Counting the Cost and Moving Forward

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About The Lighthouse Almanac

... “In an era when books of any kind were a luxury found in a few households, almanacs were common. They included scientific information, such as weather forecasts, tide tables, lunar and solar eclipses, and the times of the rising and setting of the sun and moon; they were also infused with mild poems, proverbs, and bits of general information.

What made Banneker’s Almanacs innovative – aside from the fact that they were produced by a black man in an age when African Americans were considered incapable of scientific, mathematical, or literary accomplishment – was the inclusion of commentaries, literature, and fillers that had a political and humanitarian purpose.”

(excerpt from PBS’ “Africans in America: Benjamin Banneker’s Almanac” https://www.pbs.org/wgbh/aia/part2/2h68.html)

Following the tradition of Benjamin Banneker’s Almanacs, this peer-reviewed journal from the Benjamin Banneker Association, Inc. (BBA) is an inclusive periodical written for and by PK-12 educators and administrators, college/university faculty, community leaders and organizers, parents, and anyone invested in the teaching and learning of mathematics for all children, particularly Black children/children of African ancestry.

The Lighthouse Almanac is a journal that is a compendium of knowledge from the lived experiences of those committed to helping children thrive as learners of mathematics.

Through The Lighthouse Almanac, BBA demonstrates our long-standing dedication to advocating for equity and access, as we chronicle the research, practices, and collective actions of many individuals committed to this purpose.

We anticipate you will find The Lighthouse Almanac to be a valuable resource for guiding your efforts and hope you will consider sharing your experiences with us in an upcoming edition.

~The Lighthouse Almanac Editorial Team

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Purpose and Goals of the Association

The purpose of The Benjamin Banneker Association, Inc. are the advancement, stimulation, extension, improvement, and coordination of the learning and teaching of mathematics for all students at all levels, with special emphasis on students of African ancestry. The goals of the Association shall be:

a) to serve as advocate for the educational and professional needs of its members,
b) to serve as advocate for the educational and developmental needs of students of African ancestry, and
c) to provide educational solutions and policy alternatives to the educational issues which affect the participation and success of students of African ancestry in mathematics learning.

In executing these goals, The Benjamin Banneker Association shall promote and provide opportunities for networking among individuals, institutions, groups, and agencies operating for the betterment of the educational systems of these United States and Territories and promote and provide opportunities for students of African ancestry to participate and excel in mathematics learning. Toward this end The Benjamin Banneker Association shall do the following:

a) Serve as a resource for The Benjamin Banneker Association membership,
b) Develop programs and activities that encourage and support scholarly and professional activities of The Benjamin Banneker Association membership,
c) Develop programs and activities that encourage and support participation and excellence in mathematics learning among students of African Ancestry
d) Disseminate educational information to The Benjamin Banneker Association membership,
e) Identify fiscal and material resources that support The Association's programs and activities and collaborate with other interest groups when purposeful in seeking the goals of The Association.
Letter from the Editor

The Benjamin Banneker Association remains committed to the advancement, stimulation, extension, improvement, and coordination of the teaching and learning of mathematics for all students at every level of education, with special emphasis on Black children/children of African ancestry. In this edition of The Lighthouse Almanac, our contributors write about the visionary work being done every day to recognize, protect, celebrate, and draw upon the brilliance of Black children in mathematics.

In *Counting the Cost*, we elevate narratives that affirm the mathematical identities of Black children. We continue to strive to be a publication which takes the lead in creating spaces for honest dialogue about how race, culture, and identity remain intricate elements of teaching and learning mathematics. I hope these stories remind you—as they have me—of the importance of proactively addressing the urgent social and emotional issues emerging from often oppressive cultural, economic, and political contexts that affect Black children.

Most of all, I hope the lessons shared in this issue will encourage you to seek new ways to maintain your high expectations for and beliefs in Black children in mathematics.

Sincerely,
Brea C. Ratliff

Past President, Benjamin Banneker Association
Executive Editor, The Lighthouse Almanac
Educators face an opportunity to mathematically prepare all students while combating the challenges brought about due to the coronavirus pandemic. This year requires us to look at teaching children with creative and often innovative mediums. Before the onset of the COVID-19 pandemic, critical educators and educational researchers knew education in brick-and-mortar environments often presented challenges for many culturally diverse students. Black children are more likely to be enrolled in courses with inexperienced and ineffective teachers, they are rarely exposed to advanced curriculums and opportunities to engage in gifted and talented programming, and often Black students are viewed as the best recipients of special education or intervention services (Shores et al., 2020). The adaptation to creative and virtual mediums could prove advantageous to most schools in our nation, especially those that serve diverse populations.

The use of innovation allows students to build their constructs from prior experiences and become problem solvers while also advancing their knowledge in mathematics. Virtual learning and digital mediums have proven valuable (Hernández-Merayo et al., 2013) even before the incipience of COVID-19. Students must be allowed to take ownership of their learning. Now technology could be used by educators in new and creative ways to meet students’ needs during this time of uncertainty. In the future, if normalcy once again becomes our new reality, creative mechanisms and technological innovation may become a driving force in the avenues we use to educate students and revolutionize and re-imagine what schooling looks like - and is - in our nation.

In this article, we connect revolutionary, historical, and pivotal moments to the creativity and innovation they produce. First, we refer to the constructivist theory for a foundational rendering, followed by literature that supports the benefits of virtual learning. Lastly, this paper provides organic alternatives centered on meeting the needs of students in K-12 mathematics education during the COVID-19 era and suggestions for the future.

The Revolution Will Not Be Televised. It Will be Live!

History pulls together narratives of truth, challenges, and triumph that provide significance to the pivotal moments that have lasting impacts on our world. When
history becomes a revolution, we know a change has come, and there is no turning back. Revolutionary periods occur when change agents refuse normalcy of the current conditions and seek new opportunities to improve the way of life for themselves and others in society.

The first Industrial Revolution in the latter half of the 18th century and the second period of industrialization in the late 19th and early 20th centuries inspired many great inventors and made “real” the dreams of what was and is possible through the advancement of innovation and creation. Sarah Breedlove Walker invented the hot comb and hair pomade while Sarah Boone was re-inventing the ironing board and applying for the patent (Rothwell et al., 2020). Henry Blair invented two models of seed planter that boosted agricultural productivity across the world. George Washington Carver used his genius to develop hundreds of products derived from peanuts, soybeans, and sweet potatoes. Thomas Jennings is the inventor of dry cleaning; Benjamin Banneker created a striking clock using a wristwatch as his only model, and advanced astronomical observations while recording his findings in the almanacs (Figure 1) that he authored (Blanc, 2020). Today, our lives are more efficient and comfortable because of the great inventors and inventions of these periods. These notable contributors of the Industrial Revolutionary eras changed the world with their creativity and innovation.

Refusal of Normalcy Revolutionary Education

Relating these revolutionary societal advancements to the need we have in education, Holliman et al. (2018) reminded us that for many years, education existed in one dimension where students brought their empty slates, and teachers filled them with knowledge. Annual improvements may bring about incremental change, but there is a suggestion that “we call for a reconstruction of the educational system through advocacy and a revolution of educational values, related to removing barriers that have been stacked against culturally diverse children in America” (p. 13).

As a sentiment, “We can’t go back to normal” (Baker, 2020) speaks to the idea that we cannot approach reopening schools without the appropriate safeguards in place. But we must admit that “normal” has not been, for Black people, a promising narrative because it puts Black lives at risk in more ways than one. We are not referring to just our physical health. Still, for many years the emotional and sometimes even the mental wellness among culturally diverse student

![Figure 1 Banneker Almanac](image)

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populations has been a source of contention due to the stress they endure in systemically oppressive environments connected to schooling practices. We do not want to go back to “normal.” Instead, we want a revolution in education. Our students deserve it.

In this revolutionary thought of reimagining, we often think about the speech by Dr. Danny B. Martin at the 2018 NCTM Conference, entitled “Taking a Knee: Moving from Equity Discourse to Protest and Refusal.” In this talk, Martin (2018) introduced a liberatory education, explicitly calling for Black liberatory mathematics education. Martin said:

*We define black liberatory mathematics education as the framing and practice of math education that allows black learners to flourish in their humanity and brilliance, unfettered by whiteness, white supremacy, and anti-blackness. We view liberation as a means to a radical end rather than an end in itself. We imagine a world in which our relationality is not to whiteness, anti-blackness, systemic violence, a world in which we are not defined by survival, resistance, and a fight for freedom. We imagine a world in which we define ourselves, our joys, and our desires in infinite multiplicities and in which we are committed to individual and collective black fulfillment.*

Unpacking this work requires communities to coordinate practices that could make it less of a fantasy. COVID-19 is a timestamp in American history that has illuminated the inequities among people of color in the areas of healthcare, employment, and education, to name a few. We have an opportunity to rethink the way we educate children in this country, and we should take full advantage of this time and space to do right by culturally diverse students.

Enough is enough. We must refuse normalcy in post-COVID-19 education. Rebecca S. Pringle, president of the National Education Association, reminds us that justice comes from fostering an environment that upholds the dignity and respect of each student – whether Black or white, Latina or Asian, Native or newcomer – through equitable resources, restorative justice practices, and a curriculum that honestly reflects the rich diversity of our history and culture (Long, 2021). The COVID-19 pandemic has the potential to chart a new path for our thinking as we optimistically think of imaginative and revolutionary ways to educate every student in mathematics.

**Theoretical Rendering**

Cognitive constructivism and social-cultural theory, according to Severinsen (2003), outline the two prominent positions among constructivism which together overlap in context. These theories represent a medium in which students are participants in a supportive learning environment and are active in their learning. “There is a movement among contemporary educators that the most effective theory by which children learn is constructivist learning” (Severinsen, 2003, p. 20). New learning innovation occurs best when it holds relevance to the student while they are at the center of their learning process. “An abundance of research has shown that mathematics instruction that focuses and builds on students’ sense-making produces powerful mathematical thinkers who can compute and have strong conceptions of mathematics and problem-solving skills”
Technology opens the door to extend student learning opportunities in a variety of ways. The justification for the significant impact of technology on the reform in mathematics education is the effect it has on the cognitive processes— that being the nature of mathematical thinking and understanding.

**Supporting the Narrative**

“Educational technology” has become a commonly used phrase in literature. In this article, “educational technology refers to a variety of technology-based programs or applications that help deliver education materials and support the learning process in K-12 classrooms to improve academic goals—as opposed to learning to use the technology itself” (Cheung & Slavin, 2013, p. 90). Tomlinson and Javius (2012) make a good point stating all students deserve equitable access to an engaging, innovative, and rigorous curriculum. A technology integrated curriculum can be accessible to learners at many different readiness levels (Powell & Kusuma-Powell, 2012) and creatively designed to meet each students’ needs. To see students’ advancement in mathematics, it’s essential that they are being prepared to solve problems of tomorrow, challenged to think critically, and allowed to form creative solutions to problems. Classrooms are places of innovation where students can thrive in new ways. “In a newly envisioned school, technology will play an increasing role, and students will have an opportunity to access asynchronous lessons so they can learn at their own pace and under conditions they find more favorable” (Ladson-Billings, 2021, p. 73). Accounting for individual learning styles and students opens doors for mathematical explorations and leads to tremendous enthusiasm, which provides heightened engagement.

The National Council of Teachers of Mathematics (NCTM) developed *Principles and Standards for School Mathematics*, a landmark document that contributes to a framework of thinking and learning with technology (NCTM, 2000). Reform in mathematics education has shifted pedagogical philosophy from behavioral to constructivist, introverted learning to cooperative, with an emphasis on conceptual understanding. Encouraging the use of calculators, computers, and innovative devices deemphasizes a singular focus on computational skills when teaching mathematics. NCTM stated, “technology is essential to teaching and learning mathematics; it influences the mathematics that is taught and enhances student learning” (NCTM, 2000). By engaging students with technology, many could find an entry into mathematics learning that they otherwise would have found challenging and complex.

**Virtual is Vital During and Post COVID-19**

COVID-19 has the potential to strengthen the achievement gap rhetoric since educational reports suggest this virus will intensify education inequities for Black students. For example, Slay (2003) contended “Communities should be concerned about the negative consequences this period of stay-at-home orders related to COVID-19 is having on children’s educational attainment” (p. 3). Some predict that the pandemic will increase the number of Black students enrolled in special education classes due to many students experiencing learning loss. We agree that this critical time must be approached with caution and concentrated actions should be taken to reach every student.
(Our) Voice + Power = Advocacy

Due to COVID-19, school districts across our nation are in jeopardy of losing students to online schools and service providers. Eventually, many schools will ensure concessions are in place to maintain attendance and ensure federal spending remains within their control. The U.S. Department of Education released a report in the Civil Rights Data Collection (2020) that suggested students of color are the population majority in American classrooms. Diverse student communities and their families have immense collective power when they lift their voice toward narratives centered on advocacy. “Our voice has power, especially when we support it with our vote” (Parker-Holliman, 2020, p. 88). The withdrawal of students from American schools presents challenges, one of which is funding supporting job protection for many state and federal politicians, district administrators and leaders, and school support staff. According to the U.S. Census (2020), the average school spending per pupil (student) is approximately $12,612 nationally. During this era of COVID-19, the Delta and Omicron variants, as well as those to come, we can guarantee that influential people in our country will continue to have a vested interest in educational funding and seek to educate the majority of this nation's students. School districts are not willing to lose consistent patterns of $12,612 due to COVID-19. There remains an eagerness for brilliant Black and Brown children to remain enrolled in public institutions of learning. Ladson-Billings (2021) wrote, “if we consider what normal has been for Black children, it is easy to see why ‘getting back to normal’ does not seem like a good idea” (p. 69). It is time that we advocate for change in American school systems for students of diverse backgrounds to eliminate “normalcy” practices.

Organic Alternatives

One may ask, “what would this educational revolution and reimagining look like?” As a small component of many collectives, we wish to shed light on a few explorations to rethink education during this pandemic and post COVID-19. As we collaborate and think organically, our brilliance will provide more alternatives to the normalcy of brick and mortar for which we have become accustomed. Each alternative described will take students fully out of the school environment. Organic alternatives require that students rely on the virtual learning provided within their learning institutions for planned instruction, but they do this in communities of learning outside their school buildings. School districts are encouraged to offer electronic devices per pupil, internet-provided service if needed, and to-go lunches (if requested). Ideally, each suggested organic alternative will be free of charge for students and their families and designed to push students forward while removing barriers to their learning. The following ideas are not all-inclusive and serve as the start of a springboard toward collective thought.
**Virtual Learning with Support from the District (Selective Learning Hubs)**

The first organic alternative suggests students learn in selective learning hubs. Students who have care at home or funded care in community spaces are encouraged to engage in their school’s virtual learning and obtain support from parents, guardians, and community partners in their homes and learning spaces. Families in these situations are asked to engage with the community and offer communal space to one or more K–4th grade children whose parents must work during the day. These small selective learning hubs will help each child to remain engaged and committed to their learning while the adult in that space encourages them to work independently and productively.

**Virtual Learning with Peer Collaboration or Learning Pods**

Cooperative and collaborative groups in educational settings have proven advantageous in the classroom for student engagement, support, and learning. In Figure 2, virtual learning with peer collaboration asks parents to strategically create learning pods with students learning at the same grade level. This organic alternative suggests students obtain virtual learning tasks from the teacher and collaborate as a team to complete their tasks. Peer tutoring, as a resource, may offer students an outlet and a collaborative support medium.

**Trusted Community with Virtual Learning**

This option allows parents to choose where their children will learn each day with a limited population in which a licensed educator and a nurse will support. This organic alternative organizes at a trusted person’s home, community, or religious facility, or a location in a small group setting with large spaces for social distancing while learning. Figure 2 provides an example of how parents and community members may extend trusted communities with virtual learning.
learning opportunities to their network of friends and associates through trusted communication mediums.

**Virtual Learning Supported by Cross-Age Collaboration**

Vertical learning is the goal to support this organic alternative. Thinking in terms of cross-age collaborations, students at all levels are supported in pods. Ideally, there will be elementary, middle school, and high school students engaged in this collaboration. These pods will meet and provide support vertically with the two high school students engaged in peer collaborations as a support mechanism for this reinforcement. This organic alternative relies heavily on community support within the pod of participants as learners.

**Workforce Virtual Learning (Hotelering Office Space)**

An option that has become a reality for many is the meeting room virtual school for employees’ children. Employment providers are allowing the use of extra space to accommodate the children of their employees. In these spaces, employers provide an adult tutor to supervise the small group(s) of children during the time parents are working. Students are enrolled in their school’s virtual learning program and receive employer-provided support.

**Conclusion**

In this article, we have provided an introduction for ideas we call organic alternatives to schooling in “brick and mortar.” By reimagining mathematics education, we suggest ways to meet the needs of students and parents during this time of transition due to COVID-19. As critical educators and researchers, thinking deeply about the work that needs to be done in our school systems and revolutionary reconstruction encourages us to examine innovative mediums so we may plot a plan of action to benefit generations of students. We hope we can rethink education in a way that combats systemic violence against students and encourages them with full access to appropriate curricula, favorable and total equity, and an open gate toward enrollment in advanced coursework.

Thinking about the significance of our history and relating those contributions to the present, we know that when we engage in collective thought, organic alternatives produce assets for our students. When we reflect on the history of education, we might recall stories left by our ancestors who, as children, were taught in their homes or the homes of community members that their parents trusted. For some families, those historical narratives produced stories that benefitted the student and allowed them to be pushed forward in learning. The organic alternatives in this article revisit the success that was apparent during those narratives of our ancestors and make us wonder how we could combine the success of the past with the future. Either way, it is essential to explore how our history can impact and contribute to the success of our students. In the end, we want every student to feel safe in a learning environment, even during this time of uncertainty. As we move to refuse education’s “Back to Normal” during and post-COVID-19, let us remember that a crisis creates opportunity.
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Lessons from the Field

For this featured section, we reached out to K-12 mathematics educators to share their experiences with teaching Black children during the COVID-19 pandemic. We hope you find their stories and advice impactful for your practice!

Teaching Black Children During the Pandemic!

By Chevron McDonald

As a teacher, I must first admit, teaching period during the Covid-19 pandemic was hard, and teaching math was 10 times harder. I honestly believe that there were still struggles to teach in all the efforts made to make sure our scholars were provided with everything we thought they could possibly need to make sure they didn’t miss a beat with learning. Since this was new to everyone and we were all learning while trying to maintain, some of the scholars suffered, which was no fault of anyone but the pandemic. I feel like the best solution offered to overcome the learning loss is the “just in time over just in case” strategy. Teachers should be teaching on-grade level content and scaffolding where needed to close the gaps of the learning loss the scholars experienced during the pandemic. We don’t know how much success our scholars could achieve if we don’t push them to their maximum potential.

“I feel like the best solution offered to overcome the learning loss is the “just in time over just in case” strategy.”
OVERCOMING PANDEMIC-RELATED CHALLENGES

By Ashley DeBose

Before the 2020–2021 school year began, we prepared as much as possible for our scholars to be ready to receive high-quality virtual instruction. This was territory many of us had not experienced on the K–12 level. Scholars had necessary materials and anything else their teachers deemed important for lessons. However, issues did not come from a lack of preparation, but from the various situations we encountered daily.

The population of our school is majority Black scholars. During this pandemic, several families had to make different arrangements for their children to learn virtually so they could work. They could not be by their child’s side to assist or keep them on task; as a teacher of 4th graders, it was important they have someone to do so because of our virtual limitations. During our virtual learning, I’ve seen some scholars at daycare centers and others left with older siblings who are also learning virtually. Some scholars were at home with their parents who were already working remotely. Sometimes the internet connection was poor, or they were at a job site with their parents. I believe these environments were more of a “we have to do the best we can,” but they were still not as conducive to learning as our classroom is. Some scholars had excessive absences online, and some even experienced homelessness. These situations, along with the fact that some scholars were already struggling academically before the pandemic, contributed to a greater learning loss.

To bridge some gaps during the school year, I offered tutoring for scholars after school hours. When we were allowed to return to the school building, scholars who were struggling virtually had a greater chance of success because they could receive hands-on help. The school also hired tutors and offers homework help for scholars after school.

This school year, with scholars being back in-person full-time, we have a greater chance of closing some of the learning gaps attributed to last school year and the end of the prior one. The school has interventionists to provide extra help. Teachers are assessing and addressing scholars’ learning strengths and weaknesses before delivering on-level instruction. I know the work is great, but educators have an even greater drive to help our Black children succeed.
By Sheena Bentley

I currently teach 3rd grade Math and Science at Geo Prep Academy. The 2020-2021 school year was my first-year teaching Math at the Academy. As I reflect on that year and the start of this year, I can say I have seen Black children adversely affected by learning loss due to COVID-19. The struggle of teaching virtually to scholars and working with parents who are not technologically savvy was rough. Internet disruptions and struggles with student engagement from a lack of the scholars not being able to focus on schoolwork at home generated teaching and learning difficulty. Also, as an educator who had never taught virtually, I could only hope that I was able to effectively present lessons to my scholars virtually.

This year, all scholars were allowed back into the classroom. However, we are still having inconsistent attendance because of quarantine. Because of all those obstacles, our scholars are struggling with all aspects of rigor. Conceptual learning, procedural learning, and application of learning were all hindered because of the instabilities of the classroom environment. So, as an educator, the solutions I have come up with are to have no wasted time! I am very intentional in planning. As I prepare for my lessons each day, I ask myself daily in preparation for all lessons, “What do my scholars need to know to be successful with this lesson? When can I implement what is needed before the lesson? When and where can I implement an intervention?” The pandemic has surely affected learning. I am hoping that my solutions for my scholars are enough to help them catch up, keep up, and move up.
Before becoming a university faculty member, I worked as a mathematics coach at an urban elementary school. One of my duties was working with students who struggle in mathematics. Coaching requires extensive lesson planning based on their different needs. This article reflects my time and lessons learned while supporting students in urban environments. This reflection goes beyond the content and concepts of mathematics. I articulate the characteristics of teachers who are allowed to teach diverse learners. It takes teachers who possess the 3 C’s - being caring, committed, and courageous - to teach our urban students.
Caring

The first “C” of teaching in urban schools is caring. Teachers in urban schools must have a caring disposition. Care is a multi-layered term that has been defined by experts. Being caring generates trust and, in turn, builds positive relationships with urban students (Hammond, 2014; Gay, 2010). According to Nodding (2002), “caring for” is a deeper concept. Nodding’s definition of “caring for” includes two elements: engrossment which relates to when I care, I hear, see, or feel what you are trying to convey, and motivational displacement, which is the desire to help.

Caring means math coaches spend time listening to students’ stories outside of mathematics and incorporating stories into the lesson. Caring for means slowing down the curriculum to meet students’ needs and being willing to be patient and innovative to meet their needs. Caring is communicating that you will be with them even on their worst day. This takes a level of care and commitment that extends beyond the grade-level content.

In my role as a mathematics coach, my principal felt serving the students in the testing grades would be the best utilization of time. I would provide small group intervention for grades three through six.

Occasionally, I would also help students from lower grade levels. This reminds me of one kindergartener who could not recognize numbers after 11 when he saw them. I was on afternoon duty and the student showed me his report card. On the report card, his teacher indicated that he did not master recognizing numbers greater than 11. I began working with the student during afternoon duty. One of my key strategies involved using a ruler in place of a number line. I challenged the student to have his mother help him study at home over the weekend. He made progress, and I did not want him to regress. The following Monday, I asked him to say the numbers as I flashed them. It was obvious he had not studied because he did not recognize his numbers. I asked him if he had studied, and he replied, “I couldn’t. My momma did not have a stick with numbers on it”.

I mention this story for several reasons. First, the concept of caring for students, as mentioned above, is a deeper concept than caring about them. Caring for students gives you a strong desire to help even when someone or something is outside of your assignment. That student you start caring for becomes your assignment. Second, this child wanted to communicate his academic learning to someone who would listen. I heard, saw, and became engrossed in his mathematics education although his grade level was outside of my assigned area. Urban students need teachers who are not afraid to “care for” and not just “care about” them. As a result of this encounter, I developed a relationship with this student throughout his elementary school years.

Committed

The second “C” of teaching in urban schools is committed. Urban students need teachers who are committed to their students. A committed teacher believes in the value and goals of their work, actively wants to be associated with their work, and will work beyond the minimal expectation required (Firestone & Pennell, 1993; Park, 2005). This level of commitment goes beyond regular classroom teaching. This level of commitment is being patient and willing to look deeply into students’ strengths and challenges to use them to address any gaps in student learning. This may
include meeting students outside of the mathematics class or teaching below and above level content. I remember meeting with students during dismissal before going home, after school, and on Saturdays. This includes never giving up when it seems students are not understanding concepts.

I remember providing small group instruction with fourth graders. One of their struggles was remembering the products of different multiplication facts. After reviewing multiplication strategies, I gave students a quick drill with number cards as a quick informal assessment. I held up a multiplication fact card with the expression “4x7” on it, and my teaching assistant called on one student. Additionally, this student also had severe attention and hyperactivity challenges. To meet his needs, I allowed the student to stand during class to keep him engaged. The teaching assistant called on him to make sure he was paying attention. After again asking him the product of 4 and 7, my fourth grader responded, “Man, I don’t know what ‘4x7’ is. I don’t know what that is, man...28.” The teaching assistant told him, “Hey, you just said the answer!” The student was so pleased with himself. The knowledge was there. He just needed a little confidence and patience to say it.

I mention this story because urban students need someone committed enough not to give up on them. We must be committed to and patient with urban students to display their knowledge. This may include being committed and courageous enough to try alternative methods for instructing them.

**Courageous**

The third “C” of teaching in urban schools is *courageous*. Teaching in urban schools requires one to be courageous. Being courageous in this context means having high expectations that all students can learn and possessing self-efficacy about personal teaching practices and content knowledge (Bandura, 1977; Goddard et al., 2003; Ladson-Billings, 2009). Being courageous also means using teaching practices that have been proven to help students learn and abandon meaningless practices. Being a math coach puts you in the position to model successful practices, which may be different from traditional approaches. You must dare to be different where it counts. Have enough courage to stick with practices articulated by national teaching standards and not reinforce the status quo.

I remember teaching fifth graders who struggled with school mathematics and were not performing on grade level. After a semester, I thought their benchmark assessment results would reveal much progress. I thought they would at least increase to the third- or even fourth-grade levels on...
this assessment. To my dismay, they had not improved in algebraic thinking. Their homeroom teachers were not surprised because of the students’ history on benchmark assessments. I could not accept these results and told the teachers I would look at the data more closely. After intensely looking at the students’ summary report, which included grade-level problems the students were given, I realized there was a common pattern amongst the fifth graders I served. My students did not know the meaning of the equal sign, which is a first-grade skill. Based on the results, I addressed this first-grade standard during a Number Talk. Number Talks were a daily practice where students and teachers engaged in discourse involving mental math strategies. In one Number Talk, I wrote an equation where the equal sign was placed after the sum. An example equation would look like this: 10 = _ + 8. As the data in the summary report revealed, students did not understand why I presented the equation in this way. “You can’t do that! That’s wrong!” my students exclaimed. “The equal sign is supposed to be at the end!”. That is when I addressed the meaning of the equal sign. Suddenly, the light bulbs came on for them. During each class meeting, I addressed the equal sign conceptions through a Number Talks session and observed their benchmark assessments increased in that area. I explained to their homeroom teachers addressing the equal sign misconception helps the students tremendously.

I mention this story because being courageous means doing something different to achieve the desired expectation. A deeper look at data led to addressing a student’s misconception. Although I was teaching fifth graders and this was a first-grade standard, I had to be courageous enough to find a strategy to ensure my students mastered the content they and their teachers thought they could not. I could not give up on my fifth graders because my expectations were high. Having high expectations does not mean I teach grade-level standards to students struggling in the same way I teach on-level or above-level students. Having high expectations means I expect my students to learn and address misconceptions from previous grade levels to close any gaps in their learning. This does take time and effort, however, having the courage to do so will yield greater results with students. Students will remember the teacher that took the time to help them.

References

The Benjamin Banneker Association, Inc. celebrates the life and legacy of
Reverend Dr. Dorothy S. Strong
February 3, 1994 – January 2, 2022

There was a time when I only heard of Dr. Strong as the Director of Mathematics for Chicago Public Schools, when I was a high school math teacher. During that time, students could graduate from high school and only have passed four years of math and they did not have to take and pass an algebra class. As a result, teachers tended to lose sight of the higher-level math courses.

Dr. Strong was a strong advocate in changing that requirement from just four years of math to ninth graders having to take algebra. She stated that if a student had to fail a math class in the ninth grade, let that course be algebra.

When the high school counselors and mathematics teachers blamed the elementary students for not knowing their basic facts, she found sponsors who supported the idea of giving the elementary school students four function calculators to help with the computations so they could actually learn the mathematics.

There were two other events, among many, that Dr. Strong was able to bring to bear that helped the Chicago teachers. One was securing a sponsor, Amoco, to cover 80% of the tuition for a limited number of inner-city teachers to get master’s degrees in mathematics from DePaul University. It was important to up-grade their knowledge and to re-acquaint them with upper level-mathematics. This gave more value to teaching the courses beyond algebra.

Dr. Strong and other officials, from Chicago and other inner-city Department Chairpersons, made agreements to select teachers to go to Andover Massachusetts to spend six weeks on campus to be taught algebra II and trigonometry and use the graphing calculator TI-80 to upgrade their skills and concepts to be inspired to get their master’s degree in mathematics. This program was called (MS)Squared. It stood for -Math and Science for Minority Students.

This is when I formally met Dr. Strong. All the Department Chairpersons from the other cities met with their teachers during the last week of the program. Dr. Strong asked her Chicago teachers, “Who wanted to do professional development with the TI-80 graphing calculators?” I said, “I do.”

Dr. Strong was very instrumental as a member and eventually on the Board of Directors (1987-1990) for the National Council of Teachers of Mathematics (NCTM) and she was a founding member of the National Council of Supervisors of Mathematics (NCSM) in 1968 and NCSM President from 1977 to 1979. She and other mathematics leaders learned that these two organizations did not properly address the needs of students of African ancestry. That is when she and six other mathematics education leaders founded the Benjamin Banneker Association (BBA) in 1986.

Dr. Strong had developed a strong cadre of math teachers to work with her. With the incorporation of Benjamin Banneker, we had a local, state, and national presence. Being The Director of Mathematics for Chicago Public Schools, she was instrumental in getting the BBA’s
North Central region off the ground. This cadre of teachers met regularly to develop activities and professional development for the members of BBA and worked on recruiting other teachers to become members. Often, Dr. Strong laid out the ideas and her first in command, Dr. Marie Jernigan, would lead the charge to get input from us all to plan the professional development activity.

Dr. Strong has become an Ancestor. We can now pour Libations to her. An African proverb states, “**Tomorrow belongs to the people who prepare for it today.**”

Statement by Dr. Kwame Anthony Scott, BBA Past Executive Director, and Past President
The Benjamin Banneker Association, Inc. celebrates the life and legacy of Dr. Lee Vernon Stiff

February 4, 1949 – March 19, 2021

He was a nationally recognized expert and scholar on equity and mathematics education and a champion for both teachers and students. But to The Benjamin Banneker Association, he was much, much more - we called him a friend.

In his essay "Compensation," Ralph Waldo Emerson wrote that each person is compensated in like manner for that which he or she has contributed. The Law of Compensation is another restatement of the Law of Sowing and Reaping. It says that you will always be compensated for your efforts and for your contribution- whatever it is, however much or however little.

Throughout his nearly 45-year career in education, Dr. Lee Stiff worked to improve mathematics education at the state and national level for ALL students. He sowed mightily into generations of students and the teachers who taught them. He poured generously into emerging mathematics leaders, mentoring them without complaint or any expectation of thanks. He only wanted them to not to live an “almost” life. His desire was that they live a life of actualization of their full potential. With every outpouring of his knowledge and kindness, he was elevated, yet remained focused on his passion to reach back and give back more than what he had previously given. He wanted every student to have a life of excellence, not mediocrity. He worked masterfully, tirelessly, and unselfishly toward this goal until the very end. Dr. Stiff embodied The Law of Compensation.
During his professional career, he received many honors including being named the North Carolina State University College of Education’s 2010 Distinguished Alumnus and receiving the Rankin Memorial Award for Excellence in Mathematics Education from the North Carolina Council of Teachers of Mathematics, a Fulbright Scholar Award to the University of Ghana, The NCTM Lifetime Achievement Award, and The Benjamin Banneker Association Lifetime Achievement Award. He also served as NCTM’s president from 2000 to 2002 and was the first Treasurer of BBA.

As busy as his schedule was, Dr. Stiff always had time for BBA and any member who needed his help or guidance. His adherence to his humble roots established him as an unpretentious giant amongst giants. Through his bright smile and belly laugh, he famously stated in many of his keynotes that he was “just a North Carolina farm boy who got a chance to live a life he could only have dreamed about.”

Thank you, Lee, for all you did for BBA. We will never forget you, our dear friend.

Statement by Beatrice Moore, BBA Executive Director and Past President

Gifts in his remembrance can be made to the Agnes and Garfield Stiff Endowment, a fund Dr. Stiff set up to honor his parents and that benefits graduate students in the college’s Department of STEM Education, who present at conferences.

Gifts can also be made in honor of Dr. Stiff to the College of Education’s Excellence Fund. This fund supports programs and initiatives important to Dr. Stiff like the Don C. Locke Multiculturalism and Social Justice Symposium that he helped start.