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# IMPACT REPORT

## 2014-2015

ENGAGE. EMPOWER. ELIMINATE.



**ADVANCED MATH RESEARCH PROGRAM**  
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**May 8, 2015**  
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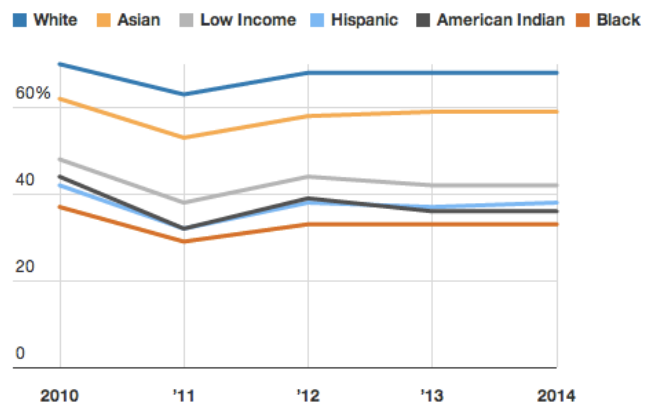
## BACKGROUND



Jaila Tolbert and Kwaku Bodom joined Advanced Math Research in the hopes of solving an issue close to home: education for students of color. They began their research on “Culturally Relevant Learning” last May during their junior year May Program. After reflecting on the class’s purpose, to use mathematics to help solve real world issues, they thought it would be fulfilling to work on the issue of Minnesota’s achievement gap; one of largest disparities in the nation.

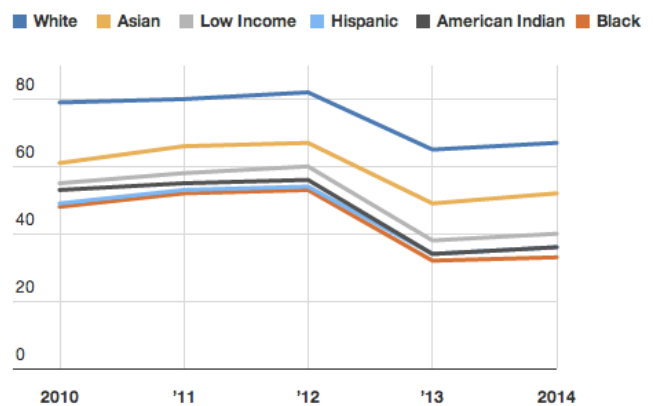
As young African American students themselves, they decided to take on this project to show that even their own rigorous private school education is not enough to impact the gap amongst ethnic backgrounds in academic achievement. The statistics they found were alarming and being from communities where the achievement gap has impacted their public schools, Kwaku and Jaila decided to use the resources that Breck has to offer to make a positive difference in their communities.

MN math proficiency, grades 3-8 & 11



Created with [Datawrapper](#) Source: Minnesota Department of Education, [Get the data](#)

MN reading proficiency, grades 3-8 & 10

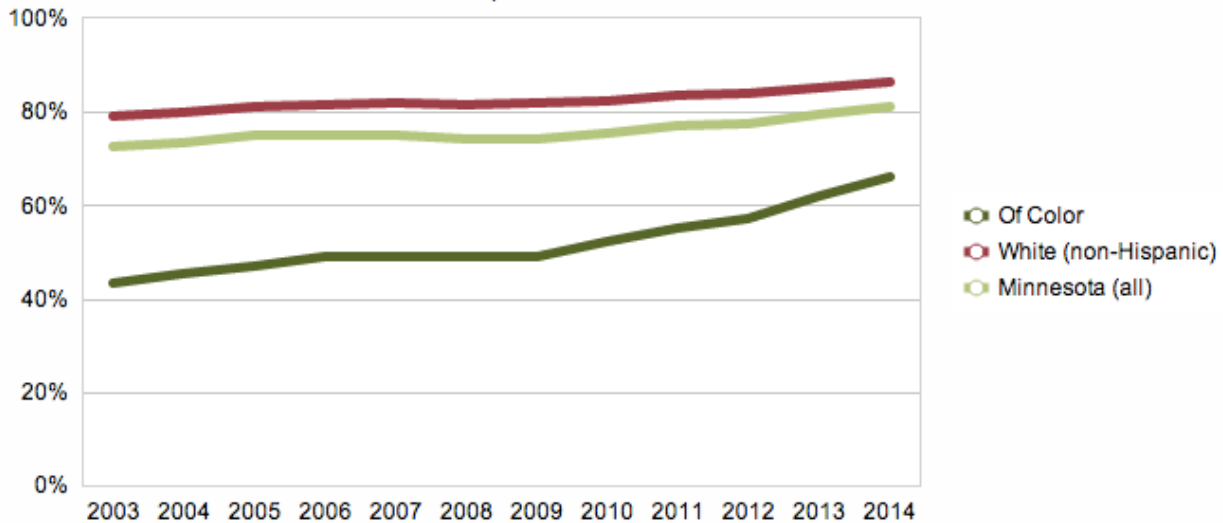


## OUR HOME: Minnesota



In Minnesota, the achievement of students of color continues to be disproportionately low at all levels of education, from reading to math. In addition to this, the Minnesota Department of Education reports that in 2014 white students graduate at a rate 20% higher than their colored counterparts. Only 65.9% of students of color graduated in Minnesota, whereas 86.3% of white students graduated on time.

**High school students graduating on time by race**  
Minnesota, 2003-2014



Compiled by  
Compass

### Sources:

Minnesota Department of Education.



## PARTNERSHIP AND COLLABORATION

Working with a number of educators on their project, the researchers found that the topic of the achievement gap is very complex, with layers that are sometimes invisible to most teachers. Utilizing several partnerships with Breck educators and presenting to Breck faculty helped them gain the basic concept of cultural differences that we face as a private school. However, this issue is even more so prevalent in public school settings. To combat this, researchers partnered with the Osseo Learning Center and a leader in the city of Brooklyn Park, Antonio Smith. By sitting in on classes that utilize culturally relevant learning, researchers found how this method of teaching impacted students that were previously falling behind in the traditional classroom setting. With this partnership, the researchers formed bonds with students in Minnesota and listened to the most important voice: the students voice. In addition to this, researchers also have collaborated with the non-profit organization “What Kids Can Do”, lead by Barbara Cervone.

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## Our Project: **Culturally Relevant Learning**

Culturally relevant learning is addressing the needs of today's diverse student population by teaching through their own cultural experiences. These experiences can be exemplified by combining insights from multicultural education theory and research with real-life classroom stories. This form of teaching impacts various races and ethnicities and transforms complex concepts of learning for a more basic level of understanding. By making material culturally relevant, educators can bridge the gap between school and life outside of school.

### **HOW?**

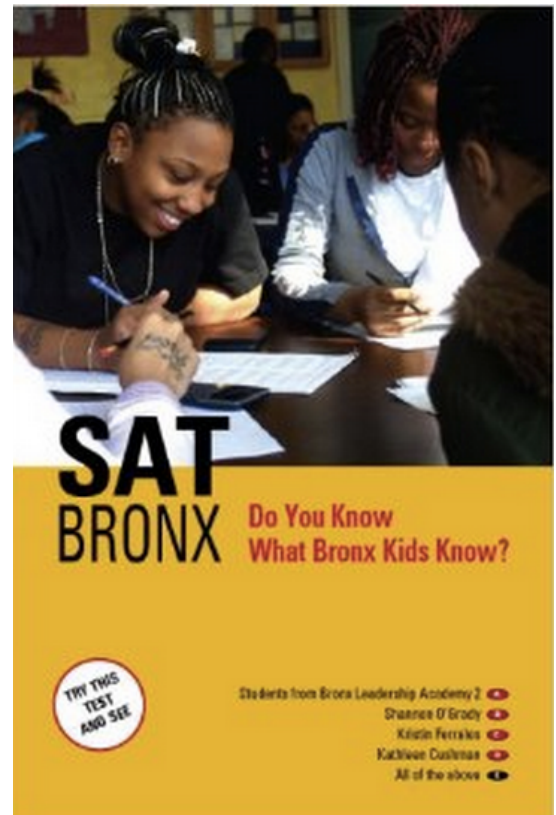
- Rewording reading comprehension and math problems to fit better into the current society and culture, without losing educational value and integrity of the school work
- Bringing in real world news and developing dialogue and lessons guided through current events



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## Culturally Relevant Learning: Resources

- SAT BRONX: This question comes from a book titled ***SAT Bronx: Do You Know What Bronx Kids Know?***. SAT Bronx is a mock SAT preparation book that explores the culture of high school students living in the Bronx through sample SAT questions. These questions test the same areas that the original SAT does, but with different layers of culturally relevant context. This student written book looks into their own communities to find relevant issues that can be applied to subjects such as, English vocabulary, reading comprehension, and mathematics. While the national SAT seems to be unbiased, the SAT Bronx tests with defunct that notion and show that other cultural aspects are not depicted fairly.



Printed by New Generation Press. Funded by What Kids Can Do.

- Radical Equations by Robert P. Moses is another book that expresses cultural relevancy in math during the Civil Rights Movement.

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## Our Project: **Cities United and Sound-Off Stations**

- Cities United is a national organization working to end violence and reduce police interaction amidst African American males. Cities United works to produce positive youth outcome and the basis of their work revolves around the idea that African American men and boys are assets to their community.
- The Sound-Off Station is where most research was conducted. Ranging from ages 15-19, students at the sound-off station voiced their opinion on issues surrounding economics, race, accessibility, and other culturally relevant problems. This after school program is tailored to students that need additional assistance in school, are in harmful environments, or need extra credits to graduate on time. Through culturally relevant learning, students at the sound-off station and Osseo Learning Center catch up, while also staying engaged with what is happening in their community.

cities  
united





## Our Project: Osseo Learning Center

**MEASURING SUCCESS:** Researchers measured success at the Osseo Learning Center by examining graduation rates of students in the class of 2014. According to the data, Osseo Public School district, where many of the Osseo Learning Center's students come from, graduated 71.3% of all students of color.



Source: <http://rc.education.state.mn.us/>

Our Project:

**Brooklyn Park Public  
Transportation**



Public Transportation does NOT the serve daily needs of citizens. Research suggests that the most preferred way to get around is a private vehicle, however, the city of Brooklyn Park caters to many residents who do not own their own cars. With this in mind, public transport should increase accessibility, however, after examining public bus and light rail lines, we found that the routes used today are insufficient. Currently, public transportation is used to transport riders from suburban areas to downtown Minneapolis, but this small radius lacks important stops for basic needs, such as education, health care, food, and community amenities. The current transit system in Brooklyn Park lacks effective intra city transportation. It takes about an hour to get 12 blocks on the current transit system.



**MEASURING SUCCESS:** Researchers measured success with the Brooklyn Park transportation project in a number of ways.

1. Collaborated with Sound-Off station students to begin light rail project
2. After visiting city hall, Breck was acknowledged for the \$1500 grant (from WKCD) given to the city of Brooklyn Park, specifically for the public transportation project.
3. Antonio will be submitting proposals to finish the project soon

## FUTURE WORK: Keeping the Conversation Going

There is still work to do! After this year's research, we hope that a team will pick up where we left off. We'd like for students to keep visiting the Osseo Learning Center to study their methods of culturally relevant learning and show how this method of teaching can increase how we measure success: graduation. In addition to this, we would also be pleased to see the Brooklyn Park transportation project be completed. After the city finishes their proposal, accessibility around Brooklyn Park will be guaranteed.



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## ABOUT THE RESEARCHERS:



With their experience as African-American students in a rigorous school setting, **Kwaku Bodom** and **Jaila Tolbert** support the development of **Culturally Relevant Learning** as a step toward addressing the achievement gap in Minnesota. We are extremely excited to share this project!

**Advanced Mathematics Research:** offers promising math students an opportunity to perform community-based research in mathematics. Participants are consulting mathematicians, working with a governmental, civic, or non-profit group to identify and solve real problems. After collaborating with host personnel to identify an area of inquiry, students determine appropriate research and analytical methods. Over the course of a year, they gather data, analyze results and make specific recommendations. Ultimately the researchers will compile their findings into a report and presentation materials for their organization. They will also present their findings to community and school-based audiences, and prepare a paper for publication through Breck, and for possible submission to journals and conferences.