that in the asynchronous discussion boards of online courses there were far more student initiated and directed dialogue as well as participation than you would find in traditional face-to-face class discussions. This participation was also more distributed among the students. This was not without its flaws as the researchers noted the potential for student or faculty burnout. For example, an online course of 25 students could easily produce 500 electronic postings well before its conclusion (Danzig et al., 2005). Retention as opposed to burnout was noted in the findings of Brown-Ferrigno and Muth’s (2006) as well as Mayadas and Picciano’s (2007) studies. Students who had career commitments constituted the makeup of school leadership preparation programs. The flexibility of online learning made it much easier to accommodate the schedules of working professionals (Brown-Ferrigno & Muth, 2006; Mayadas & Picciano, 2007).
Okpala, Hopson, Fort, and Chapman’s (2010) study included 92 participants from a K-12 school leadership preparation program. The students’ perceptions of their program’s online courses were very positive. Ninety-four percent of the study’s participants stated that they planned on taking more online courses. Eighty-two percent of the online students “reported possessing higher cognitive/analytical skills” (p. 34). Other noteworthy findings from the Opala et al. (2010) study included online students possessing higher self-motivational skills and self-directed learning styles when compared with the face-to-face students.

There were 100 in-service principals in Thiede’s (2011) study, who were part of an online program leading to school district leadership certification. The principals’ perceptions of online learning were very positive. The most cited reason for taking online coursework was convenience. Delfin (2012) compared face-to-face and online trained school leadership candidates on school leadership readiness. This study found no significant differences on leadership aptitude among the face-to-face and online school leadership program students. Delfin concluded by calling for more studies that compared traditional school leadership program internships with internships from online programs.

Ironically, there has been a lack of innovation in online instruction for a significant period of time. Early studies of online instruction dated back to 1993. According to Holden and Wedman (1993), asynchronous discussion boards, digital file sharing, email, and presentation software were the most common forms of communication within the online courses of the early 1990s. Approximately 16 years later, Wuensch et al. (2009) found the same common forms of communication in online courses. The researchers in the current study have high hopes that the COVID-19 crisis will accelerate the use of much more advanced forms of communication such as three-dimensional virtual environments or two-way audio and video communications as found in the Zoom platform, for example.

**Coursework**

The Educational Leadership Program courseware is aligned with the Professional Standards for Educational Leaders (PSEL), so that when onboarding any new instructor whether face to face or online, that instructor is provided a template with the PSEL standards and requirements for that course of study. Many of the faculty for the EDL program are adjunct, that is, both recently retired school building and district leaders along with current building and district leaders who bring a plethora of expertise and experience to instruction. Faculty have the latitude to design activities within their expertise for onboarding their course into Blackboard, our online platform. All online courses of study have been reviewed by EDL program leaders to assure consistency and quality. All courseware has embedded authentic performance activities so that courses are reflective of ongoing practice. Authentic performance activities are congruent with the content knowledge and skills attained from each course and are worth a number of hours towards the Internship experience. These requirements include that they be challenging, authentic and aligned to the PSEL standards (“Internship | School of Professional Development,” n.d.). Examples of authentic performance activities might include:

- Evaluating how well the school vision and culture supports the individual students’ learning needs through building, articulating, implementing, and stewarding a vision that will promote high student achievement.
- Detailing the organizational conditions that produce a school culture that is more conducive to high performance expectations and risk taking.
- Identifying long-range strategies that will focus on improving student learning based upon the collection and analysis of data and information pertinent to the educational environment.

Moreover, to keep coursework aligned with program certification requirements, assignments are consistent within each course of study to include a variety of activities congruent with program accreditation requirements. In addition to an authentic performance activity, all courses require a case study analysis to better prepare students for the SBL and SDL NYS School Leadership Assessments.

The program of study (“EDL Program | School of Professional Development,” n.d.) whether online or face-to-face is inclusive of 36 credits as illustrated in the chart below:

EDL 501
Furthermore, to maintain consistency between online course delivery across the program, Stony Brook University and the EDL program have adopted a modified use of the SUNY developed rubric: Online SUNY Course Quality Review (OSCQR) (“Beyond IT | Division of Information Technology,” n.d.). This guide provides information for instructors to do anything from posting an announcement, to uploading course documents, to collecting and grading assignments, to uploading course documents, to collecting and grading assignments, to uploading course documents, to collecting and grading assignments, to uploading course documents, to collecting and grading assignments. The Center for Excellence in Learning and Teaching is responsible for faculty development via synchronous and asynchronous professional development workshops for instructors. Training includes Blackboard, Zoom, VoiceThread, YouTube, etc.) so that both new and seasoned instructors are provided ongoing support to teach EDL courses with a high degree of competency. As a result of the COVID crisis and in consultation with CELT, we have altered our traditional instructional delivery model to include asynchronous teaching via Blackboard along with synchronous Zoom class meetings. This shift in instructional delivery has been well received by students. Moreover, Zoom synchronous meetings may be recorded and posted in Blackboard, affording students unable to attend live sessions the ability to watch those meetings at their convenience. Zoom gives faculty an ability to interact with students in a live classroom forum. All coursework and professional development are cognizant of delivery of instruction for students with disabilities. However, the challenge onboarding faculty who are adjunct has been dealt with by offering ongoing professional development both synchronously and asynchronously at time convenient for adjunct faculty. Stony Brook University conducts regular evaluation of courses via an online assessment system. All students, after each course, are asked a variety of questions regarding the instructional program and their understanding of improving course design from an effective practices perspective.  

- produces an action plan that helps assess and target opportunities to improve the course’s teaching presence online.
- substantively addresses accessibility integrating accessibility standards.
- provides examples and suggestions for course design improvements for each standard.

### Professional Development

The online Educational Leadership Program is managed by the learning management system, Blackboard. The Center for Excellence in Learning and Teaching supports Blackboard by producing a faculty guide to help instructors understand the functions of Blackboard (“Beyond IT | Division of Information Technology,” n.d.). This guide provides information for instructors to do anything from posting an announcement, to uploading course documents, to collecting and grading assignments. The Center for Excellence in Learning and Teaching is responsible for faculty development via synchronous and asynchronous professional development workshops for instructors. Training includes Blackboard, Zoom, VoiceThread, YouTube, etc.) so that both new and seasoned instructors are provided ongoing support to teach EDL courses with a high degree of competency.

<table>
<thead>
<tr>
<th>Course</th>
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<th>Course of Study</th>
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<td>Educational Leadership Theory 1</td>
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<tr>
<td>EDL 502</td>
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<td>Educational Leadership Theory 2</td>
</tr>
<tr>
<td>EDL 503</td>
<td>3</td>
<td>Educational Leadership Practice</td>
</tr>
<tr>
<td>EDL 515</td>
<td>3</td>
<td>School District Leadership</td>
</tr>
<tr>
<td>EDL528</td>
<td>3</td>
<td>School Law</td>
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<tr>
<td>EDL 541</td>
<td>3</td>
<td>School Building Leadership</td>
</tr>
<tr>
<td>EDL 555</td>
<td>3</td>
<td>Supervision of Instruction</td>
</tr>
<tr>
<td>EDL571</td>
<td>3</td>
<td>School Business Administration</td>
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<td>EDL 572</td>
<td>3</td>
<td>Personnel Administration</td>
</tr>
<tr>
<td>EDL 585/6</td>
<td>6</td>
<td>Administrative Internship &amp; Seminar</td>
</tr>
<tr>
<td>EDL 595</td>
<td>3</td>
<td>Descriptive Research</td>
</tr>
</tbody>
</table>

12 courses 36 credits SBL & SDL Certification

The OSCQR process is facilitating the redesign of our online courseware. The Educational Leadership Program has taken the lead in adopting this process at Stony Brook University. The research on the OSCQR rubric supports its uniqueness from other online course quality rubrics in several ways, namely the rubric: (“Beyond IT | Division of Information Technology,” n.d.)

- is flexible and can be customized by adjusting the standards.
- can be used with seasoned and new online faculty to help guide, inform, and influence the design of their online courses.
- is non-evaluative, serving as a guide for faculty in

<table>
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<th>Course Credit</th>
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</tr>
</thead>
<tbody>
<tr>
<td>EDL 501</td>
<td>3 Educational Leadership Theory 1</td>
</tr>
<tr>
<td>EDL 502</td>
<td>3 Educational Leadership Theory 2</td>
</tr>
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<td>EDL 515</td>
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<td>EDL528</td>
<td>3 School Law</td>
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<td>3 School Building Leadership</td>
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<td>3 Supervision of Instruction</td>
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<td>EDL571</td>
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<td>3 Personnel Administration</td>
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<td>EDL 585/6</td>
<td>6 Administrative Internship &amp; Seminar</td>
</tr>
<tr>
<td>EDL 595</td>
<td>3 Descriptive Research</td>
</tr>
</tbody>
</table>

12 courses 36 credits SBL & SDL Certification
lecturer efficacy. In reviewing those assessments Spring 2020 and Summer 2020, student evaluations of online coursework revealed that nine out of ten students were highly satisfied and/or satisfied with the switch to online instruction. Nine out of ten students were highly satisfied and/or satisfied about the quality of the coursework (“Course Evaluations | Center for Excellence in Learning and Teaching,” n.d.). How might your remote learning program be improved upon?

We are constantly seeking to improve our online instructional program and have embarked on standardizing expectations through implemented the OSCQR rubric as a vehicle to improve online teaching and learning. Concomitantly, we are making sure that all courses of study have a clear syllabus that includes a variety of synchronous and asynchronous experiences. For consistency, online course design must include an introduction by instructors so that information is easy to understand within the course structure. Our expectation is that each class should include a welcome video with course tour, photo of the instructor, and consistent structure throughout the course, and/or a live Zoom meeting covering these aspects. Likewise coursework might also include: videos explaining assignments, writing assignments that ask students to take and defend positions, guest speakers to provide greater depth and insight into learning, an “ask the professor” site, providing real life applications of theory via case studies, announcements throughout the course, as well as timely grading of assignments. Moreover, coursework should promote discussion groups and group work/assignments, and PowerPoint presentations that are not overbearing.

**Comparing online with face-to-face instruction**

Markson (2018) compared graduates of a face-to-face educational leadership program with their online counterparts on their test scores for the New York State School Building Leader and School District Leader licensure examinations. The results of the independent samples t test were illustrated in Table 1 from that study:

**Table 1**

<table>
<thead>
<tr>
<th></th>
<th>Modality</th>
<th>N</th>
<th>M</th>
<th>SD</th>
<th>SEM</th>
<th>t</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>SBL1</td>
<td>FaceToFace</td>
<td>32</td>
<td>250.34</td>
<td>12.69</td>
<td>2.24</td>
<td>0.457</td>
<td>33.032</td>
<td>0.651</td>
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<td></td>
<td>Online</td>
<td>32</td>
<td>248.18</td>
<td>19.56</td>
<td>4.17</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SBL2</td>
<td>FaceToFace</td>
<td>32</td>
<td>249.63</td>
<td>15.08</td>
<td>2.67</td>
<td>-0.444</td>
<td>52</td>
<td>0.659</td>
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<tr>
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<td>Online</td>
<td>22</td>
<td>251.68</td>
<td>18.91</td>
<td>4.03</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>SDL1</td>
<td>FaceToFace</td>
<td>30</td>
<td>249.70</td>
<td>16.00</td>
<td>2.92</td>
<td>-0.143</td>
<td>51</td>
<td>0.887</td>
</tr>
<tr>
<td></td>
<td>Online</td>
<td>23</td>
<td>250.35</td>
<td>16.69</td>
<td>3.48</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SDL2</td>
<td>FaceToFace</td>
<td>30</td>
<td>240.17</td>
<td>13.12</td>
<td>2.40</td>
<td>-2.069</td>
<td>51</td>
<td>0.044</td>
</tr>
<tr>
<td></td>
<td>Online</td>
<td>23</td>
<td>247.57</td>
<td>12.60</td>
<td>2.63</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. A comparison of face-to-face and online educational leadership program graduates on their New York State certification examinations reprinted from “The Efficacy of Online K-12 School Leadership Preparation Programs” by C. Markson, 2018, Journal for Leadership and Instruction, 17 (2), p. 35.

There were no statistically significant differences on Part I and Part II of the School Building Leader licensure examinations among the face-to-face and online educational leadership program graduates, p > .05. Additionally, there were no statistically significant differences on Part I of the School District Leader licensure exam among the face-to-face and online program graduates, p > .05. However, according to Markson (2018), “there was a statistically significant difference for SDL Part II scores for the face-to-face (M = 240.17, SD = 13.12) and online (M = 247.57, SD = 12.60) program graduates; t(51) = -2.069, p = .044” (p. 35). These results showed that the online graduates scored higher on Part II of the School District Leader licensure examination, an area that assessed the “dimensions of Leading District Educational Programs and Managing District Resources and Compliance” (p. 35).

Another facet of Markson’s (2018) study compared face-to-face and online program graduates on their perceptions of preparedness in the Interstate School Leader Licensure Consortium (ISLLC) Standards, based on their coursework. Note that the ISLLC standards morphed into the PSEL standards in 2017; the ISLLC standards are closely aligned with the current PSEL standards. This was measured by a 44 item, 5-point Likert scale. The results of the independent samples t test were illustrated in Table 2 from that study:

**Table 2**

**Independent Samples t test Comparing Face-to-Face and Online Program Graduate Coursework Preparedness in the ISLLC Standards**

(Nf2f = ~40, Nonl = ~25)
These results showed no statistically significant differences on perceptions of coursework preparedness in the ISLLC Standards among face-to-face and online educational leadership program graduates, p > .05. The below table illustrates the paired samples t test results from Markson’s (2018) study, which compared online program graduates’ perceptions of their coursework and internship preparedness in the ISLLC Standards. It should be noted that while their internship seminar course was an online course, their fieldwork was face-to-face.

Paired Samples t test for online Program Graduates’ Coursework and Internship Preparedness for the ISLLC Standards (N offline = ~25)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Range</th>
<th>M</th>
<th>SD</th>
<th>SEM</th>
<th>t</th>
<th>df</th>
<th>p</th>
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</thead>
<tbody>
<tr>
<td>ISLLC1 Coursework</td>
<td>7-35</td>
<td>27.84</td>
<td>4.52</td>
<td>0.86</td>
<td>0.000</td>
<td>24</td>
<td>1.00</td>
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<tr>
<td>ISLLC1 Internship</td>
<td>7-35</td>
<td>27.84</td>
<td>4.34</td>
<td>0.83</td>
<td>0.000</td>
<td>24</td>
<td>0.381</td>
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<tr>
<td>ISLLC2 Coursework</td>
<td>6-30</td>
<td>25.44</td>
<td>3.16</td>
<td>0.63</td>
<td>0.893</td>
<td>24</td>
<td>0.381</td>
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<td>ISLLC2 Internship</td>
<td>6-30</td>
<td>24.88</td>
<td>2.39</td>
<td>0.63</td>
<td>0.893</td>
<td>24</td>
<td>0.381</td>
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<tr>
<td>ISLLC3 Coursework</td>
<td>10-50</td>
<td>37.2</td>
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<td>1.51</td>
<td>-0.69</td>
<td>24</td>
<td>0.497</td>
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<td>6.21</td>
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<td>-0.69</td>
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<td>0.497</td>
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<td>ISLLC4 Coursework</td>
<td>7-35</td>
<td>28.12</td>
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<td>ISLLC5 Coursework</td>
<td>6-30</td>
<td>25.375</td>
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<td>1.02</td>
<td>0.369</td>
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<td>ISLLC5 Internship</td>
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<td>25</td>
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<td>ISLLC6 Coursework</td>
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<td>26.68</td>
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<td>1.03</td>
<td>0.814</td>
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<td>0.424</td>
</tr>
</tbody>
</table>

Note. A comparison of face-to-face and online educational leadership program graduates on their perceptions of coursework preparedness in the ISLLC Standards reprinted from “The Efficacy of Online K-12 School Leadership Preparation Programs” by C. Markson, 2018, Journal for Leadership and Instruction, 17 (2), p. 36.

These results showed no statistically significant differences on perceptions of coursework preparedness in the ISLLC Standards among face-to-face and online educational leadership program graduates, p > .05. The below table illustrates the paired samples t test results from Markson’s (2018) study, which compared online program graduates’ perceptions of their coursework and internship preparedness in the ISLLC Standards. It should be noted that while their internship seminar course was an online course, their fieldwork was face-to-face.

Paired Samples t test for online Program Graduates’ Coursework and Internship Preparedness for the ISLLC Standards (Non offline = ~25)

<table>
<thead>
<tr>
<th>Modality</th>
<th>N</th>
<th>M</th>
<th>SD</th>
<th>SEM</th>
<th>t</th>
<th>df</th>
<th>p</th>
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</thead>
<tbody>
<tr>
<td>ISLLC1 FaceToFace</td>
<td>40</td>
<td>28.3</td>
<td>3.62</td>
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<td>25.44</td>
<td>3.16</td>
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<tr>
<td>ISLLC3 FaceToFace</td>
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<td>35.7949</td>
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<td>Online</td>
<td>25</td>
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<td>1.03</td>
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<td>ISLLC4 FaceToFace</td>
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<td>1.05</td>
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<tr>
<td>ISLLC5 FaceToFace</td>
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<td>5.81</td>
<td>0.92</td>
<td>-0.728</td>
<td>63</td>
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<td>Online</td>
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<td>26.68</td>
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Our expectation is that as a result of implementing these instructional strategies, our online educational leadership program will become more robust and we will continue to attract a wide berth of applicants to our program.
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“If we teach today’s students as we taught yesterday’s, we rob them of tomorrow.”
- John Dewey

Our current education system is a collection of classrooms, grades, floors, buildings, textbooks and tests, each designed to separate students according to standards determined by adults who don’t really know them. It was probably a reasonable way to organize after we outgrew the one room schoolhouse. However, 2020 has forced educators to take a fresh look at whether this arrangement can accommodate the needs of the 21st century.

What has been learned during COVID? Will educators use this opportunity to reimagine schools or breathe a sigh of relief when the pandemic ends and they can retreat into the security of the familiar? There are key areas to examine as we consider that question.

1. Breaking down walls.

No school should be an island, but many of them operate almost separately from their local and global communities which, if tapped, could add to the richness of a curriculum. But the demands of the school day and testing rigors often leave little room for exploration.

However, technology has broken down some barriers, making communication across town, states and even countries possible. Students can “get out” of a classroom without ever physically leaving. Or they can take up outreach projects by researching the needs outside their building and implementing technology solutions.

There are schools that have already taken steps towards project-based learning and have created memorable and meaningful learning experiences for their students.

The Pentucket Regional School District is part of Massachusetts’ Innovation Schools project. Their approach, from elementary through high school, is centered on student choice and the use of opportunities for learning that extend beyond the classroom walls. Through the redesign of the school day and year, students engage in hands-on experiential learning with in-class lessons, online and blended coursework and off-campus academic opportunities, internships, and apprenticeships (Reimagining the Role of Technology in Education, 2017).

In New York City, the Portfolio School has a bright, open floor plan where children ages 5 to 10 flow seamlessly between a quiet reading area and maker spaces with laser cutters. Students have reached out to NASA engineers to discuss a unit on Mars, and New York University music education grad students have guided them in producing a soundtrack for their moviemaking project (The Possibility Report, 2020).

Across the globe, students in Mumbai, India tackled local issues such as improving access to clean drinking water and reducing traffic noise (Ferlazzo, 2020).

In the past, when teachers had to deliver a particular message at an exact time to a specific group of students, proximity was essential and the classroom was critical. Now, we can rethink that model. Students can move around more flexibly, doing different things that support their needs and interests.

“Over the past few decades, the focus has been heavily weighted on the classroom experience,” says Sean Tierney, Microsoft’s Director for Teaching and Learning. “I think we will see a shift where schools will create a foundation of inclusive, flexible, data-driven buildings and spaces that will enable students to learn beyond those walls” (Spencer, 2020).

The way people learn today has undergone a great transformation. People go to the internet to accomplish many tasks that they could not have done in the past, from learning to play the piano to fixing the kitchen sink. They would have had to attend a class or training session to perform these skills. The opportunity for learning has greatly expanded beyond that model.

“In many ways,” says Tierney, “the classroom has become a physical barrier and just a way of holding on to the past. We are no longer bound by limitations that used to require us to have 30 kids in a classroom with one teacher” (Spencer, 2020).
School buildings will always play an important role because they are a safe place for children’s social-emotional learning. But with our current technology, educators will be able to create flexible spaces and continuous learning environments that will spread across their communities, country and even the world. And they will learn that we have more to teach each other than ever before.

2 Personalized Learning.
For years, educators have struggled to differentiate instruction to serve the needs of their students in a personalized way. It has always been a daunting challenge, with a classroom full of varied learning styles, attention spans, cognitive abilities and all the myriad gifts and talents that make each child unique. Teachers have now learned that technology can provide some extraordinary solutions. New tools will provide more “teachers” who will observe the needs of students and adjust the learning tools accordingly. Real-time data, artificial intelligence and many new devices can help transform the teaching/learning experience into something intensely personal which responds to students as individuals. For instance, technology that can find patterns that point to the need for intervention; a “virtual” teacher could adjust the brightness of a screen or perhaps a font size without even telling the “real” teacher. As the technology becomes more sophisticated, these virtual teachers will observe details about students and understand their particular needs. The adjustments they will make will allow the teacher more time to bring the class all the benefits of a live educator in a more effective way. Software like Pathblazer and MyPath can assess students to assign individualized learning paths so they get the instruction they need to catch up or move ahead.

Technology can also recognize behavior patterns and conditions that might need intervention. Teachers can stay on top of factors that affect social and emotional well-being. Microsoft’s Tierney observes, “Knowing what is happening in the lives of each student might spell the difference between a toxic path and a prosperous path in the future. With data-rich models, we can help support kids holistically” (Spencer, 2020).

3. Adjust the Schedule.
Another tyrant that has ruled our education system far beyond its usefulness is our agrarian model of scheduling. Our children no longer need time to toil in the fields; they need flexibility in their day to prioritize their work and pursue subjects of interest. Our current credits and attendance are based on the Carnegie Unit. The unit was developed in 1906 as a measure of the amount of time a student has studied a subject. For example, a total of 120 hours in one subject—meeting four or five times a week for 40 to 60 minutes, for 36 to 40 weeks each year—earns the student one “unit” of high school credit (What Is the Carnegie Unit? 2014). Over one hundred years later, schools are still relying on an arbitrarily calculated amount of time to determine if a student has mastered a course. While we were quarantined for COVID, the economy still ran and society learned that much of its work can be done online. In fact, nearly 43 percent of Americans said that they spent at least some time working remotely (Hopper, 2020).

Yet, schools haven’t reflected this societal shift. They switched to online learning when it was the only choice. But few K-12 schools give students unstructured or virtual learning time where they can experience the kind of day they may find in the working world. Basically, they switch from classroom to classroom when the bells ring, following a schedule that they will never see again once they are in the workforce.

Additionally, there has been considerable conversation about synchronizing school clocks with student body clocks. Research has shown children’s sleep patterns transition as they move to adolescence where later bedtimes are the norm. The result is that early school start times cause teenage sleep deprivation. Flexible school scheduling can address this and improve student outcomes for high school students (The National Sleep Foundation, 2020).

It’s incumbent upon educators to offer different models of scheduling to accommodate virtual and personalized learning from kindergarten through high school so students can experience what the world will be like when they must make a living in it.

4. Teacher Training.
In a recent Gallup Education poll, the number one answer to the question, “Why don’t teachers use digital tools?” was “training.” In fact, more than half of teachers, 56 percent, cited lack of training as a “significant” or “extremely significant” problem (Bilecik, 2020). This would, of course, account for the fact that 78 percent of teachers are “not very comfortable” facilitating student
collaboration with digital devices (Nagel, 2018). If educators are not teaching our students digitally, why would colleges train teachers to use digital tools? Schools have given it a try. Classes routinely have electronic white boards installed and teachers use their laptops to project their lessons. But in a school that is committed to digital learning, these tools are only a small part of the landscape.

There would be technology everywhere, in identified spaces for independent work, in global communication areas for outreach to students around the globe, and in labs where students can create and experiment. Teachers must know how to use this equipment optimally or be curators in a museum of hardware. This is very frightening to many educators, and not just those who are older and near retirement. Everyone has a comfort level with technology, and although younger teachers have used it since early childhood, they can’t always successfully negotiate the intricacies of newer, innovative educational tools. For that they need training.

It’s not enough that this training should demonstrate what buttons to push, which only comes with practice anyway. Many a teacher has been taught to use a piece of equipment multiple times before it’s mastered. The training needs to include the important “how” – how will I integrate this tool into my lesson to make the experience broader, richer, more engaging and memorable? That takes work, research and extensive communication with colleagues and manufacturers to gain an understanding of what’s out there (and there’s something new every day) and how it can be optimally used for students.

Are colleges of education providing this training? In 2017, the US Office of Education Technology created a National Educational Technology Plan that called for both reflection and action on how to prepare aspiring teachers to meaningfully use technology. It included the creation of guiding principles and an invitation to colleges and universities to pledge to commit to them. At that time, 81 institutions of higher learning accepted that challenge, a fraction of the 2414 that offer degrees in education. (Reimagining the Role of Technology in Education, 2017)

This doesn’t mean that the remainder ignore technology; however, it is telling that there is little emphasis on technology as they market their course offerings. In fact, college professors themselves are often reluctant technology practitioners. They account for a large proportion of the educators who, though they appreciate the value of ed tech, do not actually use it to teach (Lynch, 2020). In a recent study, only 30 percent of instructors said they believe online courses can achieve student outcomes comparable to those of face-to-face courses (Lederman, 2018).

Another study showed that, despite having a generally positive attitude toward technology, college professors are utilizing very basic resources in their classes and perhaps have not begun to explore how new technologies can enhance their teaching. “The types of technology being used most are the course management system, desktop applications, and presentation software. The data appears to indicate that the faculty as a whole is operating at the intermediate level or slightly below on the technology acceptance/use continuum” (Averil et al., 2018, p. 8).

Until colleges of education start using new and innovative technology in their own classrooms, pre-service teachers have little hope of attaining competency when it comes to their own teaching practice.

5. Standardized Testing.

Few subjects can animate a conversation among educators more than standardized testing. Although it is widely accepted that accountability is necessary, there is no general agreement about the most effective way to measure student success.

Given that some states are reconsidering whether they should test at all in the 2020-21 school year because of COVID considerations, perhaps it is time to reassess ourselves.

“Knowledge is still knowledge ... but the nature of how we test will depend upon how education has been delivered, how equitable it’s been in terms of access for students,” said former Governor of Wyoming James Geringer. “I think there’re going to be dramatic changes in how students learn and how they’re exposed to infor-
mation … We have to deal with near-term uncertainties, but we also have to be planning for the certainty of change to how [testing] has been conducted in the past” (Sparks, 2020).

LinkedIn has compiled a list of top soft skills for the workplace and has found that employers are looking for candidates who are creative, adaptable, collaborative, persuasive and emotionally-intelligent. If we are trying to assess students’ readiness for the working world, a new form of testing could allow students to demonstrate that they have grown in their mastery of these skills (Hopper, 2020).

An example of this is in Virginia which eliminated many mandatory standardized tests. In place of those tests, the State has asked teachers to perform “alternative assessments,” that is, performance based projects that monitor student progress over a longer time frame (Futterman, n.d.).

Another illustration is the New York Performance Standards Consortium which consists of 28 schools, grades 6-12, throughout New York State that rely on teacher-created assessments consisting of projects, presentations, reports and portfolios of work to the exclusion of standardized tests.

Statewide longitudinal data systems can track students from pre-K all the way through high school. That means accountability measures and interventions don’t have to depend on one test but rather include graduation rates, discipline outcomes, demographic information and workforce outcomes.

“Stealth assessments,” like those offered by Scholastic and Khan Academy, track student knowledge by showing a pattern of answers over time. “Invisible, integrated assessment, to me, is the future,” said Kimberly O’Malley, the senior vice president of school research at Pearson Education. “We can monitor students’ learning day to day in a digital scenario. Ultimately, if we’re successful, the need for, and the activity of, stopping and testing will go away in many cases” (Kamenetz, 2015).

During COVID, many teachers started from scratch learning about virtual education, effective ed tech, and creativity in the cloud, and their lack of experienced affected the quality of instruction. This will not serve students well when they become working adults.

One of the reasons children attend school is to prepare for a satisfying place in the workforce. Yet, a survey of more than 32,000 students reveals “a crisis of confidence…regarding their readiness to launch careers” (Harris, 2020). When the current education system is evaluated against three criteria – job readiness, ability to compete against smart machines for jobs and creating long-term economic value – some stark statistics emerge.

Only a third of students believe they will graduate with the skills and knowledge to be successful in the job market and in the workplace (New Survey Reveals Crisis of Confidence in Workforce Readiness Among College Students, 2019).

Sixty percent of future jobs haven’t been developed yet and 40 percent of kindergarteners in schools today will need to be self-employed to have any form of income (The Future of Jobs Report 2018, 2018).

LinkedIn’s top ten hard skills that are most in demand for the 2020 job market include blockchain, cloud computing, user experience design and artificial intelligence. Job readiness may demand that we include this vocabulary and an introduction to these skills in the curriculum (The Future of Jobs Report 2018, 2018).

However, most states haven’t incorporated technology skills as a major focus for education. There is no consistent thread of how students should be able demonstrate their technology competence in every content area. In a study of 140,000 classrooms in K-12 schools across 39 states, more than half showed no evidence of students using technology to gather, evaluate or use information for learning. In nearly two-thirds of classrooms surveyed, students didn’t appear to use technology to solve problems or work collaboratively (van Broekhuizen, 2016, p. 14).

Children need to prepare to become entrepreneurs in a world that adults can barely imagine. That means that the subject matter that is taught, how it is taught and the teacher’s role in the educational process must change to accommodate that reality.

Access means ensuring learners everywhere have the ability to get an education. Equity means that every child has the resources needs to be successful. The essential drivers are fairness and inclusion. These issues became critical as the US struggled in both areas during the pandemic. Computers and strong internet connections were in short supply in some areas of the country and the world.
The United States has the wealth and expertise to get digital devices into every home and internet access into every neighborhood in our country. It’s not always a simple task for more remote areas, but is nonetheless possible. However, educators have often used lack of connectivity as the reason virtual learning can’t work.

New partnerships are one solution to this problem. Seventy-two countries around the globe, including some of the poorest, have developed some combination of internet, TV and radio instruction to accommodate coronavirus restrictions (How Countries Are Using EdTech to Support Access to Remote Learning during the COVID-19 Pandemic, 2020).

Examples abound of partnerships that have taken on this challenge. Microsoft and UNICEF have collaborated to form The Learning Passport to deliver curriculum online. Henrietta Fore, UNICEF Executive Director observed, “With long-term partners like Microsoft, we are able to swiftly deploy innovative, scalable solutions for children and youth. The adaptations made to the Learning Passport are a powerful reminder of what we can achieve together for children as the crisis deepens globally” (UNICEF and Microsoft Launch Global Learning Platform to Help Address COVID-19 Education Crisis, 2020).

Another UNICEF project, this one in partnership with the International Telecommunication Union, has committed to connecting every school to the internet (Ericsson and UNICEF Launch Global Partnership to Map School Internet Connectivity, 2020).

If this can happen in some of the poorest countries in the world, the United States can certainly meet this challenge. Some efforts have emerged. Broadband leaders signed a Keep American Connected Pledge which enabled Americans to keep their cable connections, even if they were having problems with payments, and opened up wi-fi hotspots to all internet users. Comcast, Cox, Mediacom and Midco all offered free or low-cost internet programs (America’s Broadband Leaders Extend Their Connectivity Relief Efforts During COVID-19, 2020).

A particularly outstanding example is in Iowa where Mediacom and the Des Moines Public Schools extended broadband to the more than 1800 student homes that lacked a hard-wire connection. Mediacom installed about 500 connections per week and rolled out mobile wi-fi hotspots. The district and company also undertook a project involving software and the distribution of laptops (How Mediacom and Des Moines Public Schools Are Closing the Opportunity Gap, 2020).

In Oakland, CA, the city, school district, foundations and businesses together raised $13 million, meeting the digital divide campaign goal in two weeks with the help of Twitter CEO Jack Dorsey. Nearly 3,000 laptops and hotspots were distributed to 11th and 12th-graders as well as summer school students (Serrano, 2020).

The Texas Association of School Administrators has received assistance from its corporate partners, including Amazon, Class Link and Achieve 3000 which provided resources and digital solutions to assist during the pandemic (Resources from TASA Corporate Partners | Texas Association of School Administrators, n.d.).

We live in a country that gave birth to Microsoft, Apple and Google and there are still many states where 30 percent of households have no internet connectivity. Partnerships between technology companies and school districts have to potential to transform education across the digital divide.

8. And some of the rest of it.

- Making learning fun and effective through the use of technology leads to better outcomes, according to Mrinal Mohit, CEO of BYJU, an 11 billion dollar ed tech company. “Over a period, we have observed that clever integration of games has demonstrated higher engagement and increased motivation towards learning, especially among younger students, making them truly fall in love with learning,” he says. (Lee & Lalani, 2020)

- A mother-daughter team in India worked together to convert Math lessons into Minecraft, a popular video game. “Soon mid-school students also started asking us to get them on Minecraft. Today we have Minecraft licenses for the entire school,” the principal of their school said. So far, Namya Joshi, the thirteen-year-old daughter, has trained more than 100 teachers in her school and around the world on the use of Microsoft tools such as Minecraft, Scratch, Kahoot, and Flipgrid in their classrooms. Her firsthand experience of the effectiveness of these tools for learning has led her to become a strong advocate of gamification in education. (Agrawal, 2020)

- Parent communication may be a big winner post-pandemic. Technology did a good job of keeping them
pandemic has made them more likely to exit the profession or opt for early retirement. Of those more likely to do so according to the surveys, 45 percent are over age 50, 44 percent have over 20 years’ experience and 42 percent live in the South (Riddell, 2020).

- Given what communities have learned about the critical importance of education and its effective delivery to all students, will governments now invest in a way that is commensurate with its significance to the growth of society. Will some but not all? And how do we level the playing field (Hughes, 2020)?

In the end, the teacher is the linchpin of the whole education system. However, great teachers not only know their subject and communicate it effectively; they have the essential ability to adapt and innovate. “There are great teachers who are also model learners. They learn with the kids. They don’t feel like they have to know everything, but they have to show what great learning looks like,” says Microsoft’s Sean Tierney. “Overall, it means inspiring students onto a path of lifelong self-learning. And that can include learning about new technology, which they can learn with the kids. If they can explore new ways of doing things, they can all grow together” (Spencer, 2020).

“What we want educators to do is not be bound by the structure of a 40-minute lecture, classroom dynamic, or assessment that’s connected to a curriculum, but recognize their goal and mission to expand upon every student’s potential,” says Microsoft’s VP of Education, Anthony Salcito. “The best innovation that inspires most young people is the teacher” (Spencer, 2020).

Educators must decide if they want simply to make adjustments to the current teaching/learning model or set up a new paradigm. It remains to be seen if the COVID lessons will push this seemingly endless conversation to a conclusion.

- Some teachers have found that they are unable or unwilling to accede to the current demands and risks of the profession and are retiring. One study shows that a third of teacher respondents reported that the pandemic has made them more likely to exit the profession or opt for early retirement. Of those more likely to do so according to the surveys, 45 percent are over age 50, 44 percent have over 20 years’ experience and 42 percent live in the South (Riddell, 2020).

References


Dr. Maria Cleary is the Founder and CEO of Readeezy LLC which is launching a digital book for challenged teens and young adults in early 2021. She is an experienced school superintendent and principal and has taught on the elementary through post-graduate levels.
Formative Assessment: Disrupting Inequities During the COVID-19 Pandemic

Introduction
As educators across the United States prepare for an unprecedented school year, there are many obstacles school districts must overcome in order to ensure students and staff remain safe while teaching and learning takes place amidst the global pandemic of COVID-19. Safety challenges, such as schools being able to implement a comprehensive contact and trace program, screening students and staff daily for COVID-19 symptoms, and ensuring social distancing throughout the school day, have put school districts in a precarious position. In response to these challenges, large urban school districts, such as Los Angeles and Chicago, have opted to start their school year by providing full remote learning, while other school districts, such as New York City, have chosen a hybrid model where students will learn both in person and online. Nonetheless, as school districts seek to prioritize safety within the context of their communities, each approach to learning will result in students spending a substantial amount of time learning online. This shift from learning in a traditional classroom setting to online learning brings to the surface another dilemma that school districts must confront during the pandemic: How will school districts ensure positive student outcomes for low-income minority students when in-person learning time is significantly reduced? According to Dorn et al. (2020), the transition to remote learning in the spring of 2020 exacerbated the existing achievement gap. The findings from their statistical model study revealed that if remote learning continues during the 2020-2021 school year, Black students are likely to fall behind academically by 10.3 months, Hispanic students will fall behind by 9.2 months, and low-income students will fall behind by more than a year (Figure 1). Moreover, the research suggests that the achievement gap would widen by 15% to 20%. Similar to Dorn et al. (2020), Herold (2020) claimed, “the pandemic is exposing and exacerbating the deep inequities that have long shaped American public education” (para, 4).


Herold’s statement is supported by the findings from the qualitative study conducted by the EdWeek Research Center that consisted of administering two surveys to more than 2,600 teachers and school district leaders that sought to identify disparities among K-12 schools in the United States during the remote learning of spring 2020. The findings from the EdWeek Research Center study concluded that significant gaps between the poorest and wealthiest schools across the United States were found in the areas of access to basic technology, live remote instruction, and the percentages of students whose teachers reported they were not logging in or making contact with the classroom. Although the current research suggests that remote learning will have a negative impact on closing the achievement gap (Dorn et al., 2020), which in return will further place low-income minority students at a disadvantage, the reality is that during the 2020-2021 school year, low-income minority students will spend a significant amount of time learning online. To remedy these inequities and close the achievement gap during the pandemic, it is critical that school districts prioritize a high leverage instructional approach to teaching and learning with the same urgency as establishing safety practices.
protocols. While there are a myriad of instructional approaches that could be prioritized as high leverage, this article suggests the following formative assessment strategies as a high leverage approach to disrupting inequities during the COVID-19 pandemic: (a) benchmark assessment, (b) differentiated assessment, (c) self-assessment, and (d) peer assessment.

**Benchmark Assessment**
The combination of spending the last 3 months of the 2020 school year learning online, coupled with summer break, low-income minority students who lacked access to summer learning opportunities, will be arriving back to school—whether in person or remotely—having lost a significant amount of learning time. According to Alexander et al. (2007), more than half of the achievement gap between lower and higher income students is the result of unequal access to summer learning opportunities. To address the loss of learning among low-income minority students during the first wave of the COVID-19 pandemic, teachers must be able to identify, upon their return, where, within the content knowledge and skills, did the loss of learning occur? Therefore, it is critical that teachers begin the school year administering benchmark assessments across core content areas. Traditionally, based on the students’ mastery of grade level standards, standardized state assessments are used as a basis to determine instructional measures for the following year. As a result of the COVID-19 lockdowns in many states, these assessments were not administered. This data gap necessitates the use of authentic assessment approaches so that school leaders are not entering the fall of 2020 in obscurity. According to Turner (2014), pre-assessments (benchmarks) are essential in revealing students’ thinking as well as students’ misconceptions. Similarly, Jacobs (2004) argued that benchmark assessments provide teachers with an opportunity to look at students’ work with more scrutiny so as to uncover gaps in their learning. Subsequently, Herman et al. (2010) contended that the data gathered from benchmark assessments are vital to improving teaching and learning. The authors suggested that the data collected could serve to inform teachers regarding what adjustments they need to make to their curriculum, as well as the instructional approaches they should adopt, to better align to meeting their students’ needs.

While the current literature highlights benchmark assessment as an important formative assessment tool to surface students’ learning gaps; benchmark assessments, alone, will not be sufficient to promote positive student outcomes in low-income minority student groups during the pandemic. Along with identifying students’ learning gaps, it is also imperative that teachers provide multiple opportunities for students to demonstrate their learning through differentiated assessments.

**Differentiated Assessment**
School districts need to prioritize differentiated assessments to ensure positive student outcomes for low-income minority students because in-person learning time either does not exist, or it is restricted with hybrid learning models that have recently been adopted due to the global pandemic. According to Chapman et al. (2005) “Differentiated assessment identifies a learner’s needs and strengths. The teacher uses a variety of formal and informal assessment tools to reveal the student’s knowledge base, prior experiences, interest level, attitude, and ability in relation to a topic or skill” (p. xxii). As the pandemic has forced low-income minority students into a learning environment where in-person instruction is significantly reduced, it is more critical than ever that teachers transition from administering traditional forms of assessment to providing students with multiple opportunities to demonstrate their learning through differentiated assessments.

Prior to the COVID-19 pandemic, researchers and educators, alike, had grave concerns about inequitable practices, such as the disproportionate representation of culturally and linguistically diverse students, identified for special education programs. This overrepresentation of economically challenged minority students illustrates systemic weaknesses in our education systems. Differentiated assessment promotes equitable practices for assessing and identifying the unique needs of diverse children so that educators can avoid a situation where, “a child’s race and ethnicity significantly influence the probability that he or she will be misidentified as needing special education and that disproportionality can have immediate and long term negative effects” (p. 1). The reality is that differentiation and curriculum alignment are connected. Researchers have noted that both differentiation and Universal Design for Learning emerge from a deficit approach—even though their primary goals focus on assisting students to learn in depth and across the curriculum (Beasley & Beck, 2017).
Furthermore, Beasley and Beck (2017) noted, “While differentiated instruction places an emphasis on formative assessment to inform constant adaptation of instruction to meet all student needs, UDL seeks to build a curriculum that anticipates student needs and incorporates modifications into the curriculum from the onset” (p. 552). Researchers Turner (2014) and Stiggins (2009) argued that differentiated assessments further promote equitable practices. For example, an action research study conducted in a Science classroom at the secondary school level by Waters, Smeaton and Burns (2004) revealed participating students preferred differentiated, alternative assessments when compared to traditional assessments. According to the researchers, students indicated that having assessments which provided them with choice, allowed them think-time, and the ability to construct products based on the guidelines in the rubrics. Students also felt that differentiated, alternative assessments increased their learning, creativity, and engagement levels. Moreover, Turner (2014), affirms “When students and teachers become partners in the classroom assessment process, research findings from around the world reveal the result is profound achievement gains for all students with the largest gains found in previously low-achieving students” (p. 8).

Fair and equitable assessment practices are valuable to sustaining the dignity and well-being of all students being assessed (Pettifor & Saklofske, 2012). Without a multi-tiered assessment system, the academic, social-emotional, and behavioral performance of students can be grossly inhibited (Stoiber & Gettinger, 2016). Therefore, along with benchmark and differentiated assessments, it is critical for low-income minority students to also engage in assessment practices that build ownership over their learning.

**Self-Assessment**

In a traditional classroom, teachers are the primary assessors of student performance. As the primary assessor, teachers restrict students’ ability to play an active role in evaluating and monitoring their own learning. Therefore, they hold all the power in the evaluation process. As schools across the United States are impacted by COVID-19 and are forced to reimagine the K-12 educational system into a hybrid and a remote learning environment, there is a call to action to dismantle the traditional way assessments are administered and how teachers assess student learning. Furthermore, there is a need for the fair and equitable use of formative assessments to positively impact closing the achievement gap for low-income minority students. Therefore, it is critical to cultivate a hybrid and remote learning environment that champions equity and access for all. Being fair and equitable involves students contributing to their learning and assessing their own performance through self-assessment.

Self-assessment becomes paramount in changing the culture of a hybrid and remote learning environment. Self-assessment is “a process by which students 1) monitor and evaluate the quality of their thinking and behavior when learning and 2) identify strategies that improve their understanding and skills” (McMillan & Hearn, 2008, p. 40). Adding to this, self-assessment is a process that permits students to monitor their own learning. This is crucial in accommodating diversity of learners’ readiness, experience, and backgrounds (Spiller, 2012).

Self-assessment empowers students to assess themselves, increasing students’ level of self-awareness and independence (Nneji, 2015). When students document their own achievements and provide self-feedback, they become active and valuable contributors in the learning process. It enhances students’ motivation by providing a sense of ownership and responsibility. Engagement also increases, boosting intrinsic motivation upon which “to base performance more on competence and less on rewards for performance” (McMillan & Hearn, 2008, p. 48). Self-assessment requires reflection on past experience, appreciation of context and an honest examination of facts before any serious consideration can be given to future development (Claxton & Hinett, 1997). Nevertheless, we cannot assume that students possess the needed skills to effectively engage in productive self-assessment.

In the development of students’ abilities to self-assess, they need coaching, practice, and support (Spiller, 2012). There is an urgent need for teachers to help guide students while allowing students more of a say in their own learning. Through coaching, teachers can involve students in determining the characteristics of the quality of the work by sharing a mentor text or an exemplary model. In practice, students can engage in the formulation of the criteria needed to assess their own work. For example, this can be accomplished through the use of standard-aligned checklists and rubrics. As a support, teachers can provide a hierarchical outline of self-reflection prompts for students to use at any time.
(Anderson & Krathwohl, 2001). Additionally, teachers can empower students to self-assess by establishing clear learning targets, defining evaluative criteria, providing tools for assessment, and allowing time for reflection (McMillan and Hearn, 2008). Teachers also need specific skills and training to intentionally plan common practices of self-assessment to promote and support student self-efficacy and self-regulation. By promoting and supporting student self-efficacy and self-regulation, the teacher releases the control and gives the power back to the students. This results in students developing the ability to become ambassadors of their own learning by observing, analyzing, and judging their own performance on the basis of specific criteria to determine how they can improve (Alverno College, 2001). Furthermore, self-assessment teaches students self-regulation, which supports students in monitoring their own learning process while engaging in online learning environments.

Research evidence suggests that self-assessment does contribute positively to learning outcomes (Brown & Harris, 2013), and it is a valid predictor of motivation and learning. Similarly, to empower students to engage in self-assessment practices, peer assessment can be used in conjunction with self-assessment. Through peer assessments, students also engage in the learning process, providing feedback to each other and promoting collaboration.

**Peer Assessment**

The COVID-19 pandemic has shone a spotlight on inequality in American schools with school closures and social isolation that have affected all students, but particularly those living in poverty (Terada, 2020). Social isolation has resulted in students’ inability to socialize and connect in a physical setting with their peers (i.e., in school). As schools reopen, it is critical to address challenges associated with social isolation and implement instructional approaches for students to reconnect or make new connections with their peers in a hybrid and remote learning model.

Readjusting the approaches to teaching and learning and how students are assessed will raise many questions. Addressing the social, emotional, and mental needs of staff, students, and parents will also be a primary concern for all schools. The assumption is that leveraging instructional approaches and rethinking assessment strategies will increase peer-to-peer interactions, which will reduce some of the isolation that learners can experience. At this time, peer feedback, also referred to as peer assessment, is a formative assessment strategy that can be used as a high leverage instructional approach to disrupt inequalities during the COVID-19 pandemic.

As mentioned, peer-assessment is linked to self-assessment, and it “requires students to provide either feedback or grades (or both) to their peers on a product or a performance, based on the criteria of excellence for that product or event which students may have been involved in determining” (Falchikov, 2007, p. 132). Through peer assessment, students help each other make sense of their learning gaps and learning processes. Furthermore, peer assessment can affect peers’ performance, encouraging students to reflect, discuss, and collaborate (Strijbos & Sluijsmans, 2010).

Peer assessment can promote social interactions among peers that can lead to students’ commitment to learning. When students convey and receive multiple peer reviews, a sense of community develops. However, students must be committed to the process of learning from each other. If they are willing, they will be contributing to their academic gains and making the assessment process clearer.

There are many things to consider in a hybrid and remote setting to cultivate a growth mindset approach to peer assessment. In order for students to value each other’s feedback, peer assessments have to be conducted with respect and trust. Carless (2020) noted that teachers need to develop a sense of community within online learning environments. By being attentive, showing interest, and personal sensitivity, teachers can encourage feedback discourse to flourish.

According to Hattie and Timperley (2007), “feedback is one of the most powerful influences on learning and achievement” (p. 81). However, if the feedback given is not constructive, it can hinder students’ academic growth and performance. Constructive feedback is among the most powerful tools for promoting children’s social, moral, and intellectual development (Hattie & Timperley, 2007). Furthermore, Heen and Stone (2015) noted there are three types of feedback based on purpose: evaluation, appreciation and coaching.

First, the purpose of evaluation needs to happen “in the moment” where the individual receiving the feedback knows where they stand when it comes to their performance. Second, feedback received through appreciation inspires and motivates the individual to continue im-
proving his/her work. Feedback through appreciation needs to be authentic and specific. Lastly, coaching feedback supports continued growth and improvement (Corporate Communication Experts, 2016) Hattie and Timperley (2007) and Heen and Stone (2015) suggestions convey feedback as a powerful indicator that can positively impact learning and achievement. Therefore, teachers need to provide students with strategies and tools necessary to engage in peer assessment through a hybrid and/or a remote learning environment. One example is using the TAG process which is an efficient and authentic approach to engage students in peer assessment (The Art of Education). The TAG process entails: T for telling the individual something you liked about the work; A, asking a question about the work and G for giving a suggestion relating to the work. The TAG process not only provides feedback, but also promotes social interaction where students are engaged in a dialogue with each other.

**Conclusion**
The COVID-19 pandemic has ushered social isolation, stress, and anxiety that has exacerbated mental health challenges, social unrest, and the deaths of more than 200,000 Americans. Moreover, the impact on education has been devastating for low-income minority students. Current research has revealed disparities among poor and wealthy school districts as it relates to student success during remote learning. Furthermore, research has also predicted that if remote learning continues during the 2020-2021 school year, the achievement gap will widen. Nonetheless, school districts have continued to implement instructional programs that significantly reduce in-person learning time thus forcing low-income minority students into a learning environment that places them at a disadvantage.

According to Bennis (2009), leadership happens within a context; for today’s school district leaders, that context is a global pandemic. While it is most appropriate for district leaders to prioritize safety, it is also equally important that a strategic approach to teaching and learning, grounded in formative assessment, is also given precedent to disrupt inequities and ensure positive outcomes for districts’ most vulnerable students. Leading researchers, Stiggins and DuFour (2009) affirmed that, “Formative assessment, done well, represents one of the most powerful instructional tools available to a teacher or a school for promoting student achievement” (p. 640). Therefore, formative assessment is a caveat to quality teaching and learning. Through the implementation of high leverage formative assessment strategies of benchmarking, differentiation, and self- and peer assessment, low-income students will be afforded an educational experience that values (a) instruction that is designed to meet their needs, (b) multiple opportunities to demonstrate and present their learnings, (c) the development of self-efficacy and contributes to their learning process, and (d) building relationships among their peers while fostering a sense of community.

These critical attributes will serve as a foundation for the teaching and learning of low-income minority students during the pandemic. It is through the implementation of these high leverage formative assessment approaches that the current inequities that exist do not perpetuate; thereby, closing the achievement gap and ensuring an equitable educational experience in both a hybrid and/or a remote learning environment.

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One day when George de Mestral, a Swiss engineer, got home from a hunting trip in the Alps, he noticed that both he and his dog were covered in burrs. He plucked one from his coat and placed it under a microscope, which revealed that the tiny seed sac was covered in hooked strands, which had caught in the tiny loops of fabric on his coat. By re-creating such hooks and loops, Mestral was able to devise the fastening system known as Velcro (a mash-up of velour and crochet). More than fifty years later, it has held together everything from sneakers to a human heart during the first artificial heart surgery. As Mestral later told his former bosses at work, “If any of your employees ask for a two-week holiday to go hunting, say yes.”

- Life...The Reader's Digest VERSION
Introduction
We have experienced unprecedented challenges since our schools’ closing as a precaution against the spread of the coronavirus. It has reshaped the way we think about teaching and learning. We left school believing that we would return to complete the school year within a month or two. Teachers did not imagine that the digital platforms they were forced to learn in two weeks would become the new normal for their students. Teaching and learning, as known at the Dr. Ronald E. McNair School, changed. With the many societal and internal concerns existing in the school’s culture, educating children continues to be a priority. This article demonstrates how the right elements lead to success for schools at a disproportionate disadvantage.

Background Information
The Dr. Ronald E. McNair/Public School 5 is an elementary school located in the Bedford Stuyvesant section of Brooklyn that services students in 3K-5th grade. There are currently 250 students in attendance. African American students make up 88% of the school population. There are 7% Hispanic or Latino, 3% White, and 1% Asian or Native American. The student population eligible for free lunch is 89%, which places the school in the disadvantaged category. The annual attendance rate per year is 90%. The teaching staff is 98% state-certified. There is a high population of students classified as homeless according to the McKinney Vento Act, which reside in shelters or are doubling up with family members. Student academic progress has been of great concern within the past few years. P.S. 5 has spent a considerable amount of time preparing students for success by creating partnerships and collaborations with community programs.

Based on the many partnerships and community collaborations, Dr. Ronald E. McNair/P.S. 5 has provided students with a wealth of technology resources. P.S. 5 has a one to one technology ratio, which gives students access to individual laptops. Each classroom is equipped with Promethean Boards to enhance instruction. There are three viable computer labs that provide access to whole-class technology instruction, additional resources for research projects, early childhood technology development, and parent use. The school has a state of the art STEM lab that is equipped with 3D printers, 3D computers, robots, robotics materials, and other STEM equipment. Students are engaged in the Computer Science for All, SEP Jr. Program, a technology STEM program for young students. There is a distance learning Mandarin language program where students in grades 2-5 receive instruction in Mandarin by teachers located in China. The Robin Hood Library affords students the opportunity to circulate books and participate in the librarian’s many literacy activities. Pilot instructors provide flight simulation training for students in grades 3-5 who demonstrate an interest in becoming pilots. The flight simulators are another example of the rich technology of P.S. 5. High school math tutors assist students in grades 3-5 utilizing the Adelaide Sanford Learning Center, allowing students to use computers and other technology in this setting. The Leader in Me program has provided our students with the necessary supports to build social-emotional skills. This program gives us an opportunity to utilize digital platforms to assist with projects and materials to build social skills. Dr. Ronald E. McNair/P.S. 5 overcame many of the remote learning problems because of their collaborations and partnerships, which is not the same for many schools classified as disadvantaged. The transition into remote learning became a more manageable task because of the accessibility of the tools students needed to make the shift.

Instructional Program
Dr. Ronald E. McNair/P.S. 5 has adopted an instructional model to ensure continuity during all instruction. Teachers begin by planning for the lesson during identified planning time during the school day. Common preparation periods are scheduled during the week to support teacher planning. The priority standards are used as the reference along with the curricular materials. The learning objectives are developed along with the goals for the skill to be attained. Teachers develop plans to model the intended outcomes of the lesson. The learning objectives focus on high cognitive levels of student learning. Teachers design strategies and organize learning experiences. Students have opportunities to practice the desired skill taught and evalu-
ate their learning. Students are assessed during this process of small group instruction. Student choice guides them in areas of interest. Some students work independently. Students with IEP’s may have the SETTS teacher push into the class to assist them during the lesson. Remediated learning is presented. Independent student work is then given to assess the student’s attainment of the skill. Some students may use classroom additional technology to enhance their learning at this time.

Pacing guides are given to teachers to help them regulate student learning. Teachers develop these pacing guides along with the coaches based on N.Y. State Common Core Standards. Pacing guides help steer daily instructional decisions. Teachers see the entity of the curriculum at once during the development. Most of the curricular materials are online. Teachers utilized the online materials to plan for their instruction. Student resources are also available for students online. When teachers work together, they are able to provide increased support to novice teachers.

Teachers demonstrate the ability to stretch the curriculum far beyond what is written. Every year the fifth-grade students study human rights. Last school year, prior to Covid-19, the students worked to bring the “Shower Bus” to Brooklyn. The Shower Bus was designed to provide homeless people with a place to shower and receive new clothing. The students highlighted the fundamental Human Rights for this project. They reached out to the Borough President, Eric Adams, who invited them to Borough Hall for a conversation. The students then engaged in the collection of toiletries and clothing to present to the members of the community who would use the “Shower Bus.” The “Shower Bus” project gave the students an opportunity to stretch their reading comprehension skills by engaging in articles written about the “Shower Bus.” The “Shower Bus” project gave the students an opportunity to stretch their reading comprehension skills by engaging in articles written about the “Shower Bus.” Students were able to integrate all curriculum areas, including the building of their research skills. The current instructional model prepared teachers for the remote model of instruction. Based on the pandemic, students and teachers have engaged in the blended model of teaching and learning. There are students whose families have chosen 100% remote instruction for them. We have been able to have the remainder of the students on a five day a week model because of the number of students who chose in-person learning. Teachers meet daily at 8:00 AM to collaborate on the instruction and materials need for the upcoming lessons and assignments.

**Assessment Plan**

A report published by the Education Endowment Foundation suggests that schools’ closure will only increase the achievement gap in low-income areas, thereby creating greater responsibilities on educators, schools, and states to alleviate the issues (Beal, 2020). The research states that school closures will impact schools in similar ways to students experiencing loss during the summer. The challenge of the continuation of narrowing the achievement gap requires creative thinking and effective collaboration. The Dr. Ronald E. McNair/P.S. 5 teachers came together to address the current instructional and academic needs of students and teachers as they supported teachers’ and families’ social/emotional needs. Teachers were concerned about learning loss and how to identify it. Some teachers decided to continue with the Student Assessment Folders. Students would maintain a folder that kept samples of their work from September to June. At the close of the school year’s remote session, students were asked to pull samples of their work in the early part of the school year and the end of the school year to analyze. Teachers taught students the techniques to use that assisted them in adequate analysis of their overall improvement.

On the Google platform, students were able to engage in conversations about their overall improvement. The sharing of their victories was priceless. The other types of assessments used were the online IReady assessment tool, which allowed us to compare results from early in the school year to show improvement. The periodic assessment tool demonstrated growth in comprehension, writing, and math progress for all students in grades K-5. Teachers created assessments that demonstrated the attainment of skills as they were taught.

**Remote Learning**

Though remote learning has brought about many challenges, Dr. Ronald E. McNair/P.S. 5 seems to be thriving in this new way of teaching and learning. Students were able to take their laptops home to begin the instruction on the designated day. The New York City Department of Education arranged to have free Wi-Fi for the students that needed it. Because of the many opportunities, students were engaged in before the coronavirus pandemic; students were familiar with digital learning. Many schools that are in high poverty areas were not able to do this. This is an equity issue as exemplified by a review of schools in Jackson, Mississippi, and Allentown, Philadelphia. The school district in Jackson, Mississippi, who serviced predominantly Black and low-income students,
had to shut down because the challenges were too significant (Hobbs, 2020). Parents felt that their students were at a greater disadvantage because students were not able to get online, and internet access was not available. This district was not prepared for the pandemic. The pandemic brought out many of the inequities that schools in disadvantage neighborhoods face daily. In the Allentown Philadelphia school district, more than 60% of their students did not have access to computers, causing students to miss months of school. In contrast, a neighboring school district was able to supply every child with a laptop that needed it. Three-quarters of the students in the Allentown school district live in poverty, and almost 90% are students of color (Palochko, 2020).

Students in the Dr. Ronald E. McNair/P.S. 5 were able to maneuver the digital platforms because of the lessons learned using the digital platforms in many areas of the school. Students could manage their own learning on the digital platforms based on the instructional models set up during their normal school days. Teachers planned together and assisted students and families in learning how to maneuver the Google platform which did not present a challenge to the students. Once teachers became familiar with the digital platforms that were going to be used in the continuation of instruction during the pandemic, they placed all classes and subjects into the Teams platform calendar so that administration would have access to view their daily instruction. Along with the academic subjects, students were engaged in dance classes, physical education classes, social-emotional classes, chess, and Mandarin, all on the zoom platform. Student assignments and projects were uploaded for review. Students engaged in an oratory contest and virtual projects, small groups were arranged in breakout rooms to address remedial needs, which pushed the remote instruction to another level. Teachers were able to be extremely successful on the remote platform when they reached out to support each other. This was a strength that developed based on the remote learning platform.

Differentiation/Special Education
The remote platform also demonstrated a strong collaboration with teachers so that the students with special needs received all the necessary services. The Occupational Therapist and the Physical Therapist have reached out to teachers and families to continue the services on the digital platform. The SETTS teacher plans with the classroom teacher to schedule times when students are able to come on to the platform to receive their identified services. This is true of the speech and ELL teacher. Strong teacher collaboration made this possible. Teacher collaboration was the strength of the remote learning success. The sharing of the unknown territory helped to bring teachers together. According to NYC DOE survey information, we have identified teachers’ collaboration as one of the areas in which the school needs to improve. Teacher input was included in the outcome of this survey. We have been struggling with the development of teacher development to assist in enhancing teacher overall collaboration. During the 2019-2020 school year, we have begun to see a shift in the new teaching staff. With the mindset of building teacher efficacy and teacher effectiveness, we were moved into a digital platform for teaching and learning. The digital platform has presented early indications of measurable improvement in teacher efficacy and effectiveness.

Teacher Leadership/Collaboration
COVID-19 has drawn our attention to the importance of the school community in the classroom and the digital world. Teacher well-being was extremely important based on the need to be flexible with the rapid change in teaching and learning and the pandemic effects that was faced by everyone on a daily basis. Teacher well-being can be described as how they respond to students and colleagues (Porter, 2020). Each morning on the remote platform, administration and staff sent beautiful words of encouragement to each other. All staff members checked in daily. This digital platform kept The Dr. Ronald E. McNair/P.S. 5 team alive. The anticipation of the good news was present daily. It was evident that the concern identified on the school survey, teacher collaboration, was developing into a cohesive teacher team.

In the face of COVID-19, we had to develop collaborations with teachers virtually so that the professional learning community would evolve, providing support and increased instructional capacity. We developed an Instructional Leadership Team that fostered transformational leadership, fostering teacher leaders who supported other teachers within the school virtually. This LEADER model was designed to build a system of teacher collaboration and support of instruction during this time of such uncertainty and fear.

Dean Joyce Alexander from Texas A&M University speaks about a LEADER model used to format, define challenges, determine the sphere of teacher influence and teach in unprecedented times, such as now, the
pandemic (DeMarin, Etchells, 2020). The LEADER model helps to empower teachers with making necessary connections as they prepare for the virtual learning platform. Teachers had to begin to develop ways to address the abrupt closing without action plans to support learning, prepare printed materials to give to students, and utilize their peers to spark innovative ideas to make remote learning a reality (DeMarin, Etchells, 2020). Our newly developed instructional teacher team was formed to address these concerns. Transformational leadership evolved through this team.

The coronavirus pandemic is the reason for the shift in teacher collaboration. The pandemic caused us to change our outlook on teaching and learning. The pandemic helped us to realize that we need each other to make this work. There are teachers that were able to navigate the digital platform so that the work continued. The leader that evolved through this pandemic was the person that was able to communicate a vision into this new way of teaching and learning and communicate this vision to others so that teachers would understand that things have to change for their survival and growth (Simeonidou, 2020).

The Model

When you think about what new and innovative changes schools can make in rethinking and redesigning or adding to a school system, it is an open book in uncharted waters. COVID-19 has left the educational world exposed, unlike never before. COVID-19, although a serious pandemic, could afford our most disadvantaged population the chance to get the education they deserve. Educators are now left with the unique opportunity to rewrite the foundational pillars of our educational system. The development of the Instructional Team was designed by Principal Lena Scarborough Gates as a way to share and distribute leadership within the school building. Teachers leaders who had a shared vision were collected within this umbrella and connected to critical school systems. These systems, curriculum, assessment, special education, professional development, early childhood, and administration, capitalized on the best parts of P.S. 5 and systems that must be maintained to support the viability of P.S. 5.

Although each committee functions with its own short and long-term goals in mind, one committee cannot work in isolation of another. What makes this team unique is how the idea of its transformational leadership is implemented. There is a seemingly order of how feedback, information, and directives are given. Almost all administration information is filtered through this team. The Peer Collaborative Leader either disseminates the information, or information can go directly to the appropriate committees. Committee short and long-term goals are first designed from the Principal’s conversations, collected student data, The State Accountability Review, and The School Quality Review. From this, committees are able to outline plans to respond to some of the findings seen in the data. Each committee continues to work on its goals that directly affect the vision of the school. Monthly meetings are held to unpack what each committee is currently working on. In addition, a Google Docs shared sheet was created for the Instructional Leadership Team to post new information and updates that is directly linked to the Principal for 100% transparency and feedback. Ms. Gates, the principal at any time, can provide outreach to any committee or individual committee members if need can reach Ms. Gates via her weekly Friday Zoom meets.

Response from teachers has been positive. There seems to be a shift in the way teachers react to receiving information. It is now with vigor and enthusiasm. Teacher teams are developing, meeting, and teachers are going the extra mile for students. Teachers have commented that they finally see information and professional development that supports their needs. Assessments are now digital for all departments, grades, and support staff to see. Early childhood is its own department and specialty in the digital world. There are more professional development opportunities being offered to teachers than ever before.

Professional Learning

The professional development team embedded in the Instructional team model has compiled a google document of all available resources and opportunities for teachers to enhance their instructional practices. This incredible resource document came from the enthusiasm of teachers taking responsibility for their learning. Teachers have also learned how to share the power. Through delegation, teachers have been elevated. Teachers now participate in every aspect of their learning.

Simeonidou, 2020 has identified eight steps to transformational leadership.

1. Be an active listener.
2. Be aware of your attitude.
3. Develop emotional intelligence.
4. Learn to collaborate.
5. Learn to share power.
6. Communicate.
7. Embrace dialog and debate.
8. Have a personal care plan.

This instructional team has become a model for school change. They have created a system to support the school improvement plan within the digital platform. The team has managed to excite other staff members through constant communication and support of the instruction plan.

Conclusion
The pandemic has highlighted what many school communities have been concerned about for many years. There is an equity issue for students living in low-income communities and the level of materials and resources available to the schools. Through com- munity outreach and partnerships, The Dr. Ronald E. McNair School provided its students with the necessary support to continue with some form of instruction. The more significant promise identified through this pandemic was the teachers’ awareness of their power to be effective leaders.

Transformational leadership heightened the work of the instructional leadership team. They were motivated to make the remote model work by all means necessary. This developed the skill of collaboration and sharing. Curriculum materials, professional development, assessments, and special education areas of the school, are in the great hands of the leadership that evolved from the heightened concern that students may lose a great deal if a plan of action was not developed to address the current state of affairs.

References

Cindi Van Petten has over eighteen years of educational experience and is the Peer Collaborative Instructional Leader at The Dr. Ronald E. McNair Public School 5 in Brooklyn, New York. She is currently working on her doctorates at Walden University in Curriculum, Assessment, and Instruction. Her belief is a quality education starts with highly qualified educators ready to motivated students having access to the right resources.

Lena Scarborough Gates has been the Principal of Dr. Ronald E. McNair/P.S. 5 Elementary School in Brooklyn, N.Y. since 2000. She has is in the process of completing her dissertation for her Ed.D in the field of education at the Concordia University in Chicago. She continues to work with community-based education organizations such as the Adelaide Sanford Institute, enriching the education experience for all students. Lena is currently working on building systems to empower teachers to become future educational leaders.
Our Lady

Our lady holds the torch so high
Within the harbor there
Beneath the blue of Heaven’s sky -
A freedom true to share.
She welcomes all who proudly come
Across the vast blue sea,
A heritage for everyone,
Our land of liberty.
Our country stands for, oh, so much,
Democracy – our own,
A caring heart, a loving touch
Within our happy home,
A country built on hope and faith,
A strength so wise and true,
The patriots who fought and died
To save this land for you,
Our anthem that we proudly sing
To prove our faith and worth,
With all the courage peace can bring
The greatest land on earth.
We marvel at each vision bright,
The principles we share,
And know of lasting peace and light,
Our lady greets us there.

Garnett Ann Schultz
Call for Manuscripts

The New York Academy of Public Education is announcing a Call for Manuscripts for its Tenth Annual Research Journal. Articles are to be no less than 1,000 words and typed double spaced in # 12 Arial font. (See suggested format below.) Manuscripts are to be submitted to the editor at - Triadedu@aol.com - no later than February 15, 2021, in order to be considered for publication in the May, 2021 Tenth Annual Edition. All manuscripts will be read and reviewed by the Academy’s Peer Review Committee and returned to the author with any editorial comments/corrections/suggestions and further instructions. Kindly indicate your interest in writing an article by contacting the editor at the above email address no later than February 1, 2021 with the proposed title of your manuscript.

Topics to be addressed can include (but are not limited to): the Cultural Arts; Core Content Standards; school building administration; teacher education; standardized assessment; budgeting; higher education; effects of class size; parent involvement; should a teacher internship be required; ELLs and/or Bilingual Education; impact of charter schools on public education; school restructuring; changing the culture of a school; the new Ed TPA process; educational leadership; CTE Education; STEM (STEAM); Gender Analysis; Culturally Responsive Pedagogy; Bullying; Cyberbullying/Internet Safety; International Analysis of Educational Practices; our latest category – Hybrid and Remote Learning; and other areas dealing with the educational sphere. All articles must include a reference section.

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Suggested Format
For the sake of brevity, yet maintaining the essence and integrity of your manuscript, the following format is suggested:

Abstract
Introduction
Statement of the Problem
Research Question(s)
Hypothesis
Type of Research Design and Data Analysis
Description of Sample and Instrument(s)
Limitations
Selected (brief) Review of Literature

Summary of Methods and Procedures
Results
Discussion
Summary
Recommendations for Future Practice
Recommendations for Future Research
Conclusion
References

Appendices need not be attached.

Please try to keep your manuscript to a maximum of 10 – 15 pages.

Should you have any questions, kindly contact Dr. John Jangl at 914-320-7877 or at Triadedu@aol.com.