

# Success in High-Need Schools Journal

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## **Journal Issue Theme: “Excellence in a Noble Profession”**

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Although most adults have fond memories of outstanding teachers who “changed their lives” – awakening curiosity, enabling learning, inspiring ambition, and serving as role models – teachers have often been under appreciated as professionals and education has been undervalued in the allocation of public resources. Recently, teachers in a number of states across the nation have “taken to the streets” on their own behalf demanding that legislators and the larger public recognize that a healthy and vibrant nation requires a well-educated and value-conscious citizenry. Our increasingly diverse society faces growing strains due to issues ranging from widening wealth and achievement gaps to effects of cultural differences, unstable family life, rising violence, and expanding student special needs. Moreover, these strains are occurring at the very time that greater outcomes are expected and required from education to meet the needs of our ever more intricate and complicated nation and world. In the context of this heightened environment, teachers are pressed to become both competent educators and effective leaders as their profession experiences transformation to meet the challenges.

As education and educators face what may be a tipping point, it seems timely to review both the contributions teachers make that make teaching a “noble profession” and recent teaching and learning innovations that help to provide meaning to the term “excellence.” The June 2018 Summer Institute for Educators held at North Central College offered examples of excellence that provide insight to how educators are addressing the challenges of educating for college and career readiness through teaching in culturally responsive ways, differentiating instruction, improving assessment and classroom management, while engaging in their own professional development as teachers, leaders, and content area specialists. This issue of the journal will have contributions from teachers and administrators in both schools and schools of education, as well as state leaders united in the common goal of advancing education and the effectiveness of educators.

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## Publisher's Column: Excellence in a Noble Profession

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By: Dr. Jan Fitzsimmons



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Like medicine, law and the sciences, teaching is a multi-faceted profession. Unlike many other professions, it is the one profession that impacts every other profession in that every professional begins their journey in the classroom of a caring and competent teacher. In fact, individuals from all walks of life can recount the inspiration and teaching of a professional educator who was significant in nurturing and advancing their success, self-worth, and well-being.

But today, we are faced with a challenge in the profession across the nation—teacher shortage. In Illinois alone, a 2018 survey of superintendents noted that 85% of the districts surveyed reported either a major or minor concern about teacher shortage, up from 78% in 2017. Substitute teacher shortages were an even greater concern, and in many schools it is now common practice to split the class of an absent teacher between or among other teachers of similar grades. In 527 districts that responded to a survey of the Illinois Association of Regional Superintendents, “1,032 positions listed for fall 2018 remained unfilled or filled by an unqualified professional.” And while public school teaching has been much maligned, with the deepening shortages, our profession is now receiving its due positive attention and become increasingly important in conversations about our nation’s ability to successfully compete in the global economy.

In this issue of *Success in High-Need Schools*, we explore the many facets of the noble profession, teaching!

The exploration begins with Strike and Billman-Galuhn’s discussion of teaching and teacher leadership in the article, *The World Isn’t Flat, And Neither is the Teaching Profession!* In this article, the authors document the teacher leader career lattice opportunities that transform and support student growth, teacher shortage and school improvement.

Next we journey with Susan Smith and Scott Todnem to examine classroom culture. Smith and Todnem author two distinct articles that cause us to consider the critical role teachers play in

building the context in which learning flourishes. Smith addresses the important supportive and nurturing culture necessary for flourishing readers and writers, while Todnem discusses the importance of the overall feel of the building and classroom and its important parallel to learning for all kids at all levels in all classrooms, especially the role of teamwork in learning.

Many argue that the pressure for accountability has driven the opportunity to encourage curiosity out of the classroom. In Paul Brandt's article, *Developing Curiosity*, Brandt suggests that science offers an opportunity to grow curiosity in the classroom and he plots a course for how that might occur!

While civil rights has long been an important topic of discussion, Robinson, Young, Hall, Hall and Rice advance critical thought about the legacy of segregation, the achievement gap, adverse childhood experiences and the impact all have on student learning. Thus, they make a case for the important understandings and practices teachers must actualize to ensure that all children have equal access to a great education.

In tandem with civil rights and the importance of culturally sustaining pedagogy, Daneels, Kawashima-Ginsberg and Healy in *From Paper to Practice: Lessons Learned from the #CivicsIsBack Campaign* discuss the value and importance of preparing young people to be "civically engaged, socially responsible, culturally aware and financially literate" with an emphasis on civics! With this new initiative, teachers engage students in the critical practices of civics skills and dispositions and disembark from rote memorization and paper and pencil tests.

Our final explorations circle back to human development emphasizing the importance of systems that shape the environment and impact student development. In *Examining Grit as an Individual Factor for Achievement*, Rivera advances the idea that grit may be associated with positive health and behavior outcomes for youth, but that teachers must be cautious of applying grit concepts too broadly as research notes that individuals respond differently and more research is necessary.

Finally, teacher leader Kim Thomas gives a cheer for students, as well as teachers in her column, *All Kids Deserve a Pep Rally*. Kim's column illustrates the importance and the power of positive encouragement for all students. "After all," Kim argues, "one positive is greater than any negatives." And, you can't argue with mathematics, much less mathematics teachers!

Teachers do all of these things from advancing school improvement to maintaining a robust teaching corps, from establishing a nurturing culture to growing successful and independent students, from channeling curiosity to ensuring equal access to a quality education, and from

developing active citizenship that prepares youth for college, career and civic life to shaping grit. As Kim Thomas says, “Teaching is exhausting!” Perhaps that’s why we call teaching.... the noble profession! We hope you enjoy your exploration of this issue that considers the noble profession of teaching!

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# The World Isn't Flat, And Neither Is the Teaching Profession

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## **Introduction**

The roles and responsibilities of teachers are dependent on school and district recognition of the value of teacher leadership and how they utilize teachers serving in such roles. Consequently, the very definition of teacher leadership is determined by the employing entity. Historically, teacher leadership dates back to the turn of the 20<sup>th</sup> century. Informal leadership roles and responsibilities are often assumed by teachers who see a need and fill the void while more formal roles, such as department chair or grade level lead teacher, are often anointed or appointed. Teacher leadership has been instrumental to the success of the educational system and continues to impact the system today. Formal education and state certifications, endorsements and licenses provide additional knowledge and skill sets specific to bridging the classroom with administration.

Serving in the capacity of a teacher leader can promote and influence change, transform (Strike, Fitzsimmons & Hornberger, 2019); energize, mobilize (Danielson, 2006); influence, improve (York-Barr and Duke, 2004); empower (Buck, 2015); and recruit, retain, motivate, and reward accomplished teachers (Childs-Bowen, Moller, & Scrivner, 2000).

Current statistics show that fewer people are opting to go into teacher education programs today than as recently as a decade ago. As a result, fewer people are successfully completing such programs than in the past. Moreover, many new teachers indicate that they plan to teach

for a few years, then move into another field, suggesting that they view teaching more as a short term job rather than as a long-term profession. These developments must be kept in mind in looking to future needs in education, especially if we are to prepare a new generation of teachers who will see the profession as one with attractive opportunities and possibilities. In this environment, it would be deadly to view teaching as a static profession, rather than one limited only by our own imaginations.

### **Why Teacher-Leadership?**

The formal and informal roles that advanced degrees in education afford teachers suggest different considerations for why someone has chosen to further their education and become a leader in their school or district. Formal education often leads to formal roles such as those mentioned above (department chair, lead teacher, and administration positions), however, many educational professionals may not wish to leave or reduce their classroom teaching role, favoring the relationships and bonds built with students over administrative roles in a school or district office. The adage that one gets into education to teach, rather than to administer, holds for many professionals. The availability and desirability of the formal roles of leadership do not preclude teachers from leading in their departments and grade-levels, but the benefits of continued education and training, particularly monetary, could make these informal roles more attractive to teachers who wish to remain in the classroom, but also find ways to lead.

### **Ladder vs Lattice**

Traditionally, the field of education offered a ladder approach to leadership. This approach reflected steps and lanes for coursework, degrees and experience; however, many districts no longer acknowledge the steps and lanes, no longer offer financial incentives for these accomplishments, and no longer reimburse for coursework or degrees.

The ladder approach presents a moving up or moving down career advancement model. There is an anticipated progression with the ladder, such as lead teacher, department chair, assistant principal, principal, assistant superintendent, and superintendent. The ladder approach marginalizes teachers who wish to remain in and lead from their classrooms. These teachers may go unrecognized or be viewed as stagnant or unsuccessful when, indeed, they are taking on important leadership roles and responsibilities beyond teaching.

To rectify this slight of the teaching profession requires understanding and recognition of what might be called the lattice approach. The lattice approach acknowledges and rewards diverse pathways to a successful career and demonstrates that pathways are multi-directional. This means there is no shame in moving into a position and stepping back, especially in ways that

better align personal and professional interests with the needs of the students, school, district, and community that educators serve.

### **Reformation vs. Transformation**

In April 1983, *A Nation at Risk: The Imperative for Educational Reform*, sounded the alarm about education's role in our national well-being, "Our nation is at risk. Our once unchallenged preeminence in commerce, industry, science, and technological innovation is being overtaken by competitors throughout the world. This report is concerned with only one of the many causes and dimensions of the problem, but it is the one that undergirds American prosperity, security, and civility (p. 1)." Although this report was short, it was powerful and influential. It moved us from space race and Cold War concerns to a growing realization that our nation had allowed itself to become complacent and to allow mediocrity in our educational system. Becoming less competitive educationally, we had become endangered as a nation. Thus, a call for reform that has continued relevance in the present day.

By definition, reform seeks to improve or change conditions. What transpired over the thirty years following the appearance of *Our Nation at Risk* were DIPs (District Improvement Plans) and SIPs (School Improvement Plans) with identification of reform goals and action plans. Unfortunately, these plans had little to no penalty for lack of evidence to support their propositions and often lacked the force of law to provide teeth in achieving actual improvements. Existing strategies were often simply renamed and reintroduced under a new name as "new" methods, causing minimal change in actual instruction and educational outcomes.

Transformation, on the other hand, calls for a change in composition or structure, or a change in the causal properties of the situation at hand. Transformation calls for us to locate the source or cause of a problematic situation and create solutions that address and resolve the issues in question. In other words, transformative solutions seek not simply to "mask the disease but to cure it." Transformation is an organic, on-going process which engages the entire educational establishment.

Who better to transform the educational system than those closest to our students - the teachers?! Providing leadership from within the classroom, teacher leaders offer key insights in analyzing problems and identifying needs; provide critical support for change efforts; help regulate the timing and intensity of reform initiatives; collect and analyze data and make adjustments to curriculum and instruction based on that data; collaborate and share successes and challenges with other professionals; identify gaps, holes and needs from within the classroom, school, program and building, and create opportunities to improve these areas; conduct action research; pilot new programs and classes; and facilitate formal and informal



professional development among peers (Strike, Fitzsimmons & Hornberger, 2019; York-Barr & Duke, 2004).

In a recent publication entitled *Identifying and Growing Internal Leaders: A Framework for Effective Teacher Leadership* (2019), authors Strike, Fitzsimmons and Hornberger identify characteristics, roles and responsibilities undertaken by this significant group of educator teacher leaders. By leaving the comfort zone and exploring further, we have found great joy and abundant opportunities in a world thought to be flat, but proven otherwise. In the same manner, those who leave their comfort zone and explore further find the teaching profession is, indeed, one of opportunity, personal satisfaction, and great joy.

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## Building a Robust Classroom Culture

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### About Children's Literacy Initiative

Established in 1988, Children's Literacy Initiative (CLI) is a national 501(c)(3) non-profit organization, headquartered in Philadelphia, that is focused on improving literacy instruction in public, charter, and parochial schools to ensure that students can read on grade level. CLI's program provides personalized coaching for teachers and principals, research-based literacy training, and the books and materials classrooms need so that students can become powerful readers, writers, and thinkers. Third-party research has shown that the CLI professional development model can improve both educators' early literacy instruction and also student reading achievement. Connect with CLI on Twitter [@CLlupdates](https://twitter.com/CLlupdates), on [Facebook](https://www.facebook.com/CLlupdates) and via [cli.org](https://cli.org)

### Introduction

Classroom culture, environment, and literacy learning are closely linked. All children need classroom spaces with a supportive culture where they can grow and thrive as learners. Teachers are likely to ask themselves: *How can we create a place where children are surrounded by a caring community that feels safe and predictable, as they try out new skills in reading, writing, listening, and speaking? How can we build a culture where cooperation, independence, and joyful learning occur and where children's social and emotional needs are being met? How can we make connections and grow habits around literacy that will last throughout children's lives?*

A positive, caring classroom culture doesn't "just happen." It emerges as a result of thoughtful reflection and the purposeful planning and actions of teachers and staff. A robust classroom culture is built progressively and collaboratively over time, through the teaching of responsibilities, routines, and procedures and in meeting children's essential needs as learners and as people. The good news is that teachers need not be alone in this quest; they can include the children in every step along the way. We can reflect around what we truly want for children, recognize and honor their basic needs, and work to understand the pillars of classroom culture—responsibilities, language, and procedures—that open the path to

instruction and learning. We *can* design a classroom culture and environment and plan it thoughtfully to support children’s growth and development and meet the needs of all our children.

### **Sharing Hopes and Dreams**

Giving children the chance to share their hopes and dreams sets a welcoming, inclusive tone and provides a shared sense of purpose; a context in which expectations and learning goals for the year can be clearly articulated. Teachers can share their hopes and dreams for the school year as well, showing children that everyone is part of the community and all voices are valued and heard. The following example of hopes and dreams shared by one teacher, Ms. Lustberg, demonstrates the capacity of this activity to lay the groundwork for developing a positive classroom culture:

*“I hope that the children in my class will feel comfortable taking risks and tackling challenges as they learn and grow this year. I dream that someday the children in my class will remember this year as one of great learning and fun.”*

Not only do shared hopes and dreams set a productive tone for the learning ahead; they also serve as touchstones that can be revisited. Throughout the year, the teacher or the class as a whole can determine whether their words, actions, and behaviors are in alignment with the beliefs articulated in their shared dreams. The potential to “recalibrate” their work and re-inspire themselves can be found in their own initial thoughts about how they see themselves continuing to grow as learners.

### **Recognizing Basic Needs**

Teachers can continue to lay groundwork for developing a powerful classroom culture by establishing and nurturing a relationship with each child, in which they come to learn about and understand that particular child’s approach to fulfilling their basic needs. Listening to and responding to children as unique individuals, as well as observing them at work and play, allows a teacher to do this. During these moments of interaction and observation with children, a teacher can begin to see how each child uses behavior to help fulfill his or her five basic needs. These needs, identified by William Glasser in his work on reality therapy and choice theory, are essential to our lives within a community: love and belonging, power, freedom, fun, and safety.

Each of these needs, and the possibility for the need being either met or thwarted, influences how children interact in a classroom. Love and belonging entails the building of relationships with peers, the capacity to feel part of a group, and the chance to give and receive affection. Freedom looks like opportunities for choice, autonomy, and independence, as well as a sense

that one has some control over one's actions and behaviors. Fun encompasses enjoyment, excitement, play, and laughter, which are important and essential life skills as well as prerequisites for much learning. Finally, safety includes feeling secure enough physically and emotionally to express oneself freely.

While taking the time to recognize how children are approaching the fulfillment of these basic needs through their behavior may seem removed from the concrete establishment of a positive culture in the classroom, it is actually essential. A teacher who notices how their classroom is supporting or thwarting individual children's attempts to meet their basic needs, knows some of the root causes of children's behavior and understands how to adjust the classroom culture to better meet children's needs. For example, a teacher might recognize that a child's seemingly misguided but persistent attempt to interrupt other children's conversation is really a concerted attempt to fulfill their need for love and belonging. As a result, the teacher may seek more ways for that child to build relationships with other children. Glasser's five basic needs are, in essence, a flexible and highly useful lens through which to think about how the culture in a classroom can best support individual children and the class as a whole. Understanding a child's needs allows a teacher to understand why he or she might be exhibiting particular behaviors. This increases a teacher's capacity to see and address children's behavior as an attempt to meet a basic need or group of needs in an environment that is structured a particular way—and can potentially be restructured—rather than as an inherent, fixed character trait.

### **Pillars of Classroom Culture**

We can also think more deeply about the pillars on which a robust classroom culture stands. To do this, it makes sense to think more broadly about what is meant by *culture* in this instance. Here, culture reflects an atmosphere of kindness, firmness, dignity, and mutual respect; a belief system that teaches values children can use inside and outside the classroom. Sometimes it is all too easy to assume that a mindset of joy alone is all one needs to foster the growth of such a culture, but that will not suffice. This is where thinking about the pillars on which classroom culture stands—responsibilities, language, and procedures—help teachers to turn what can be ideals and good intentions into the daily reality of cherished routines, methods for learning, and productive interactions. A strong, positive classroom culture supports children's social and emotional needs and development. Children thrive in a community where everyone contributes and everyone is valued. The classroom culture grows through the language we use, the responsibilities we encourage, and the procedures we teach.

Responsibilities, the first pillar, are agreements that help children learn how to live, act, and interact in the classroom community. They guide all expected behaviors in the classroom.

Responsibilities build and support classroom community, and they empower and encourage all children to contribute. In contrast, “rules” often focus on obedience and can cause power struggles. When we focus on responsibilities instead of rules, our thinking shifts about many aspects of classroom culture. Here are some of the differences between a teacher-directed, rules-based classroom and a child-centered, responsibilities-based model:

- When we teach responsibilities, our role becomes mentor instead of police officer or enforcer. Teacher and children share a commitment to contribute to and maintain a caring community.
- If we view ourselves as mentors, then mistakes are viewed as learning opportunities instead of causes for punishments and consequences. Children are more likely to take risks in a supportive and accepting environment.
- Responsibilities are proactive and ongoing. Responsibilities grow over time as children become more and more capable. In contrast, rules tend to be posted once in the beginning of the year and returned to only when a rule is broken.
- Our goals become about effort and improvement over obedience. Responsibilities help us focus on and encourage children’s strengths while leaving room for growth.
- Responsibilities invite cooperation and help us avoid power struggles. Responsibilities support *all* of our children – not just the ones who are “good at school.” They send the message, “All of us can contribute. All of us can learn here.”

We give children a sense of ownership and empowerment when responsibilities are created *with* children. One tool that allows teachers to effectively collaborate with children to establish classroom responsibilities is the Power of Three, a framework that helps children understand everyone’s part in contributing to an effective culture. The Power of Three conveys the ways that community members “Take care of ourselves,” Take care of others,” and “Take care of the classroom.” It serves as a visual organizer, roadmap, and reminder for community expectations.




The Power of Three anchors classroom culture by capturing all the effective ways that children are learning to act and interact in the classroom community and launching conversations around these expectations. Teachers can use the Power of Three to create, teach, chart, and reinforce responsibilities with children. This can include physical and age-appropriate procedural responsibilities, like lining up for recesses appropriately, as well as social and emotional responsibilities, such as being kind and being polite. We review, revisit, add to, and refer to this charter often during the day and throughout the school year.

Children can use the Power of Three to set individual goals. Since children take part in the creation of responsibilities—including the addition of photos, signatures, and handprints to acknowledge their agreement—they form a strong connection to their own words and their writing. Picture supports, such as icons or simple illustrations, are added to boards to help ELLs and other children connect the words on the board to the responsibilities being defined. Responsibilities are planned, modeled, practiced, and reflected upon to ensure they reflect our common values for all members of our classroom.

Language, the second pillar, is the most powerful tool we have to create a caring classroom culture. What we say and how we say it has an enormous effect on children's emotions, learning, and sense of self. We can use words intentionally to foster a positive culture through daily interactions with children. By using positive language—carefully chosen words that empower children to see themselves as capable—teachers promote a classroom culture that conveys a sense of safety, security, and trust. In contrast, by repeatedly noticing and naming children's behaviors in negative terms, teachers promote a culture of fear and anxiety where it becomes difficult for children to learn and grow. Over the course of a school year, there are many different opportunities to use language skillfully to build a robust classroom culture. One such example is the use of inclusive language, such as "we," "us," and "our" to give children the sense that they are part of a community that is all involved in a common pursuit. Explicitly teach children how to start conversations, discuss ideas, ask for help, and disagree politely. These important skills will help children interact with others in the classroom and in the world.

Procedures, the specific routines or step-by-step instructions for using materials, areas, and processes in the room, is the third pillar on which classroom culture stands. Predictable and consistent procedures are key to a smoothly running classroom. They are the particular ways children transition, clean up, gather in a whole group meeting space, or prepare to do independent or group work, to name just a few common classroom procedures. Specific procedures that address all aspects of the classroom need to be planned, modeled, practiced, and reinforced daily or as needed, as well as regularly reflected on by teachers themselves and

the class as a whole. Teachers are encouraged to reflect on how teaching clear routines and procedures for every aspect of the classroom creates a climate of warmth and safety that enable children to become proactive problem solvers. Next, using a Procedural Lesson Plan Template, like the one shown below, helps children to understand, own, and practice the particular procedure in a predictable, consistent format, transferable to other procedural lessons. Without such alignment between “how” practices work in a classroom and the desire to create a caring community, it is difficult to build a purposeful, meaningful classroom culture. Therefore, planning and intentionality around procedures is critical to developing a robust classroom culture.


Responsibilities and Procedures Template

Objective: \_\_\_\_\_

Standard: \_\_\_\_\_

<b>Build Importance:</b> <ul style="list-style-type: none"> <li>Tell the children what you will teach them.</li> <li>Explain why it is important to the classroom culture.</li> </ul>	
<b>Teach:</b> <ul style="list-style-type: none"> <li>Explain the procedure.</li> <li>Demonstrate through modeling or role playing.</li> <li>Create, add to, or revisit an anchor chart.</li> </ul>	
<b>Practice:</b> <ul style="list-style-type: none"> <li>Give the children practice with the procedure.</li> <li>Assess their understanding to determine what you may need to re-teach or reinforce.</li> </ul>	
<b>Recap:</b> <ul style="list-style-type: none"> <li>Restate what the procedure is and why it is important.</li> <li>Ask questions to help children think about how this procedure will help them as learners.</li> <li>Add to the Power of 3.</li> </ul>	

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## Pulling It All Together

Responsibilities, positive language, and procedures stand together as the foundation for building a robust classroom culture. We establish a positive classroom culture through the responsibilities we encourage, the consistent language we model, and the procedures we teach. We anchor children’s growth with visual tools such as the Power of Three and engage children to think about their part in creating a caring culture. Building a thriving, joyful classroom culture depends upon the ongoing work of planning, modeling, practicing, and reflecting, which makes the structure and development of a purposeful culture a priority in teachers’ minds and, by extension, in children’s minds as well. Finally, we recognize the connection between a strong classroom culture and academic opportunity. We see and articulate the ways that a positive community opens the path to learning and instruction. When

teachers and children work collaboratively to grow meaningful learning communities, they create real impact and significance. Teachers and children truly value the opportunities they have to learn.

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## Responsibilities and Procedures Template

Objective:

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Standard:

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<b>Build Importance:</b> <ul style="list-style-type: none"> <li>• Tell the children what you will teach them.</li> <li>• Explain why it is important to the classroom culture.</li> </ul>	
<b>Teach:</b> <ul style="list-style-type: none"> <li>• Explain the procedure.</li> <li>• Demonstrate through modeling or role-playing.</li> <li>• Create, add to, or revisit an anchor chart.</li> </ul>	
<b>Practice:</b> <ul style="list-style-type: none"> <li>• Give the children practice with the procedure.</li> <li>• Assess their understanding to determine what you may need to re-teach or reinforce.</li> </ul>	
<b>Recap:</b> <ul style="list-style-type: none"> <li>• Restate what the procedure is and why it is important.</li> <li>• Ask questions to help children think about how this procedure will help them as learners.</li> <li>• Add to the Power of 3.</li> </ul>	

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## Building the Classroom as a Team

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### Introduction

*"Remember, you're unique... just like everyone else."* This is perhaps the most simplistic, tongue-in-cheek statement about human dichotomy. Each person's reality is a different experience, and each life experience is a separate entity. Yet, simultaneously, humans are all similar—similar in physical make-up, similar in emotional needs, similar in social dependencies, and, of course, similar in facing limitations in the challenges of life. Humankind benefits from recognizing both the similarities and the differences that exist. There is virtue in celebrating the diversity in life while sharing the commonalities people have with each other.

The interaction of similarities and differences is central to education. Students benefit from differentiation in order to develop the knowledge and skills to be successful in life. Teaching with variance according to student needs not only maintains interest in what is to come, it provides multiple styles of modeling and practice to ensure success. Differentiation is critical in a diverse classroom of students with differing backgrounds of race, gender, and/or income. Yet, the inverse is also true. Students learn from pursuing a shared objective—from becoming a team. A team is defined as two or more people working together to achieve a common goal. Team building, therefore, is the process of causing a group of people to work together effectively as a team. Team building is fostered through activities and events designed to increase motivation, promote cooperation, and/or enhance social relations.

Effective team building does not occur as a one-time activity such as a single daylong event at the start of a school term. And it might be of very limited benefit simply to sprinkle in seemingly random teamwork days throughout the school year to boost social-emotional learning or class morale. Rather, gaining the full benefits of teamwork requires a classroom full of constantly interacting peers who drive debate, dialogue, and higher level thinking as a core learning

activity. Working together towards common goals creates group camaraderie but also benefits the individual.

In the school environment, there is often a term that is used to describe the overall feel of a building: *culture*. That one word encompasses the living relationships that exist while working toward a shared goal. Daniel Coyle (2018) defines culture in a similar way, and explains, “While successful culture can look and feel like magic, the truth is that it’s not. It’s not something you are. It’s something you do.” Culture takes work.

So, how do we build class culture? That’s the age-old educational balance: How does the teacher best facilitate a group experience to benefit each individual student? This article will focus on that very challenge—the purpose and practice of using communal activities to develop the classroom as a team, which in turn optimally benefits individual student learning.

### **Historic Teams**

In examining successful people throughout history, whether in business, entertainment, sports, or other avenues of life, at several points in their tenure these people worked alone. But, and this is key, *it wasn’t all the time*. Inspiration was not solely intrinsic and success was rarely unassisted. Often, it was competition that drove creativity. In other cases, a shared objective prompted higher individual productivity. Teamwork is as old as humankind—witness the group activity of hunters and gatherers—but the concept continues to evolve to fit our collective needs and advancement as a species.

With inventors, in particular, much of their work did in fact involve time spent in solo projects. Still, their success often built upon the findings of others, e.g., Thomas Edison and the light bulb, George Washington Carver of agricultural science, Margaret Knight of textile machinery, Luis Miramontes of reproductive wellness, and Steve Jobs of computer technology. These iconic figures pieced together the efforts of other inventors in order to develop what they are best known for. A few of these inventors also persevered despite sexism, racism, and other prejudice of their time. Each of these individuals collaborated in teams, headed companies or educational departments, and even organized philanthropic efforts for their communities. Their creative efforts were simultaneously reliant and revolutionary—they were both the product of previous inventors’ work and the catalyst for future inventors’ ideas.

In music, groups of artists often create better songs, arguably, than the musicians’ solo works. Just as any team product is more than just a sum of its parts, musical groups become more than just the combination of vocals and instruments, as critics and listeners everywhere might agree. In sports, examples of teamwork in action can be seen when a team of lesser athletes, at least

on paper, defeats a star-studded cast. Finally, the success of large group teamwork deserves mention—the type of collaboration that includes thousands of contributors nation or worldwide—such as volunteer relief efforts following natural disasters, marketplace businesses like Uber and Airbnb, worldwide recycling practices, and internet community websites such as Wikipedia.

### **To Challenge Is To Change**

There is a striking difference between the laboratories of famous inventors, the studios of successful music artists, the facilities of iconic sports teams, and any given classroom in the world of education. That difference? Students in a classroom often believe they are working alone. Naturally, students know they are studying, researching, and analyzing other people's work and writers, artists, musicians, and historians all come into play for today's learner. Students also use peers for confirmation and meet with teachers for feedback to know they are completing schoolwork correctly. But, collaborative projects and small group work are often viewed merely as a means to an end for students to get their own score on a test or their own grade in a class. On one hand, this is natural for the development of each learner; teachers will almost always be required to assess each individual student. But the 21st century skills that are ever-present in our world of business and entertainment—critical thinking, communication, collaboration, and creativity—are not solitary endeavors.

I contend that building a classroom of students as a team will enhance their curricular competence. Using team building and challenge-based activities can develop meaningful lessons and lasting impressions. Challenging a group of people unites that group of people. Challenges are what make life interesting; overcoming them is what makes life meaningful. Assuming the challenges are fair, then, learning is bolstered through struggle. Therefore, to engage and develop a classroom of diverse thinkers, teachers must provide challenge that creates meaning.

Instead of treating a class of students as 30+ individuals, teachers might develop the group, using the framework described in the next section, as a team of learners. The objective is certainly not “group think.” The ultimate goal is to facilitate student growth through a team experience that fosters trust, risk taking, decision-making, and higher-level thinking. To challenge is to change. To change is to live. So, to encourage positive change is to be an effective educator. An effective team environment will help.

### **A Shared Mindset**

To best illustrate the above contention, readers are encouraged to think of the most memorable classroom experience they've ever had. What class was it? What grade level? Why

was it so memorable? Chances are good that it isn't the class content that immediately comes to mind. Much more likely it is the teacher, the class set-up, and/or the experience with classmates. There is also a good chance that the class was not easy. This suggests that teachers should keep their own schooling in mind as they develop class activities. The content matters, but the life skills matter just as much—maybe more. A good course is a challenging course.

Next, readers should think about the best team they have ever been a part of. Was it a sports team? Was it within a job or profession? What was accomplished? What characteristics made it such a good team? Common descriptors of successful teams include words like mutual respect, support, cooperation, and commitment. Perhaps some of these same terms arise in readers' heads when reminiscing about their best school experiences as well. There are crossovers in people's descriptors of the greatest classes and the greatest teams they have experienced.

With successful teamwork there exists a positive attitude where teammates care for one another as they work towards common goals. Further, teambuilding concepts also set the tone; trust, appreciation, purpose, hard work, and collaboration are all present in positive experiences, no matter what the environment. Most of all, a truly successful team requires one critical concept, albeit one that is hard to define and often harder to develop: *a shared mindset*.

With help from education resources and writers like Bruce Tuckman, Patrick Lencioni, and Mark Miller, we can define the process of creating high-performance teams as well as the pitfalls of unsuccessful group efforts. These details offer insight into developing a shared mindset within a group. Miller offers three pillars of high-performance teams: 1) attitude and aptitude for success, 2) constant training towards goals, and 3) care and concern for one another (Miller, 2011). Tuckman created a model for team development back in 1965 that is still widely accepted when describing the stages of interdependence in groups (Tuckman, 1965). These cyclical stages are found in Table 1.

Table 1. Stages of Teaming

<b>Forming</b>	Learning about each other.
<b>Storming</b>	Conflict between each other.
<b>Norming</b>	Cohesiveness development.
<b>Performing</b>	Working well with each other.

Years later, Tuckman added one more phase entitled *adjourning* to describe the dissolution of a group. Adjourning entails the completion of tasks and the reduction of interdependency, such as the end of a semester or school year (Tuckman, 1977).

Lencioni offers studies of the behavioral dysfunctions of a team to clarify in what and where group dynamics break down. These are, in pyramid form from bottom to top, 1) absence of trust, 2) fear of conflict, 3) lack of commitment, 4) avoidance of accountability, and 5) inattention to results (Lencioni, 2002). Once again, notice the crossover of wording in both successful and unsuccessful teaming.

### **Diversity and Inclusion**

Building the classroom as a team provides opportunities for students of color to have a social connectedness with fellow students. Whether they share racial backgrounds with peers or not, students can find safety, worth, and success in a class environment that nurtures group development. Students of color deserve teachers that reflect their own racial identity; this can positively impact standardized test scores as well as graduation rates. However, in communities where the faculty demographics don't make this possible, a team environment can make it apparent that the teacher, no matter of what background, will champion students of color as an ally for them and their culture. Within this class dynamic, team-based activities nurture interest and equalize opportunities that might otherwise have been fraught with white privilege. African-American and Latino students must have a voice, not just within class activities, but in their overall learning process. In a team structure, students of color should not merely pander to their teacher during class assignments. A team set-up instead acknowledges, validates, and welcomes those students' background into the educational narrative. High-need/high-potential schools or those in urban settings are not the only schools that benefit; rural and suburban school systems of varying demographics can all find value in building their classrooms as a team.

Similarly, creating a team learning environment can foster gender equity and empowerment within a classroom. Depending on lesson or unit goals, activities that are inclusive and challenge-based can do one of two things: They can either 1) eliminate possible or perceived gender hierarchy, or 2) prompt healthy conversations about masculinity and femininity as well as non-binary, gender nonconforming individuals in society. As Verna Myers puts it, "Diversity is being invited to the party; inclusion is being asked to dance." (Myers, 2012)

Social-emotional learning is developed naturally as a classroom grows as a team, in part because of Tuckman's stages of teaming, but also because of the vulnerability asked of class participants. In scaffolding up from copying or embellishing the work of others to modifying or

creating something new, students might experience failure on any particular assignment or project. Students have always been asked to try to persevere despite setbacks in education. The teaming aspect specifically brings into play a social interaction that encourages vulnerability in the learning process. A student also learns to manage the potential emotional let down of trial and error aided by a support network of peers in the class.

Shane Snow explains that effective collaboration requires diverse world experiences in his book, *Dream Teams* (2018). He explains, “Perspective is one dimension of every person’s mental tool kit. The combination of diverse mental tool kits leads to the potential for a group to do better than the sum of its parts.” Harvard Business Review reported in 2016 that the top businesses with ethnic and racial diversity in management were 35% more likely to have financial returns above their industry average, and those high up on gender diversity were 15% more likely to have returns above the industry mean (Rock & Grant, 2016). Education is not business, but in developing life skills and content mastery in both education and business diverse perspectives contribute to successful teams.

### **Buy-In and Set-Up**

Each class of students has a personality all its own, just like any sports team, music group, or business organization might. Teachers realize this, but may overlook or misunderstand how to address a particular group’s personality, and, consequently, miss out on the chance to facilitate growth. Teachers might think, “Teaming sounds great in theory, but it may not work in real life. What should I do with the students who don’t buy in?” Treating one’s classroom like a cohesive group of teammates is not easy. Particularly difficult is promoting a “buy-in” from learners who come to class with varying backgrounds, preconceived notions of the course and curriculum, different comfort levels in socialization, and the stress of each new day. That said, a classroom teacher does not need complete buy-in to start the process of building rapport both between the teacher and the students and among students themselves.

Douglas Reeves (2012) explains that leading for change in a school does not require full buy-in in his article, “The Myth of Buy-In.” Although Reeves mostly addresses implementing change from administration to staff, the concept seems applicable to many relationships in life, including leading a classroom of students and developing the group as a functional unit. As students witness the success of their peers, as well as the success of the classroom dynamic, more and more will be on board. There will be increased participation, increased risk taking, and increased cohesiveness.

In building a classroom as a team, the teacher must first establish class norms. Including the students in establishing this process, versus simply stating “the rules,” will encourage the beginnings of buy-in teachers are looking for while setting up the objectives, expectations, and perhaps even class boundaries. There are plenty of ways to do this, with many fun acronyms and diagrams to aid the process. One common team-building example is entitled “The Five Finger Contract” (Cain, 1998). Show an image of a human hand and ask students to consider each of the different fingers. Coming up with 5 class norms, what does each finger represent? See what answers are proposed and with which the larger group agrees. With classes in which students are reluctant to participate, the teacher can offer ideas to begin the process. Examples are found in Table 2.

Table 2. The Five Finger Contract

<b>Thumb</b>	Monitoring the team experience (Having Fun)
<b>Pointer Finger</b>	Pointing the blame at someone versus raising up #1 (Positivity)
<b>Middle Finger</b>	Avoiding disrespect to group members (Respect)
<b>Ring Finger</b>	Making a commitment to the group (Dedication)
<b>Pinky Finger</b>	Taking care of the “little people” and practicing consent (Safety)

Finally, as a nice connection, teachers can have a discussion on how the hand, as a whole, can be used for harm or for help. For instance, people might use a high-five in celebration but an open-palm slap is meant to hurt. People can make a fist and punch in anger or offer a knuckle bump meant for approval. People can handshake as a welcome or push away in disgust.

In the early stages of the class term, student roles might start to exhibit themselves. Teachers might encourage such role development through assigning students class jobs. Depending on content area, different lessons might lend themselves to small group work where the teacher has each team member exercise a role that fits the activity. In other instances, large group roles might start to develop based on student personalities and interests, and in the beginning might only involve a few of the students. Teachers might target these roles towards students’ strengths to maximize the developmental experience. Remember, buy-in can start small. Roles can be minimal. But by simply mentioning and drawing attention to class roles, the group is already beginning the process. At this point, teachers should use their expertise and consider their subject to decide what classroom routines would best be embellished through teamwork.



Examples of student role titles might include captain and co-captain (often temporary and dependent on current unit of study), data collector or research officer (students eager to fact check or confirm minor details), and other simple roles like scribe, timekeeper, and/or paper patrol. Consider a “kindness kollector” role to highlight the kindest comment that happened during each class period, or a “do good detective” to report back on one good deed that helped during class procedures throughout the week. Humor is an outstanding tool here for role titles more specific to a teacher’s class subject or the student’s personality. Rhymes, alliteration, and nonsense words all work well, even with older students.

### Team Building Examples

Team building activities can range from simple ice breakers to mentally and physically challenging problem-solving scenarios. Initial games or activities can be used to cause frustration, on purpose, as in Tuckman’s “storming” phase of team development. As students then regroup, the potential is set for deeper connections to each other and to class content because answers/conclusions are developed by the group, versus direct instruction in a “sit and get” class setting. The team can then develop a shared mindset and a positive personality of its own, working as a unit of like-minded individuals with the teacher as their facilitator.

Teachers looking to build their classroom as a team can find or create team building activities to match their unit or lesson needs, or, easier and more natural to the process of teaching, add team building to curricular activities that are already in place. Creating brand new projects might be the curricular overhaul a teacher or department is looking for, but a teacher aiming to embellish current projects by focusing on the class as a team of learners is a more likely scenario. Table 3 has examples.

Table 3. Types of Teaming (Rohnke, 1995)

<b>Ice Breakers</b>	Designed for new groups. Members can become familiar and comfortable with each other.
<b>Energizers</b>	Serve as both warm-up and a way of teaching participants to begin working together.
<b>Communication</b>	Games or activities that require teamwork, cooperation, respect, and the ability to speak/listen clearly.
<b>Trust Building</b>	Help participants develop trust with the facilitator, other group members, and themselves.

<b>Problem Solving</b>	Tasks that require participants to make decisions while working together to accomplish a given goal.
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This is a general hierarchy of teaming listed from low trust to high trust. Time together is an added necessity moving down the list and throughout the course of the class. Teachers would then embed teaming into their course scope and sequence where appropriate. Classic team building activities can be repurposed for specific content areas: “Stepping Stones,” “Minefield,” “Pencil Drop,” “Earth Ball,” and “Barter Puzzle” are all general enough to fit most subjects. (Rohnke, 1995; Cain, 1998). Teachers can search the Internet for these and similar teaming activities to see if they fit the objectives of their course. Other successful avenues of fostering a team environment can include project-based learning and breakout/escape room activities. These challenges are furthering the problem solving style of team building to content-specific tasks. Such projects can also be worthwhile assessment tools.

Group size might vary for these activities from as few as 2-4 students in a group to upwards of 15. Often, pairs or threes work well, but in other cases a class of 30 might simply be split in half or thirds. Small groups can be chosen by the students to allow relationship development to continue through the term, or the teacher might decide group composition purposefully to pair differences and unlikely pairings in order to focus on development of group cohesiveness. Complaints about groupings should be resolvable if the challenge activity is engaging. Because team-building activities typically don’t require significant prior development of knowledge or skills, class leaders may find themselves listening and learning from different peers. Failures and accomplishments can therefore be celebrated as a large group since the class may both struggle and succeed as a team. Laughter, disappointment, and frustration are all precursors of learning in the teaming process.

### **Debriefing**

Whatever the chosen use of team building activities in the classroom, here are my final recommendations for building a team environment: 1) balance collaboration and competition, 2) provide opportunity for the sharing of multiple perspectives in class, 3) allow time for classwork and time for students to learn by themselves, 4) let gender, race, and religion be part of the conversation when appropriate so students can share their truths, and 5) debrief each lesson in a way that links the activities to the content, as well as the teaming process to real life skills.

Reflective class activity following teamwork is a sweet spot for learning. Debriefing provides closure and celebration. It cements any team building activity in the minds of students and

gives it purpose. Debriefing not only creates deeper meaning, but also allows learning to continue *outside* of the classroom setting. This is the mark of a good teacher. Always bring the focus back to the objectives of the specific lesson, especially if imaginary scenarios are played out in order to connect class topics. Link the absurd to reality. There is power in drawing attention to class roles and how they have developed throughout the weeks of a course as well as the team development of the entire class. How do students think the classroom “feels” after some time together? Did the course progression give more and more accountability to the students during the learning process?

There are myriad ways to add to the ideas in this article to fit a teacher’s specific classroom and course content. The beauty is in the details. Chances are good that teachers are already building their classroom as a team—at least in part. By focusing on historical team success, the framework and stages of teaming, and examples of team building, educators can bring additional methods to their classroom pedagogies to facilitate student growth.

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## Developing Curiosity with Science Demonstrations

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### Abstract

Science is a field that intrigues kids and often frightens adults. This paper gives a number of simple demonstrations that will stimulate the classroom on topics of air pressure, the uniqueness of water, and density. The ultimate hope is that kids will learn to think about much of what they see at a molecular level to be able to explain something that may not be so obvious.

### Background

Before arriving at North Central College (NCC), I came to realize two things that became extremely important to my journey at NCC. The first was that it was well known to be an institution that focused heavily on producing quality teachers. The second was that Chicagoland was the home of ChemWest and in particular the home of Lee Marek (Naperville North High School) who, on a regular basis, brought students to the Late Night Show with David Letterman to perform Kid Scientists. ChemWest is an organization of high school chemistry teachers that gathers 4-8 times a year to do chemistry demonstrations and discuss pedagogy, i.e., how do these teachers get their students to learn about density, the mole, acids and bases, etc.

Since I have been involved with ChemWest, I have gone out to many K-12 schools, museums and park districts to get kids interested in science using chemistry demonstrations as the vehicle. If you ask kids what is the first thing that comes to mind when they think of science (or chemistry in particular) they think of blowing something up. So just to make sure I'm ready for that I make sure to have a balloon in my pocket so that my response is "Right now!" as I proceed to blow up the balloon and then release the gas – much to their dismay. A little bad humor can go a long way in engaging the students as well.

Scientists try to explain things that they see by making analogies and using models. A neat demonstration that I saw at Fermi Lab to explain how they go about discovering things like

quarks was to take a plastic cup that was  $\frac{1}{2}$  filled with sand and another item (bolt, cottonball, paperclip, etc.). Using a pencil, the student probed the item and got an idea of the kinds of properties that an unseen object has. Was the object hard or soft, long or round, solid or hollow, etc.? Below I share some quick demonstrations that deal with air pressure, water, and density that are sure to pique the curiosity of students.

### Air Pressure

I've learned through the years that small demonstrations are vital in keeping the interest of the students and if you have the supplies for the students to look closer at these activities, it is all the better. I often begin with very simple kinds of demonstrations such as the one I call the Dry Towel. I ask them if I can submerge a paper towel under water and keep the towel dry. Of course, I wouldn't ask the question if I couldn't. If you cram the towel into a small glass and put this in upside down into another glass  $\frac{1}{2}$  filled with water, the small glass will submerge under the water (and thus the paper towel will be under water as well) and the towel will not be touching the water and thus stays dry. Older students get it right away but it takes a while for young kids to recognize that the air that is trapped prevents the water from touching the towel. Now a conversation can happen about tiny particles that we can't see do exist and can have an impact. We don't see the wind but we can see its effect on the leaves of a tree. We just need the right probe in order to determine how we're going to describe these unseen things.

A Cartesian diver is great for looking at air pressure and is simple to do. If students bring in a 1- or 2-L plastic pop bottle with a lid, a ketchup, mustard, taco sauce, or honey packet can be added to the bottle along with water ( $\frac{3}{4}$  full). With the cap on, you should see the packet float (if it doesn't try a different packet) but if you give the bottle a squeeze, you should see the packet begin to sink. Because these packets contain air inside them, they allow the packet to float on water. As you squeeze the bottle the air pressure pushes those air molecules closer together making the packet more dense and thus it sinks.



Air pressure is a fascinating thing. Drill a hole into the side of a plastic water bottle toward the bottom, fill the bottle with water, and put the cap on the bottle. You will notice that once the cap is on, the water will stop coming out of the bottle after a short time. Initially, as the water comes out of the hole the pressure of the air above the water lessens since no new air is added but yet the air is taking up more space – and therefore the air has less pressure. I have heard of teachers who have a bottle like this sitting in their classroom that says “Do Not Touch!” Of course, you know that there will be a student who has to pick it up to look at it. As they pick it up they put pressure on the bottle and the water will come out of the hole now that they are putting external pressure on the bottle.



Although I find air pressure can be a difficult concept to comprehend, breaking it down in order to understand the smallest pieces of it like atoms and molecules and their movement can help students grasp these concepts. A



demonstration that I call the “Invisible Giant” is a fascinating one but an understanding of the movement of the molecules explains it well. A pop can with a little water in it is heated on a fifth burner or hotplate. Eventually you see steam being released from the opening. If you ask the students what’s in the can initially, they should say water but it’s the rare student who recognizes that there is air in there as well. As the liquid water is converted to gaseous water or steam, those molecules chase out the air molecules. With a slight dent in the can, tipping the can upside down into cold water will cause the can to crush (the invisible giant just stepped on it!). Even young students know that when steam cools it turns that gaseous water into liquid water. So, what’s left in the can? It takes a while for them to recognize that nothing is left in the space where there used to be gaseous water and the name that we give to nothing is a vacuum. You will notice that as you pull the can out of the water that the can now has a lot of water in it. That’s because you created a vacuum in the empty space of the can causing the can to crush from the external air pressure and you caused the water to get pushed up into the can from the air pressure pushing down on the water and up into the can.



## The Uniqueness of Water

A common demonstration that I've seen is for students to add, drop by drop, water onto the top of a penny. They are always amazed at how many drops will fit. How is it that so much water can be added to this small space? If you tried to do the same thing with other liquids like isopropyl alcohol or fingernail polish remover you will notice far fewer drops can be added. Water is unique because it is highly polar. One end of the molecule is positive while the other is negative. The same is true of a magnet and we know that magnets hold onto each other much like water molecules hold onto each other. It's as if the water molecules are all holding hands and they just don't want to let one of their buddies fall over the edge of the coin until the pile just gets too large that it can't be helped. I've seen a similar demo done by filling a cup until it is full and then adding paper clips, one by one, until finally, the water pours over the edge – but it takes a lot of paperclips. Interestingly, if you just put a little bit of dishsoap on the penny, you cannot put very many drops onto it before the water falls over the edge. Why? The soap breaks up the interaction of the water molecule holding onto other water molecules, as the water prefers to interact with the soap.



Try sprinkling some pepper onto a surface of water. If you look closely, some pepper falls to the bottom while other flakes float on top. It turns out that pepper is more dense than water so the sinking of the pepper makes sense. Why does some of it float? Again, because water molecules interact with other water molecules so well, it can make it tough for things to fall through. We call this surface tension. You may have seen needles floating on water and certainly have seen bugs that can walk on water. Once again, if you touch the surface of the water to the smallest amount of dishsoap you will find that the pepper scatters while some falls to the bottom of the water. The bug would certainly have trouble staying on the surface if the water lost its surface tension.





Lastly, a great exercise to show kids (and adults) surface tension is to put small drops of water onto some wax paper. It's more fun if you use food coloring in your water. Use a toothpick to push or pull the water droplets around on the paper. The water really doesn't want to interact with the wax so that's why it becomes more like a sphere. A perfect sphere would only have one point of contact with the wax but because of gravity, the sphere gets smashed down a bit. You can mix different color beads of water together to see what colors can be made. Again if you put just a bit of soap on the end of the toothpick you will find that not only can't you drag the water droplet around anymore, but you lose that spheroid shape because now the water doesn't mind interacting with the wax anymore because the soap molecule has some properties that are similar to water and some that are similar to the wax.



### Density

We have already seen some density demonstrations with the paperclips or pepper in water. However, this demonstration looks at hot vs. cold water and their densities. Pour some hot tap water into two glasses. In two other glasses put an ice cube and cold water into each. Make sure that the cups are filled to the brim. Make the two hot cups colored with one color of food coloring and the two cold cups with a different color.



Many people use red for hot and blue for cold but yellow and blue make for an interesting combination too. You will notice a difference in which water disperses the food coloring fastest. You can ask the students what color they expect if the colors mix. Place a few 4 x 6 index cards on top of the hot water and the cold water cups. One at a time, quickly flip the cups with index cards on them and place one of the hot water cups on top of one of the cups with cold water. Likewise, quickly flip the remaining cold water cup and place it on top of the remaining cup with the hot water. Pull out the index cards. You will notice that one of them doesn't change much while the other does a very quick mixing. You may have noticed that the hot water dispersed the food coloring faster than the cold water did. The reason for this is that hot things have molecules with lots of energy and motion while those that are cold have little energy or motion. The more motion in the molecule, the faster things should mix.

You or your students may have had this experience while swimming. If you dive into the deep end of the pool you may have noticed that the temperature of the water changes to colder temperatures the deeper you go. Part of the reason for this is that the cold water is more dense than the hot water. The other reason is that the sun puts its energy into heating up the

water on the top. Fish use this principal in the winter because the oxygen that they breathe is dissolved in the cold water. Since their pond might be frozen over, the fish have to go to the bottom of the pond where it is colder to get their oxygen.

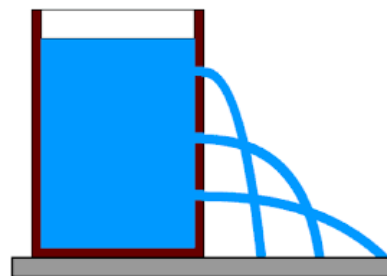
I just purchased my “Polydensity Bottle” from Educational Innovations <https://www.teachersource.com/> but you can also just make one yourself. You can see that two different color beads reside in the middle of the two liquids. The liquid on the bottom is a water-salt solution ( $d = 1.13 \text{ g/cm}^3$ ) and the one on top is isopropyl alcohol ( $d = 0.88 \text{ g/cm}^3$ ). The two beads are polyethylene ( $d = 0.92 \text{ g/cm}^3$ ) and polystyrene ( $d = 1.05 \text{ g/cm}^3$ ). Thus, we see the four parts are layered based on their density. However, if you shake the bottle you will find the yellow beads on top and the red beads on the bottom of the bottle. The solution will be mixed and have an average density of the two solutions  $(1.13 + 0.88)/2 = 1.00 \text{ g/cm}^3$ . Much like oil and vinegar will mix for a short period of time when you shake them, so too will the salt water and alcohol but as you let it rest, the two solutions will again begin to separate and the two layers of beads will begin to come together again.



Kid friendly websites for all of these demonstrations are listed at the end of the paper.

### Differentiated Learning

This paper was originally presented as a talk under the topic of “Personalized Learning and Differentiated Instruction.” Learning styles differ greatly amongst your students and too often science is relegated to reading the textbook. These demonstrations are easy to do and excite the visual learner. If you can get the students doing some of these demonstrations themselves (dry towel, Cartesian diver, water on penny, pepper on water, water on wax paper, and polydensity bottle) you will surely grasp the kinesthetic learner as well. Those gifted students can take some of these to another level by calculating the densities of different packets of sauces, putting multiple holes in the water bottle and seeing how the water comes out of the different holes<sup>1</sup>, calculating the density of pepper or the speed at which the pepper moves. They may also want to see what other beads will work in the polydensity experiment. Besides mathematics, other cross cutting exercises might have them discover other biological species that use the surface tension of water or the fact that water is



most dense at 4 °C and how might this impact life in the ocean. Water has a number of unique properties like its extremely high specific heat, its wide ranging solubilizing property, and the fact that the solid form is less dense than its liquid form. How do these affect life on Earth?

Kids are fascinated by science. They are most interested in seeing things that come as a bit of a surprise and their minds really do want to know how things work. To expand the hands on teaching resources in your science educator toolbox, check out the websites below.

<http://www.giftofcuriosity.com/3-air-pressure-activities-for-kids/>

<https://www.education.com/activity/article/soy-sauce-science/>

<https://www.stevespanglerscience.com/2014/09/23/5-cool-science-experiments-using-pretty-much-nothing-water/>

[https://www.teachengineering.org/activities/view/cub\\_air\\_lesson04\\_activity1](https://www.teachengineering.org/activities/view/cub_air_lesson04_activity1)

<https://deceptivelyeducational.blogspot.com/2015/09/how-many-drops-of-water-fit-on-penny.html>

<https://buggyandbuddy.com/science-experiment-paperclips-in-water-science-invitation-saturday/>

<https://chicagoacs.org/articles/363>

<http://compassrosebooks.blogspot.com/2013/08/amazing-water-skates.html>

<https://www.messforless.net/fine-motor-skills-water-art/>

<http://sciencewithkids.com/Experiments/Matter-experiments/Hot-and-cold-water-density.html>

<http://scifun.chem.wisc.edu/HomeExpts/bead-bottle.htm>

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## Advancing Education for BI(all)ck Children

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Black Educational Advocacy Council of Illinois (BEAC) The authors are founding members of B.E.A.C. The mission of the Black Educational Advocacy Coalition (B.E.A.C) is to advocate on matters affecting Black students and educators in ways that are grounded in research and support cultural and historical traditions by way of a holistic approach to teaching and learning.

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## **Abstract**

A survey of issues facing all students and disproportionately black students is presented for critical thought. These issues include the legacy of segregation, the achievement gap, adverse childhood experiences (ACEs), and their potential impact on student learning. Using a sociocultural, historical and political frame of reference, methods and strategies are discussed that may be used by districts and classroom teachers to improve student learning and empower Black students and families to take ownership of their own learning experiences.

## **Introduction**

The achievement gap, cultural differences, unstable family life, school and community violence, and expanding student special needs require new ways of thinking about old problems. School and district personnel must facilitate the development of empathy and understanding of the black child from a sociocultural perspective as well as from a historical and political perspective; this framing can support teachers in becoming culturally competent and equity minded. Beginning with the black child in mind, teachers must be able to use historical understandings and identify family and community assets to support student learning in emotionally supportive environments. We posit, that central to the work of teaching and learning, is the creation of an environment for learning that is culturally sustaining, with a focus on academic language and the social emotional needs of children.

## **Understanding Race in American Schools**

Although race is not 'real' biologically speaking, the social, political, economic, and educational implications of race are real. Once believed to be genetic, race is a way of classifying people that was used to maintain the status quo of separate but equal. It is a socially and legally constructed concept used to classify people solely on visible characteristics such as skin color and body type. Race was legally constructed via court cases like the Supreme Court ruling of Plessy v. Ferguson in 1896. By some accounts, Homer Plessy was one-eighth African American and seven-eighths white. During the 19<sup>th</sup> and 20<sup>th</sup> centuries most people adopted the one drop of blood rule, which classified anyone with an African ancestor as African American. Socially and legally, Homer Plessy was considered African American (Spring, 2018). Continued views of intellectual and social differences based on race permeate American schools.

The problem of race in American schools has long been documented. In 1946, five Mexican American families sued the state of California for the right of their children to attend the segregated all white school in the community in which they lived in the Mendez et al. v. Westminster School District of Orange Co. (Spring, 2018). The case centered around an incident that occurred when Soledad, the sister of Gonzalo Mendez, went to register her children and her brothers into Westminster Elementary School. Gonzalo's children were denied admission to the school while Soledad's children were admitted. Gonzalo's children were

denied admission based on their skin color. Soledad's children, unlike Gonzalo's children had white skin and a non-Mexican surname. The little-known Mendez vs. Westminster case set precedence for the national Brown vs. the Board of Education of Topeka Kansas (1954) that ruled children cannot be segregated in schools by race and overturned the Plessy v. Ferguson ruling of 1896. Over 50 years after Mendez vs. Westminster School District, and Brown v. Board of Education, American schools are as racially segregated as they have ever been. The 2017 documentary *Teach us All* revisited the Little Rock, Arkansas school district where in 1957, 'The Little Rock Nine' desegregated Central High School. The film examined the history of desegregation in a current context and concluded that the promise of desegregation has not been fulfilled. We are in a generation of resegregation and there is continued inequity in public schools in Arkansas as well as Chicago, New York and Los Angeles. Although race is not biologically significant, the social implications for minoritized groups is ever present.

### **Understanding the Achievement Gap**

The groundbreaking court decision of Brown v. Board of Education (1954) seemed to bring hope to America in that there was a promise that desegregation was best for America's schools. This hope was to be a unifying moment of celebration as the obtainment of equality was now concrete, and a once bleak future would now be filled with the brightness of possibility. Were this the case, there would not have been the need for a Brown v. Board of Education II (1955) and Brown v. Board of Education III (1979), both of which were necessary to make certain full implementation of the intent of the original Brown – to fully desegregate schools.

With the law now affirming that segregation was a mandate for American schools, the changing of systemic separation in education was evident. However, the changing of the law did not ensure the changing of hearts. Many were not ready for such a drastic measure to take place causing additional actions to be implemented to ensure compliance with the law. Brown II added language to the original vague language in Brown v. Board of Education that demanded that all schools segregate, "with all deliberate speed." Even then, some states prolonged the process with some taking over 10 years to fully implement desegregation. The term became debatable and interpretable. Other incidents that were evidence of resistance to the intent of Brown were the occurrences of protests, marches, delays in accepting nonwhite students in schools, and more notable occurrences like the experiences of Ruby Bridges and the Little Rock Nine which required the engaging of military force to ensure integration.

Though the intent of desegregation was well meaning, it disbanded black schools that had family-like atmospheres and had specific strategies and goals that helped black students succeed. There tended to be little to no ever-presence of racism as a systemic barrier within buildings. The fight for equality was outside of the schools in the need for necessary resources and facilities. Desegregation removed a lot of what black students are still seeking in schools

today from their educators – nurturing, understanding, relationship building – much of which they received in segregated environments.

Fast-forward over 60 years later and a persistent achievement gap between black students and their Latino, white and Asian counterparts has been identified, but not necessarily successfully addressed. The gap is referred to as the African-American Achievement Gap, a term that was introduced in 1963 in a study describing African-American Englewood, New Jersey students who were two years behind their white counterparts (Walker, 1963). The gap fluctuated over time and gained more attention in the 1990's when it began to widen once more (Ladd, 2010). The gap has been said to have been the most pressing reason for the implementation of the No Child Left Behind Act of 2001 (Blank, 2011). Research-based strategies have been identified as proven methods to closing the gap (NEA, 2011). Such strategies include creating learning environments where diverse students can learn, high quality instruction, cultural competency training, before and after school programs, reviewing policies and procedures in search of any indication of racial bias, and realizing that equality is not enough.

Presently, the fight continues for not only equality, but also equity – every student receiving the resources that they need in spite of race, income, zip code, disability, etc. One unfilled gap has the potential to lead to other gaps. The achievement gap leads to numerous additional gaps including high school graduation, college attendance, college graduation, salary and obtainability. We must move beyond historically systemic barriers that have plagued the success of black students in order to realize their full potential. The history of racial bias in American schools has current implications. A white future teacher who has lived in racially segregated communities, attended racially segregated public and private schools, and predominantly white institutions of higher education have themselves become victims of racial segregation. It is difficult for some, who have not had sustained, meaningful relationships with non-whites to position their own ways of communicating, dressing, and interacting as not dominant.

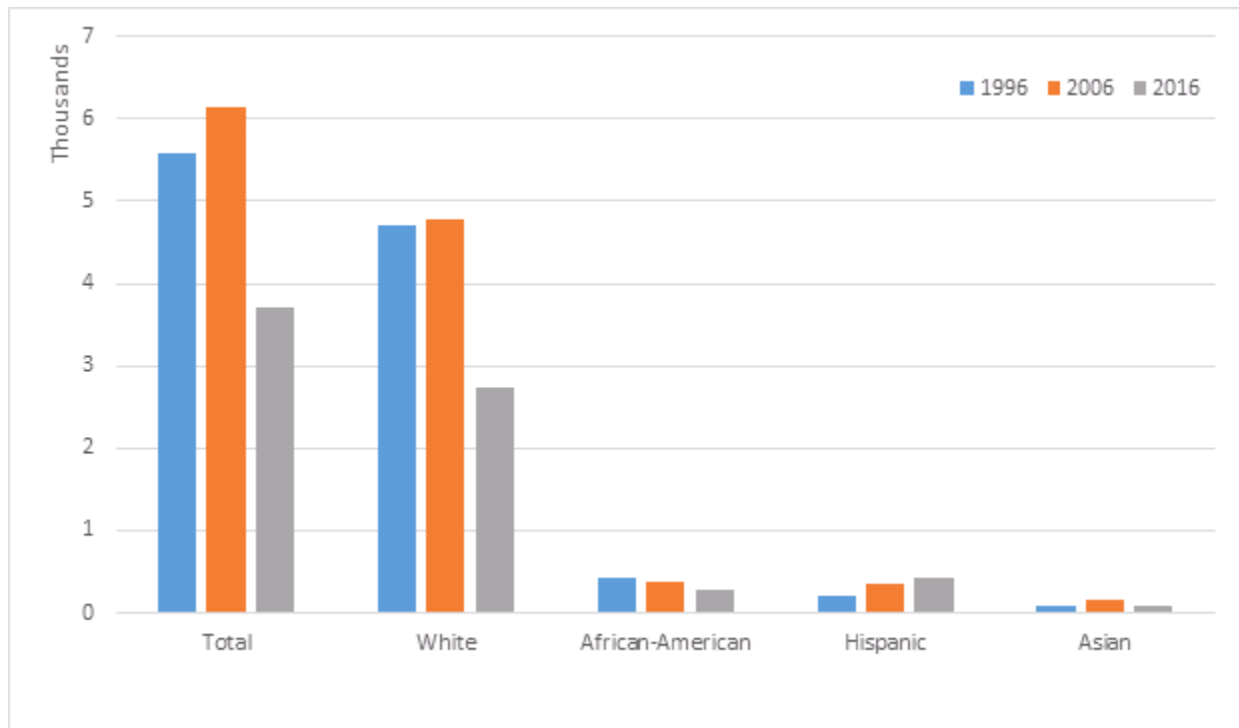
### **Moving Beyond the Statistics**

The state of Illinois has a current and historical gap between the race of the teaching force and the student population. Although bachelor's degrees in education awarded in the state of Illinois have declined for all racial groups except Hispanics, whites have consistently been awarded significantly more degrees in education (Illinois Board of Higher Education, 2018). The teaching force in the state of Illinois is overwhelmingly white and female consistent with national trends. Current teaching and student demographics suggest the majority of teachers are white females and the student population in K-12 schools is increasingly racially, ethnically and linguistically diverse. According to the National Center for Education Statistics (2011), white teachers accounted for 82% of the teaching force and collectively Black, Hispanic, Asian, Pacific



Islander, American Indian, and Alaskan natives comprised 18% of the teaching force. More than seventy-five percent of the teaching force in the state of Illinois for the past 30 years has been white see Table 1.

Table 1: Bachelor's Degrees Conferred in Education in Illinois 1996-2016  
By Race



Being a white teacher is not the problem in and of itself. The current teaching force does not share the same lived experiences around race and culture as their students. The problem is the lack of understanding of the whole black child and their experiences, including their language and the absence of non-white people from the curriculum. Therefore, it is important to support classroom teachers with strategies to deepen their understanding of student everyday lived experiences and their impact on learning and achievement.

### **Moving Beyond Race in American Schools**

Tangible differences in students that teachers encounter are actually elements of culture as opposed to race. It is important to know the difference between race, culture, ethnicity, and nationality. As stated earlier, race is a social and legal construction. Culture is a broad concept used to describe people—their shared ways of knowing, thinking, communicating, perceiving, and creating. Teachers need to be engaged during their teacher preparation program to



develop racial literacy. Racial literacy begins with self-identity. It is this identity work that all educators must do in order to develop an awareness of themselves outside of their dominant or minority status. White teachers in particular must engage in this work in order to see themselves as 'part of' as opposed to as 'the center.' This work is done in one teacher preparation program in an assignment called the Cultural Frames of Reference assignment (Brown, 2013). Preservice teachers must use their understanding of ideology, community, and culture to reflect on their own identities. They use this understanding to create a graphic organizer that takes on race, class, gender, ability, and language, as well as an additional frame of their own choosing. Preservice teachers then write a commentary exploring their cultural frames, written in first person using data from the chart to support the explanation. This commentary includes a discussion of how their cultural frames might influence their teaching practices and potential impact on student learning. In a contrast analysis of the data from the race frame, Robinson (2018) identified four themes from the preservice teacher data:

1. Teacher candidate identified race in the graphic organizer **and** written commentary.
2. Teacher candidate identified race in the graphic organizer; written commentary does not address race.
3. Teacher candidate was not sure how to identify their race.
4. Teacher candidate does not identify their race but positions their race in relation to the ethnicity of their family.

The data provide evidence of the extent to which future teachers were willing and/or able to name and discuss their race. Some were willing and able to name their race and discuss the implications for classroom practice. Some had conflicts with their racial identity based on social interactions with teachers or friends. Yet, others never identified a racial group but identified an ethnicity in relation to family members. Racial literacy begins with self and teachers must be guided through this process. Work on self-identity as it relates to race and understanding others helps the teacher be able to identify sources of potential bias that may impact the learning environment and teacher-student relationships.

Theoretically, there is considerable literature around culturally relevant teaching, culturally responsive pedagogy, and culturally sustaining teaching. Unlike other researchers, Howard (2001) studied the perceptions of African American elementary students regarding culturally relevant teaching. Students in the study identified, 1) teachers who displayed caring bonds and attitudes towards them and 2) teachers who established community and family type classroom environments as culturally relevant. Knowledge of self, and knowledge of the history and experiences of specific groups of people are significant areas to help educators move beyond the myopic classifications of race. A review of the socio-political and historical understanding of the education of BI(all)ck children must also consider the psychological barriers that may impact their academic success and the classroom environment. One way that psychological

barriers have been addressed at the classroom level is through social emotional learning. Many states and school districts throughout the U.S. have incorporated social emotional learning standards (SEL) as part of their educational process.

The State of Illinois recognizes three SEL goals:

**Goal 1:** Develop self-awareness and self-management skills to achieve school and life success.

**Goal 2:** Use social-awareness and interpersonal skills to establish and maintain positive relationships.

**Goal 3:** Demonstrate decision-making skills and responsible behaviors in personal, school and community contexts. (Illinois State Board of Education, 2018)

The SEL goals are used to help students and adults within schools and communities grow and understand themselves as well as those they work and learn with. It is important that teachers be able to align the goals, standards, and benchmarks to their curriculum and instruction. The Illinois SEL student standards for grades K-12 were adopted as a result of the 2003 Children's Mental Health Act. The 10 SEL standards, along with state specific goals, age-appropriate benchmarks, and performance descriptors, were a collaborative effort between ISBE and the Illinois Children's Mental Health Partnership with technical support from the Collaborative for Academic, Social, and Emotional Learning (CASEL), (Illinois Classrooms in Action, 2018).

### **Black Students and Mental Health**

Black children and young adults are about half as likely as their white counterparts to get mental health care despite having similar rates of mental health problems. Black and Latino children made, respectively, 37% and 49% fewer visits to psychiatrists, and 47% and 58% fewer visits, respectively, to any mental health professional, than white children. Groups at highest risk for incarceration – black and Hispanic young men – had particularly low mental health visit rates (Himmelstein, Marrast, and Woolhandler, 2016). Some but not all of the mental health issues that black and Latino children contend with can be associated with trauma from Adverse Childhood Experiences (ACE's). There are ten types of trauma classified as either personal or relational. Physical abuse, verbal abuse, sexual abuse, physical neglect, and emotional neglect are types of personal trauma. Having a parent who's an alcoholic, a mother who's a victim of domestic violence, a family member in jail, a family member diagnosed with a mental illness, or the disappearance of a parent through divorce, death or abandonment are forms of relational trauma (Stevens, 2018).

Children who suffer from trauma after exposure to ACE's often present a variety of significant risk factors that disrupt their learning and hinder their ability to develop the skills necessary for social and emotional development. This can interfere with their executive functioning.

Executive functioning can impact three areas of cognition: working memory, cognitive flexibility (also called flexible thinking), and inhibitory control (which includes self-control). Children aren't born with these executive function skills—they are born with the potential to develop them.

Knowing the impact that trauma has on the academic success of students, educators must reflect on questions such as how can I create an educational environment where all children feel safe? What changes can be implemented in the classroom that can help all students meet their full potential? Students who have experienced trauma have a different way of processing information. Their way of processing is impacted by the trauma they have endured which has affected their executive functioning. Students who have been afflicted with trauma are often in a state of “fight-flight-or freeze” mode. Fight or flight has gained an additional word to the phrase. Freeze was added to fight or flight to acknowledge that when a trauma is experienced the response is either to flee or freeze (Stevens, 2018). Fight or flight is a representation of survival. During this time, one's body gains a burst of energy. This is when a person feels that they can outrun or outfight the situation they are in. When one freezes, this allows the body to mentally shut down and not feel pain when unable to avoid a traumatic situation. Students are usually not equipped to handle stress or trauma and they have no social cues or awareness of expected behavior.

If children do not get what they need from their relationships with adults and the conditions in their environments—or (worse) if those influences are sources of toxic stress—their skill development can be seriously delayed or impaired. Adverse environments resulting from neglect, abuse, and/or violence may expose children to toxic stress which disrupts brain architecture and impairs the development of executive function. Educators must be mindful of the impact that Adverse Childhood Experiences (ACE's) have on student success in the educational environment. Trauma studies indicate that students who were afflicted with ACE's who had one adult that believed in them and cared about their well-being grew to be successful (Sporleder, n.d.). Studies also revealed that teachers were most frequently identified as the adult that made the significant impact on students' lives (Sporleder, n.d.).

When children are overloaded with stress they cannot learn in school. They tend to have trouble with trusting adults and developing healthy relationships with peers. The characteristics of this behavior can be mistaken for an emotional disability. In an effort to relieve their anxiety, depression, guilt, shame, and inability to focus, students often exhibit misbehaviors. Awareness of psychological barriers on student achievement, socio-political and historical understanding of black children serve as a foundation and prerequisite for

establishing safe, supportive, caring classroom environments. The last consideration for advancing education for black students is pedagogy.

### **Best Practices in Teaching and Interacting with BI(all)ck Students**

When advancing education for black students, teachers should focus on the importance of knowing their students academically as well as the experiences and contexts in which they live outside of the school walls. This is referred to in literature as funds of knowledge (Moll et.al, 1992). Lack of cultural capital reflected in classroom materials is a component of a deficit theory used to explain lack of achievement. Deficit theories assume that some children because of genetic, cultural, or experiential differences are inferior to other children- that is, they have deficits that must be overcome in order to learn (Nieto, 2012). The potential of a funds of knowledge approach to teaching and learning lies in its ability to identify *what is*, rather than *what is not*; and to engage with individuals, rather than assumptions and stereotypes. For some black students their first language is English, but their home language and social language does not always align with the academic language used in schools. Black student use of dialects and colloquialisms is often perceived as barriers to their achievement. Rightfully, much attention has been given to English as a second language, bilingual language and the best practice of dual language programs for students whose first language or home language is not English. Because African American Vernacular English (AAVE) is not recognized as a second language, however, black children do not receive the services they need to make sense of teacher language and the texts they interact with in schools. Therefore, it is important that curriculum and instruction be centered around content area literacy (listening, reading, writing, and communicating) via subject specific academic language.

### **Acquiring Academic Language**

There are three types of language: home, social and academic. Academic language is oral and written language used for academic purposes. Academic language is the means by which students develop and express content understandings and represents the language of the discipline students need to learn and use to participate and engage in specific content areas in meaningful ways (Gee, 2008). Dialect, on the other hand, is a regional, social, or cultural variety of language. From a linguist point of view there are no primitive, inadequate or bad languages or dialects. Standard English is the predominant dialect in American society, which is language used by educated, predominantly white middle-class speakers. It is important for educators to recognize that language and discourse patterns vary across culturally diverse groups.

Research points to the importance of accepting, even encouraging students classroom use of informal or native language and familiar modes of interaction (NRC, 2012). Learning academic language can take 5-10 years. Social language can be used as a foundation for academic language and learning. When teaching academic language, especially in science, engineering,

technology, and mathematics (STEM) subjects, teachers should adjust the complexity of language they use, depending on students proficiency level. For low cognitive demanding activities, the focus should be on corrective feedback, for high cognitive demanding activities teachers should focus on meaning. Teacher language is the professional use of words, phrases, tone, and pace to enable students to engage in active, interested learning. Teacher language should support gaining academic skills and knowledge, developing self-control, and building a sense of community. Denton (2007) suggests teachers should be direct and genuine, convey faith in children's abilities and intentions, focus on action, keep it brief, and know when to be silent. These strategies provide time for thinking, rehearsing what to say, and sometimes for gathering the courage to speak at all.

### **Encourage reading and discussion**

The challenge for teachers is to know enough about their students' relevant linguistic practices including language at home and discourse patterns (NRC, 2012). For example, Taylor (2013) concluded that African American students use language that is dependent upon unique context and have many interactional characteristics connected with time and place, inflection, muscular movements, and non-verbal cues. Reading as one element of literacy is dependent on student ability to decode and comprehend the written text. If emerging readers are going to make gains they need to learn a strategy to support reading comprehension. Fisher, Frey & Williams (2002) provide seven literacy strategies that work including; read alouds, K-W-L charts, graphic organizers, vocabulary instruction, structured note-taking, and reciprocal teaching. Listening and communicating are also areas of literacy that support comprehension. Listening and communicating as elements of literacy can be accomplished during guided discussions. During guided instruction, students are given an opportunity to make meaning via listening to the sense making of others during the construction of knowledge.

Guided discussion provides students with an opportunity to clarify ideas and opportunities for students to build on one another's ideas. Writing to learn is a literacy strategy that can be used to support reading comprehension. Some examples of writing to learn activities include but are not limited to free writing, list storming, stop-n-write. During a stop and write activity, students will stop reading and write a responses to the statements, "what I'm thinking right now" and "questions I have." Language is an essential element of culture. The term English language learner can prevent teachers from providing the needed support to students whose first language is English but whose home and social language are not aligned with the language of schools. All K-12 students are in the process of learning English. Some are learning English as a second language, and all are learning academic language to varying degrees. It is for these reasons that a focus on academic language through literacy strategies is essential for advancing education for BI(all)ck students.

## HERE'S OUR RESPONSIBILITY!

Our responsibility as educators is to ensure that ALL students, including students in the process of learning English and the academic language of schools, have equal access to quality education enabling them to progress academically. Our recommendations: 1) teach the content specific academic language using best practices in literacy, 2) empower students: create safe, supportive classrooms and caring school communities in order to reduce the impact of adverse childhood experiences the students do have control of, and 3) rather than a deficit perspective of thinking, assess what may have happened to the child and how can I provide support or resources.

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## Examining Grit as an Individual Factor for Achievement

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### Introduction

According to *Education Week* (2019), the overall high school graduation rate in the United States is 84.6%. However, the rates are lower for students of color (Hispanic 80%, Black 78%), low-income students (78%), and students who are English learners (66%). These differences in graduation rates are significant because high school dropout has been associated with negative outcomes such as lower income levels, poorer health, less civic engagement, and an increased likelihood of being arrested (Zaff, Donlan, Gunning, Anderson, McDermott, & Sedaca, 2016).

Students in high needs schools face many structural challenges that likely impact educational attainment and graduation. Bronfenbrenner's (1977) ecology of human development provides a structural framework to explore the complex interactions of factors in a systems based model as well as individual factors that may serve as predictive factors for students. Over the past few years, research has emerged about an individual factor known as grit (Duckworth, 2016) that is represented by individual's abilities to remain persistent while pursuing goal oriented behaviors.

While the research is still emerging about grit, it is important to remain cautious about advocating for broad application in educational settings but the concept does offer a lens for considering how to support learners. This article will explore some of the structural challenges that face students in high needs schools then focus on the individual factor of grit that may serve as a protective factor for students.

### Bronfenbrenner's Ecology of Human Development

Bronfenbrenner (1977) proposed his model as a nested structure in which various systems operate and dynamically shape human development. He defines his method as "the scientific study of the progressive, mutual accommodation, throughout the life span between a growing human organism and the changing immediate environment in which it lives" (Bronfenbrenner, 1977, p. 514). Further, the model stresses the interactions between the following systems:

1. Microsystem: developing person and the immediate environment such as home or school
2. Mesosystem: interactions between the immediate environments in the microsystem (i.e. connections between home and school)
3. Exosystem: formal and informal social structures such as neighborhoods, mass media, and local governments
4. Macrosystem: overarching patterns of a culture or subculture including economic, legal and political systems

At the heart of this model is the developing individual who brings a unique set of characteristics and experiences that will shape the way in which this person interacts with the systems defined above, but Bronfenbrenner's model is an important reminder to widen the lens and consider the broader context of development. Therefore, in order to explore how an individual factor such as grit may influence individual development it is important to consider some of the wider systems in which students are developing.

### **Structural Challenges**

It is important to recognize that the structural challenges that students face in the microsystem may impact school success. Students of color are likely to face institutional racism that is manifested through phenomenon such as stereotype threat. Students who are from low-income families are more likely to have fewer resources in and out of school than students from wealthier families. The combination of such factors create significant barriers for academic achievement and high school graduation.

Learners from various social groups who face structural challenges are often impacted by outsiders' perceptions of their abilities. These perceptions can become stereotypes which categorize such groups as less capable, ignorant or lazy. Croizet et al. contend, "People subjected to negative stereotyping are under a risk of no longer being seen as individuals but only as pro-typical members of a group" (Croizet, Désert, Dutrévis, & Leyens, 2001, p. 302). Social psychologists have shown that when individuals are cued about these expectations, their performances will be impacted.

Stereotype threat can occur based on various factors. Harrison, Stevens, Monty and Coakley (2006), found that both white and non-white students who are from low-income families experienced increased test anxiety and lower test performance when a stereotype threat was introduced. Participants in the study did not experience a change in the amount of effort they

put forward, but their academic identification was reduced. These findings stress the importance of psychological states on learning.

Spencer and Castano (2007) determined that cuing students' identity regarding their socioeconomic status significantly impacted test scores on a GRE exam. In their discussion, the researchers were highly critical of school practices that force students to "go through a humiliating process of 'proving' that their parents' are in fact poor enough" (p. 428) to qualify for waivers to access certain academic tasks, in the process certainly cuing students about their identity and raising the stereotype threat.

In addition to perceptions of abilities, students who are living in poverty may experience significant impact to their mental, emotional and behavioral health (Yoskikawa, Aber, & Berdslee, 2012). The impact of poverty can be seen at the individual, relational, and institutional levels. Individual factors may include things such as quality of nutrition, relational factors may be family or peer relations, and institutional factors may include access to services or resources. Lacourr and Tissington (2011) state conclude many schools that serve students from low-income families lack needed resources and "due to this lack of resources many students struggle to reach the same academic achievement levels of students not living in poverty" (p. 527).

The intersection of ethnic or racial minority status and being from a low-income community has the potential to create a compounding effect. Yoskikawa, Aber, and Berdslee (2012) claim, "To the extent that marginalized ethnic, racial or indigenous groups are more likely to be exposed to multiple forms of discrimination beyond the economic, children in such groups may encounter greater risk as a result of their family poverty status due to correlated higher levels of discrimination" (p.277).

### **Structural Supports**

Consistent with trends in the field of positive psychology, researchers seek to understand the implications of ethnicity/race and socio economic circumstances by examining high achieving students. What are the conditions that positively influence study achievement? Kotok (2017) explored high school achievement related to the math gap that often occurs with high achieving minority students. Factors such as high teacher expectations, supportive peer influences, family socioeconomic status, and immigration status were found to have positive impacts on student achievement in these cases. Clayton (2017) also found that parent support and peer support were important factors for achievement in African American female students.

According to a report by the National Association for Gifted Children, high-quality programming should emphasize high-powered curriculum, expanded learning time, equalizing opportunities, and augmenting student support networks (Olszewski-Kubilius & Clarenbachm, 2012). The report provides examples of successful programs that provide insights into how these programs can be replicated. The authors also recognize that psychosocial and non-academic individual characteristics such as motivation and belief systems are also important to these students' success. This speaks to the importance of the interaction between the developing individual and the structures around them.

Williams and Bryan (2013) completed interviews with eight African American students aged 18-21 who grew up in challenging circumstances, but were strengthened by home, school, and community factors. The researchers argue that "one of the best ways to help low-income African American students succeed in school despite significant challenges is to identify the often overlooked strengths, resources, or support systems that they possess and build on them." (Williams & Bryan, 2013, p. 298)

While structures provide both challenges and supports, they are only a portion of influences that bear on individual experiences and outcomes. Zaff, Donlan, Gunning, Anderson, McDermott, and Sedaca (2017) used Bronfenbrenner's ecological model as a framework to explore the research literature related to high school graduation. As Bronfenbrenner's model is a systems theory, the researchers specifically examined the levels of individual, parent, peer, school, and community influences. Each level is equally valued in a system theory. At the individual level, they located studies that demonstrated connections between intrinsic motivation and graduation. Studies also indicated that students who experienced a sense of control over academic outcomes were also more likely to persist.

### **Grit as an Individual Factor**

Motivation has been a focus of study in human behavior and learning for many years. Defined broadly, motivation is "the natural human capacity to direct energy in the pursuit of a goal, an undergirding assumption is that human beings are purposeful." (Gingsberg, 2005, p. 218) In many theories of human motivation, personal beliefs are an important part of the equation. As referenced above, phenomena such as stereotype threat that impact an individual's beliefs about their capabilities can have an immediate impact on performance.

Grit defined as "perseverance and passion for long-term goals" (Duckworth, Peterson, Matthews, & Kelly, 2007, p.1087) is characterized by people who are able to work through challenges and failures to achieve their goals. This is consistent with definitions of motivation which stress the connections of beliefs and behaviors. Researchers developed the concept of

grit through observations of people who are highly successful in challenging circumstances. Duckworth (2007) and her colleagues developed a GRIT scale as a measure of personality factors associated with conscientiousness. Duckworth's (2016) ten item GRIT scale is rated 1-5 ("not at all like me" to "very much like me"):

1. New ideas and projects sometimes distract me from previous ones.
2. Setbacks don't discourage me. I don't give up easily.
3. I often set a goal but later chose to pursue a different one.
4. I am a hard worker.
5. I have difficulty maintaining my focus on projects that take more than a few months to complete.
6. I finish whatever I begin.
7. My interests change from year-to-year.
8. I am diligent. I never give up.
9. I have been obsessed with a certain idea or project for a short time but later lost interest.
10. I have overcome setbacks to conquer an important challenge.

### **The Relationship Between Grit and Behavior**

In later research, Duckworth and Gross (2014) explored how grit and self-control are related. They argue that while the terms are often used interchangeably, grit is the overarching set of characteristics that allows one to achieve whereas self-control is what enables individuals to managing competing goals, especially when one goal is "more valued in the moment" (p. 321). Simultaneously, researchers demonstrated that people who pursue sincere engagement and meaning making tend to be more consistent with gritty behavior (Von Culin, Tsukayama, & Duckworth, 2014).

Guerrero, Dudovitz, Chung, Dosanjh, and Wong (2016) completed a study with over 1,270 Latino adolescents to explore the relationship between GRIT and health risk behaviors. The researchers completed 90 minute interviews with participants to assess grit, self-efficacy, and health risk behaviors. Their findings indicate that not only is a higher level of grit associated with higher levels of self-efficacy, but that grit is also "associated with a substantially lower likelihood of alcohol use, marijuana use, and involvement in delinquent behavior." (Guerrero et al., 2016, p. 7) While they did recognize that supportive parenting is also important, their findings suggest that grit may function as a protective factor for youth.

Grit has also been associated with a reduction in depression. Datu, King, Valdez, and Eala (2018) surveyed 447 Filipino high school students and found that grit is associated with lower

levels of depression through an intermediate variable of meaning of life. This suggests that “gritty individuals are less susceptible to experience depression because instead of focusing on negative aspects of life, they may focus on maintaining perseverance and passion to achieve their long-term goals” (p. 7-8). For individuals in this study, grit was associated with stronger mental health outcomes.

It is important to note that the studies described above are largely correlational in nature. This means that the researchers provided evidence of a relationship between grit and specific variables. This style of research, however, cannot claim a causal relationship between these factors.

### **Developing Grit**

To date, there is limited research about how to develop grit. Fitzgerald and Laurian-Fitzgerald (2016) stress that teachers can make a difference in the lives of students through the classroom context they create. They recommend a two-stage process. First, the researchers argue that the school environment must provide support and encouragement. This should be accomplished through the development of positive habits including listening, supporting, and negotiating differences. Second, they state that the environment should actively engage learners by using personally relevant materials that promote problem solving and curiosity. Bashant (2014) offered more specific examples of programs and interventions designed to improve grit. She encouraged teaching students about grit as a character trait that can be developed. Another approach is to give students specific language that can guide them on how to be more persistent and “intellectually aggressive.” She also encouraged an added focus on more mastery oriented qualities such as curiosity rather than on outcomes such as grades.

The few published papers about developing grit offer suggestions and strategies, but it is important to recognize that there is still very limited information about how these ideas may or may not work with students in high needs schools. Ris (2016) argues that grit may be problematic for students who live in poverty. She contends that the concept of grit may not be salient for these students and it could in fact be harmful. Students who deal with daily challenges in high needs schools are already demonstrating gritty behavior, but the concept of grit suggests that if students just try hard enough, they can survive the structural challenges. This may be harmful because it puts the onus on individual students rather than confronting the inequalities of the systems.

### **Conclusion**

Bronfenbrenner’s ecological model of development stresses the importance of examining the systems that shape development. Students in high needs schools face many structural

challenges including institutional racism, limited resources, and low expectations for success. The challenges are shaped by cultural attitudes, economic factors, and the various institutions that students encounter. There are also structural supports such as supportive families, peer networks, and high quality school experiences. Even when people live within similar systems, each individual responds differently based in part on individual factors. Character traits such as grit have been associated with positive health and behavioral outcomes. Grit may therefore serve as a protective factor. Emerging scholarship is examining how to support the development of grit, but some researchers also caution about applying these ideas too broadly. Examination of continued research and conversations about grit may guide educators to potential applications of this concept.

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## From Paper to Practice: Lessons from the #CivicsIsBack Campaign

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## Abstract

This article shares lessons from the #CivicsIsBack Campaign on how to support execution of public policy into professional practice that impacts pedagogy and student growth. The implementation of the new Illinois Social Science Standards and high school civics course will be used as a case study to learn how to seed instructional shifts that prepare students for college, career and civic life.

## Why Civics?

The election of 2016 has been called the “Sputnik” moment for civic education [1]. Evidence of increased political polarization [2] and data that indicates that many Americans do poorly on measures of civic knowledge [3] and habits [4] have many calling for a re-commitment to the original civic mission of schools.

Using extensive data, Meira Levinson, in her widely acclaimed 2012 book Leave No Citizen Behind [5], outlines a "...profound civic empowerment gap...between ethnographical minority, naturalized, and especially poor citizens, on one hand, and white, native-born, and especially middle-class and wealthy citizens on the other." This school-based learning opportunity gap is caused or exacerbated, at least in part, by our system of education. There is "...incontrovertible evidence that poor and non-white students are receiving demonstrably less and worse civic education than middle-class and wealthy white students."

### FOR EXAMPLE:

- For both 8th and 12th grade students taking the 2010 NAEP Civics Assessment, white students and those with high socioeconomic status are more likely to be exposed to current events, discussion, debates and panels, and simulations [6].
- African-American students report fewer civic-oriented government classes, and Latinos are afforded fewer community service opportunities and open classroom environments [7].
- *"Not only are white and wealthy students more likely to receive recommended civic education experiences in school, but the content and topics they discuss and the way these are presented are often tailored to white and middle-class students rather than students of color and poor students" [8].*

These disparities lead to differences in civic participation in areas such as voting, volunteering, contacting elected officials, and donating to charitable causes. They also affect levels of political and social trust. The civic empowerment gap thus "weakens the quality and integrity of our democracy." It is therefore imperative that schools make certain that all students have access

to high-quality civic learning opportunities throughout their educational careers in an effort to close the civic empowerment gap.

Some states have responded to these disparities in school-based civic learning opportunities through legislation that mandates the passage of items from the U.S. Citizenship and Immigration Services exam to graduate high school [9]. While this policy partially addresses the concerns over the lack of knowledge, what about the skills and dispositions that are associated with effective civic engagement? Saying someone is prepared to participate in civic life simply by passing a citizenship test is like saying someone is ready to drive simply by passing the “rules of the road” test. One must get behind the wheel and put that knowledge into practice with guidance and support to build the proficiencies and habits that result in good driving. Likewise, civic engagement is not something you are born with. It must be practiced in a safe environment where students can apply knowledge and build skills and dispositions in order to confront essential questions facing their communities.

### **Policy that Impacts Pedagogy**

On August 21, 2015, Illinois Governor Bruce Rauner signed bipartisan legislation requiring high school students to successfully complete a semester of civics prior to graduation. The law took effect at the beginning of the 2016-2017 school year. This civics requirement embraces proven practices of civic education that, taken together, constitute well-rounded civic learning. Course content must include instruction on government institutions, current and controversial issues discussions, service learning, and simulations of democratic processes [10] which have been shown by research to provide an effective and comprehensive approach to ensuring all students receive the civic knowledge and skills necessary for informed and engaged citizenship. These proven practices were derived from the Campaign for the Civic Mission of Schools' *Guardian of Democracy* report [11].

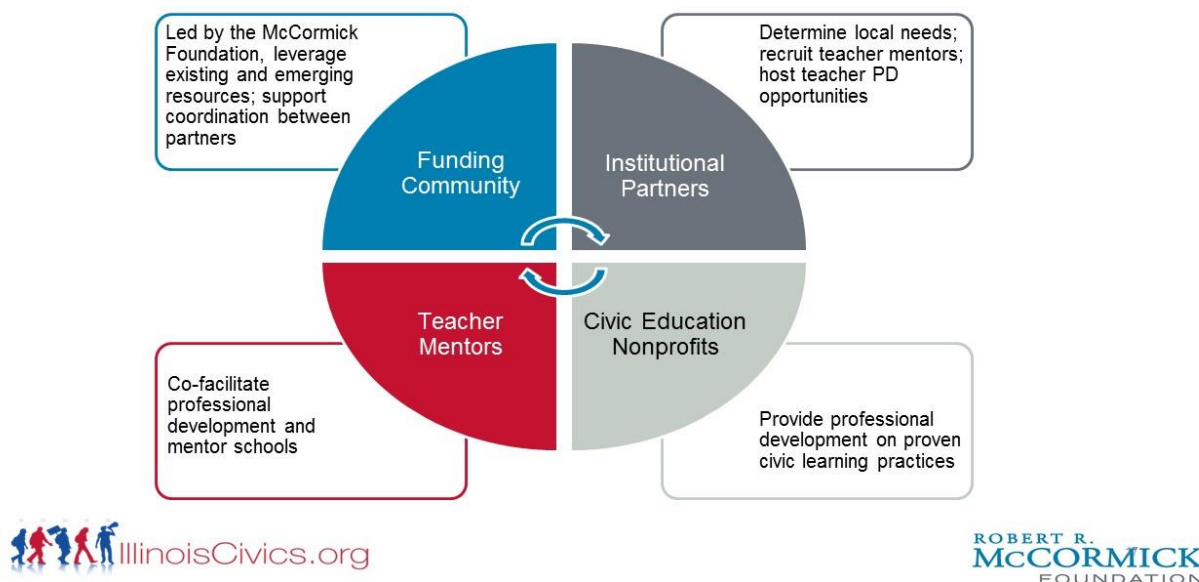
In tandem with the new civics requirement, the Illinois State Board of Education adopted new K-12 Social Science standards that embrace the *College, Career and Civic Life Framework for College, Career and Civic Life* from the National Council for the Social Studies [12]. The Illinois Social Science Standards are designed to ensure that students across Illinois focus on a common set of standards and have the opportunity to develop the knowledge, dispositions, and skills necessary for success in college, career, and civic life in the 21st century. The vision supporting this design is to produce Illinois graduates who are civically engaged, socially responsible, culturally aware, and financially literate.

The new Illinois Social Science Standards contain a civics strand across the K-12 continuum. The grade-banded strand for high school help inform the design, teaching and learning, and student outcomes in the newly required civics course.

### Impacting Professional Learning

The absence of state funding for implementation necessitated the commitment of private dollars. The McCormick Foundation has long invested in school-based civic learning and rallied the local philanthropic sector to raise an additional \$1 million for implementation annually over three years to underwrite the #CivicsIsBack Campaign. Funding partners include Allstate, Boeing Corporation, Chicago Community Trust, Crown Family Philanthropies, Joyce Foundation, MacArthur Foundation, and Spencer Foundation.

### The #CivicsIsBack teacher PD model attempts to address areas of deficiency

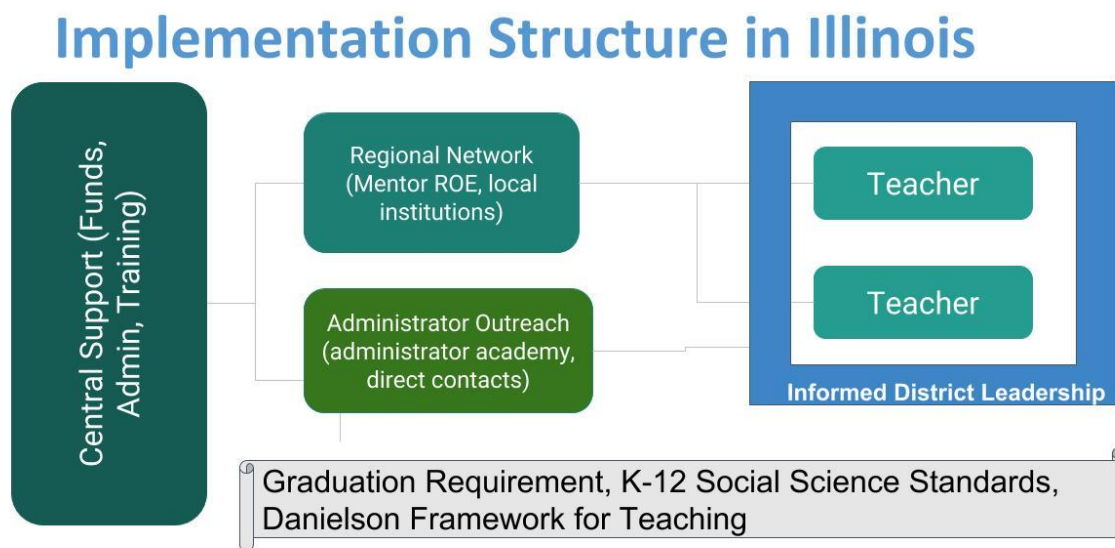


Teacher professional development is central to the #CivicsIsBack campaign given the new course requirement, standards, and the proven civic learning practices embedded within. Prior to passage of the law, four in ten high schools offered a civics or government course, but had no requirement in place, and 13% didn't offer even an elective course under the umbrella of civics.

#CivicsIsBack is truly a statewide effort. While two-thirds of high school students reside in in Chicagoland, 60% of Illinois high schools are located throughout the rest of the state. These schools and regions represent very diverse ideological leanings and student demographics. In

order to meet the needs of all teachers, schools, and districts, the #CivicsIsBack campaign knew that regional institutional partners were imperative as sites for professional development and trusted local partners that had existing relationships with teachers. These sites are scattered across the state and include colleges, universities, and regional offices of education.

Thirty-eight veteran civics teachers were recruited in every educational region outside of Chicago Public Schools to act as mentors for schools and educators needing support to implement the new requirement and standards. Additionally, these mentors were also paired with Lead Mentor Mary Ellen Daneels to deliver regional summer workshops and more localized sessions for schools and districts throughout the school year. Since October 2015, the McCormick team and Teacher Mentors have provided a combined 1,252 hours of professional development to 8,937 Illinois teachers to help translate these social studies policy shifts into practice.



Chicagoland has an abundance of civic learning programs and resources. Through the Campaign, the McCormick Foundation sought to provide a larger platform for these organizations to share their resources outside of northern Illinois. These organizations helped to train Teacher Mentors and adapted their curriculum and resources for them to disseminate with colleagues, schools, and districts in their respective regions. Core partners are the

Constitutional Rights Foundation Chicago, Facing History, Mikva Challenge, News Literacy Project, and We Schools.

The student-centered proven practices embedded in the law were deemed its greatest strength by mentors. They also reflected on how it has shifted instruction away from rote memorization. One mentor reflected, “One of the strengths of the civics requirement is that it is not dependent on a paper-and-pencil test. [It] actually calls for students to practice the skills and dispositions rather than rote memorize these concepts.”

Another mentor’s reflection aligns with the basic goals of the new policies directed at high school classrooms: “This has helped myself and many other teachers throughout the state become better teachers and ultimately will prepare numerous students to be more active citizens in our communities!”

### **#CivicsIsBack Impact on Students**

The #CivicsIsBack Campaign partnered with the Center for Information Research on Civic Learning and Engagement (CIRCLE) based at Tufts University to study the impact of the comprehensive implementation efforts on teacher competency, student disposition and behavior, and statewide infrastructure for future implementation of the law. This includes the fidelity by which teachers, schools, and districts have implemented the law, the impact of our teacher professional development offerings, and, ultimately, students’ exposure to proven civic learning practices and related civic engagement outcomes.

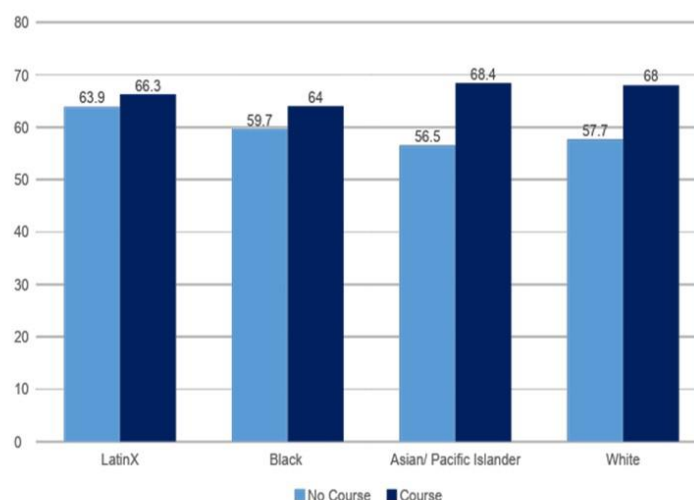
Students enrolled in civics courses (compared to those who were not) were significantly more likely to report discussing current events and controversial issues, including issues they care about personally, and to consider multiple viewpoints with respect to these issues.

Civics course participants also demonstrated strong information literacy skills, were better able to determine the trustworthiness of a news source (92% to 88%), identify political bias in online information (89% to 81%), and create or share something online related to a social issue (48% to 36%).

These students also have stronger civic values, including a responsibility to be concerned about state and local issues (see graph below), to believe that they can make a difference in their communities, and to exhibit trust in fellow community members.

## Early returns reveal that the course is having its desired impact across race/ ethnic groups

I think it's the responsibility of everyone to be concerned about state and local issues (percent agree/ strongly agree)



Finally, students in civics courses feel more knowledgeable about and skillful in participating in politics (62% to 46%), but they are much more likely to report engagement in a range of civic behaviors:

- Helping to make their city or town a better place for people to live (38% vs. 27%).
- Volunteering their time (at a hospital, day care, etc.; 37% vs. 30%).
- Discussing politics or public issues online (36% vs. 30%).
- Serving as a leader in a group or organization (50% vs. 40%).

### **“Secrets” Learned About Turning Policy into Practice**

CIRCLE’s examination of implementation of new social science policies in the state of Illinois has gleaned important insights about successfully implementing educational policy into practice. Passing a bill is a necessary but not sufficient means to ensuring equitable access and outcome-implementation matters. To support successful implementation of these instructional shifts, the #CivicsIsBack Campaign took several important steps including [13]:

- Surveying districts early to identify knowledge gaps
- Developing an iterative, data-informed plan
- Providing free, high-quality teacher professional development
- Creating a regional structure for implementation
- Developing and supporting a network of mentors
- Leveraging existing accountability mechanisms



- Investing in district-level leaders and relationships

In addition, CIRCLE’s examination of the #CivicsIsBack Campaign has revealed several “secrets” about professional learning that impact teacher practice and, in turn, student growth [13].

1. Show, not tell: Professional development should let teachers experience what the new pedagogy feels like as learners.
2. Be a Yoga Master: Not all teachers are the same-show ways to adapt lessons.
3. Teachers are Partners: Take teacher inputs seriously-they need voice before they can give voice.
4. Words Matter: How you call a practice can make or break the adoption.
5. Use Other Assets: Know the broad educational landscape in the state and use other leverage points. The Danielson Framework is one example of such a lever. Adopting the pedagogy with fidelity indirectly affects teacher performance because the framework overlaps with civics pedagogy.

## “Secrets” We’ve Learned

01	Show Not Tell	<ul style="list-style-type: none"> <li>• PD should let teachers experience what the new pedagogy feels like as learners</li> </ul>
02	Be a Yoga Master	<ul style="list-style-type: none"> <li>• Not all teachers are the same - show ways to adapt lessons</li> </ul>
03	Teachers are Partners	<ul style="list-style-type: none"> <li>• Take teacher inputs seriously - they need voice before they can give voice</li> </ul>
04	Words Matter	<ul style="list-style-type: none"> <li>• How you call a practice can make or break the adoption</li> </ul>
05	Use Other Assets	<ul style="list-style-type: none"> <li>• Know the broad educational landscape in the state and use other leverage</li> </ul>



The #CivicsIsBack Campaign concludes in June 2019, but efforts to strengthen school-based civic learning in Illinois are ongoing. In the coming year, with partners at the Florida Joint Center on Citizenship, the campaign will launch a free online course series centered on proven civic learning practices where participants can earn microcredentials in each. There are also plans to advocate for integration of civic learning into the middle grades via state legislation. And finally, the Democracy Schools Initiative will release revised civic assessment tools to assist schools in

strengthening civic learning across the curriculum, in extracurricular activities, and in the organizational culture of the institution as a whole.

### **#CivXNow Coalition**

What about the national landscape of civic education? What can be done to make #CivicsIsBack a national movement? Recently, the #CivXNow coalition shared a new tool that maps the current state of civic education in the United States. The map captures the responses of more than 7,000 people who identified issues relevant to civics and connections among these issues [14]. The resulting map is designed to inform action and offers many entry points and topics to work on. The CivXNow coalition states, “this issue requires diverse people and groups to implement diverse—but related—strategies.”

The Robert R. McCormick Foundation is proud to support this important initiative through funding and the service of Dr. Shawn Healy, Director of the Democracy Program, on the CivXNow Steering Committee. If you are not already a member, consider joining the CivXNow coalition. You will be updated with the latest research and resources related to civics and be connected with a network of practitioners who may inspire your own work.

The #CivicsIsBack Campaign demonstrates that the “how” is just as important as the “what” in translating policy from paper to practice. You can learn more about the #CivicsIsBack initiative through the [IllinoisCivics.org](http://IllinoisCivics.org) website, following the weekly [blog](#), and by [subscribing to a monthly newsletter](#).

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## All Kids Deserve a Pep Rally!!!

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*By: Kim Thomas*

*Peoria County Alternative School*

**Author Bio:** Kimberly Thomas (@kimthomasILSTOY) is the 2016 Illinois Teacher of the Year. She is an inductee into the 2016 Illinois State University College of Education Hall of Fame. Kim is the author of Mathivate. Her mathlicious ideas and activities have been published in Scholastic and ASCD Express. Kim currently teaches at the Peoria County Alternative School for those who have been expelled. She also speaks across the nation and presents workshops. You can connect with her on her website at [kimthomasILSTOY.com](http://kimthomasILSTOY.com) or email her at [kimthomath@gmail.com](mailto:kimthomath@gmail.com).

T- E- A- C- H...what does it spell? Best profession ever!!! I am a teaCHEER!! I add an extra E and get cheer!! A teaCHEER is anyone who helps someone learn while cheering for them. I cheer for my kids from day  $\sqrt{1}$  through the last day and beyond!! Most of my kids have never had someone cheer for them, so I will be their biggest fan. When I was in middle school and high school, I tried out for the cheerleading team. I never made it. Look who is head cheerleader now!! It was worth the wait. The best pep rally happens in the classroom. All kids, even the ones that make you lose your religion or find one, deserve a pep rally designed specifically for them. Some angles are acute while others are obtuse. It is my mathlicious approach and passion to make one of the most disliked subjects the best fraction of a kid's day that makes me who I am as an educator. I teach middle school students mathlicious. If I say math, most people rotate  $10^2 + 80$  degrees and run. But when I say mathlicious, that positively gets their attention.

As I sit and reminisce about my  $10 \times 2 + 6$  years in a classroom, there are life changing experiences from student teaching to yesterday that keep my spark for teaching shining brighter than ever. When I was student teaching, every morning I would pick up my class from the gym. There was a student who was not in my class that would stick his middle finger, which I call the median, up at me. I would wave at him and smile. After a week of this, I went over to him and said, "I love you too." The confused look he gave me was priceless. He replied "What are you talking about? I never said I loved you." I replied, "You said it with your middle, median, finger." He said, "That doesn't mean I love you." I replied, "Well it does to me." The next day instead of giving me the middle finger, he gave me a hug!!! I never take anything personal and know that I can rotate any negative into a positive.

My classroom will always be a place filled with love and laughter. My students are my inspiration for everything I do in the classroom. Every day I make it a priority to do something fun. I want the time my students spend with me to be the best fraction of their day!! Above my classroom door is a sign that says "Mathlicious Area and Perimeter" Licious means pleasing. Kidlicious is the goal. All classrooms and schools should be pleasing for kids. Rigor does not mean rigor mortis. The love I have for each one increases every day I get the privilege of being their teaCHEER! All kids want to be loved. L represents how I light up my passion. My passion

shines bright all year through and becomes contagious. **O** stands for how I **o**verpower my students with the belief I have in them. Don't be discouraged at how kids enter, be encouraged at how they exit. It is my job to make sure they exit more prepared. All my students are at different academic and emotional levels. I know they all can learn and have a future that they want. I am living my dream so one day they can live theirs. **V** represent **v**erify trust. Most kids think we care because we are in education. Trust is on a different dimension. What can kids trust us to do every day? What can teachers trust their principals to do every day? What can everyone trust their evaluators to do? My students can trust that I will be wearing heels and drinking coffee. They can trust that I will always have their back, I will call their parent or guardian, I will love them, I will never give up on them, and I will have them learn math at a height they never thought possible. **E** stands for **e**mbrace differences. I had a student brought to my room and he said, "I don't like white people!" I responded, "That's okay you do not have to like white people to learn math. Please chose a seat." After the lesson he came up to me and said "Okay, I like one white person." I replied, "What about the math?" He said, "You really want me to learn this math." I replied, "Oh honey you are going to learn this math because in this room we celebrate similarities and embrace differences." He said, "I know how we are different, but how are we alike?" I asked, "Do you like pizza?" "Do you have brothers or sisters?" He responded yes to both as did I. Each difference we embrace makes the world a better place. Loving kids can lead to having haters. I tell haters to kick rocks. I will take those rocks and create a pathway of purpose for my students. Like one of my students said the other day, 'Mrs. Thomath, haters gonna hate, but math will always be great!' Now that gave me mathbumps.

Teaching is exhausting. At the end of each day, I always remember to take the positive thing a kid did or said home with me. After all, one positive is greater than any negatives. It's mathematical so it must be true!! As I was telling an audience of teachers this, one asked "What if nothing positive happened?" I replied, "Make it happen." We control the joy and positivity in our classroom. Go cheer for kids while creating joy, and the difference kids will make in your life will be immeasurable.