



NEWSLETTER

Math Literacy | Is the Key | to 21st Century Citizenship!

Supporting growth of the We the People Math Literacy for All Alliance p. 1

Building on the lessons learned during the Mississippi theatre of the Civil Rights Movement, the Algebra Project collaborates in “bottom up” organizing to achieve national impact on the mathematics literacy of students in under-served schools.

In and beyond the classroom p. 3

During 2019 the Algebra Project continued to provide professional development and classroom coaching at schools in Broward County, FL; San Francisco, CA; Bronx NY, and began introductory workshops in Flint, MI.

Supporting We the People - Math Literacy for All Alliance

Building on the lessons learned during the Mississippi theatre of the Civil Rights Movement, the Algebra Project (AP) collaborates in “bottom up” organizing to achieve national impact on math literacy. In 2016 the project received two small grants from the NSF INCLUDES program (Inclusion across the Nation of Communities of Learners of Underrepresented Discoverers in Engineering and Science), a program that seeks to broaden participation in STEM education and careers, which is one of NSF’s Ten Big Ideas, see: https://www.nsf.gov/news/special_reports/big_ideas/includes.jsp

In 2017 under these grants, the Algebra Project, Southern Initiative Algebra Project and Young People’s Project convened two national meetings each attended by over 120 students, teachers, school system members, community members, policymakers, university faculty and others. Working groups produced recommendations for local and national actions, and began to form a national alliance called **We The People: Math Literacy for All** (WTP-MLA). In 2018, the emerging WTP-MLA Alliance developed a Shared Values statement <https://mathliteracyforall.org/values/>.

A major initiative of 2019 was a joint planning meeting & Public Briefing on Capitol Hill in July on the urgent need for **Direct Federal Investment & Involvement in Mathematics Education**. The support of Alliance allies, including the Poss Family Foundation, made it possible to arrange for this public briefing and hold a 3-day planning.

From July 16-18, 130 youth, teachers, principals and superintendents and university policymakers gathered, with representation from Broward County Schools and community,



Quincy Dawson & Victoria Doctor: From assisting to teaching p. 4

Two young people from Atlanta who assisted teachers during their senior year in college are now teaching high school physics and mathematics.

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The Southern Initiative Algebra Project, Inc. (SIAP) is moving forward with its PK-16 Initiative across sites in Louisiana, Virginia, and the District of Columbia.

Flint Schools p. 5

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Researchers at ETS connected with the Algebra Project through ETS' Policy Evaluation and Research Center and were awarded an NSF grant to create mathematics assessment items that will serve a range of students.

FL; June Jordan School for Equity, San Francisco, CA; the Fannie Lou Hamer Freedom High School, Bronx, NY; the Southern Initiative Algebra Project/HBCU Collaborative PreK-16 Model, Petersburg, VA and New Orleans, LA, the Ohio State University Math Literacy Initiative, Mansfield, OH; Excel High School, Boston, MA; the Baltimore Algebra Project, Baltimore, MD; Flint Community Schools, Flint, MI, Washington Teachers Union, as well as national staff and consultants from the Algebra Project, Young People's Project, Southern Initiative Algebra Project.

The culminating event was a 2-hour public briefing held in the U.S. House of Representatives' Rayburn Office Building where students, teachers and others presented their viewpoints for Congressional representatives and staff, and representatives of interested organizations and the public. Marcus Hung, Room 212 Productions, created a video of the planning meeting & the public briefing: https://www.youtube.com/watch?v=fBjopZ_avko

Voices of the WTP-ML₄A Alliance

"We're all fighting similar fights...that's an important piece of organizing. You cannot just fight in your own city and expect it's just going to change everything. Because the moment you go to another city or ... you look on a news, you see they're going through the same thing I just went through. We just had a tough fight; how can I offer support?" — Ivan Roberts, Baltimore Algebra Project



Photo: Young People's Project Students sharing the Flagway

Game™ at the Public Briefing on Capitol Hill



"It's changed the whole culture of the classroom and the whole culture of our school because we're creating that environment where all students are able to succeed and participate in the discussions and the math learning." Photo: — Jessica Litzenberg, Clear Fork Valley Local Schools, Ohio State Univ. - Math Literacy Initiative; pictured with Primus Burley, Broward County Public Schools, FL, and Deidre Gordon Wood, Atlanta Public Schools.

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“From a psychology standpoint, it also involves overcoming the phobia that most people have about mathematics. People rarely brag about not being able to read, but people will tell you all the time I’m not that good in math... Disparities in education are really the main thing that continue to create divisions in society. So this is much more than just dealing with educational issues, it has societal implications as well.” — Dr. Oliver Hill, Virginia State Univ., HBCU/ Southern Initiative Algebra Project PreK-16 Model



“This requires us to really cultivate the humans on the ground, and in a really systemic fashion, and not simply put in a quick fix, a quick program, but you got to have the temerity to actually try something new.” — Superintendent Dr. Derrick Lopez, Flint Community Schools; pictured with Principal Mark Howard, Hallandale H.S., Broward Co., FL

Thanks go out to University of the District of Columbia President Dr. Ronald Mason and members his staff for coordinating facilities and logistics for the Alliance planning meeting. We also thank Congressman Bobby Scott and his staff for arranging facilities for the public briefing on July 18th.

In and beyond the classroom

During 2019 the AP continued to provide professional development and classroom coaching at four schools in Broward County, FL; June Jordan School for Equity, San Francisco; Fannie Lou Hamer Freedom High School, Bronx NY, and began a project supporting students, teachers and schools in Flint, MI.



Photos: Bob Moses and Joan Wynne with students at Northeast High School, Broward County Public Schools, FL, July 11th, during the Summer Induction Academy

Quincy Dawson & Victoria Doctor: from assisting to teaching mathematics & physics



Quincy Dawson

As a Physics major at Morehouse College who was anticipating a Spring 2016 graduation, I was unsure how I wanted to utilize my degree. Before I found the Algebra Project, I did research in the field of Optics. I had great experiences, but I could not see myself working as a researcher after graduation. When I found the Algebra Project in the Summer of 2015, I began as an assistant to the teacher at Luther J. Price Middle School in an 8th grade math class and fell in love with the field of Education. Working with the Algebra Project made me pursue the Education field. I am currently a high school Physics teacher at Vistamar School in El Segundo, California and I use Algebra Project's philosophies every day.



Victoria Doctor

I found the Algebra Project during the summer of 2015. At the time, I was a mathematics major at Spelman College preparing for my senior year. I did not know what I wanted to do with my degree. My cousin, Ethan Godfrey, was attending Morehouse College and told me about his new summer job with the Algebra Project. He said it would be perfect for me and asked if I would be interested in sitting in on one of the Professional Development meetings. Since then I was sold on teaching mathematics. I enjoyed assisting math teachers with the Algebra Project curriculum that year. After graduating Spelman College in 2016, I received my Master's degree in Mathematics Education from Georgia State University in 2018. Working with the Algebra Project this past summer was like magic. It reminded me why I decided to

become a teacher. I am currently teaching high school mathematics at Dr. Martin Luther King Jr. High School WHERE and am utilizing some of the Algebra Project practices with my students.

Note: In June/July 2019, Quincy & Victoria returned as experienced Algebra Project teachers to support the Summer Induction Academy in Broward County Public Schools, FL, the country's 6th largest school system.

An update from the Southern Initiative Algebra Project

The Southern Initiative Algebra Project, Inc. (SIAP) is moving forward with its PK-16 Initiative across sites in Louisiana, Virginia, and the District of Columbia. SIAP's PK-16 Initiative consists of four components: Professional Development for Educators (PDE), Site Development/Community Engagement (Design Team Process) (SCDT), Partnerships with Institutes of Higher Learning (PIHL), and Youth Leadership Development (YLD). These entities have worked together in 2019 to conduct institutes and workshops for teachers and their local support, meetings and workshops for communities, meetings and workshops for university faculties and administrators, and institutes and workshops with university youth and elementary and middle school students. SIAP's PDE Team includes Jessie Cooper-Gibbs (LaPlace, LA), Sharon Spencer (Chapel Hill, NC), Staffas Broussard (Baker, LA), Andrew Wynn (North Dinwiddie, VA), Cheryl Barthelemy (New Orleans, LA), Nell Cobb (Elkhart, IN), and Bill Crombie, AP's Director of Professional Development.



Photo courtesy of the SIAP: *Staffas Broussard and Bill Crombie facilitating professional development session with teachers from Benjamin Franklin Elementary School of Science & Mathematics, at Dillard Univ. New Orleans, LA, February 16, 2019.*

Continuing collaboration with Flint Community Schools

Responding to superintendent Dr. Derrick Lopez's call in the spring of 2019 the Algebra Project, the Ohio State Univ. Math Literacy Initiative, and the Young People's Project collaborated in providing monthly workshops with teachers and students in Flint, and participated in planning meetings with teachers as well as district and school leaders. Summer induction academies and training workshops were held in June/July with students and teachers, supporting Flint Community School's restructuring of approaches to K-12 math education. This initiative will continue with monthly visits during the winter and spring of 2020, and with plans for summer of 2020 in the works.

Toward Building Valid Assessments of Math Literacy

For several years, the Algebra Project and Young People's Project have been collaborating with researchers at ETS, which has produced the format and content of much educational testing across the US. Such testing aligns with the continuing promise of what individuals can achieve in an environment that strives to create equity in opportunity so that merit, not race or color, will underlie potential in education and careers. As Algebra Project founder Bob Moses has stated:

In our view, the holding together of our society depends on the belief of citizens that they can achieve a measure of economic security and safety in the community that will sustain family life. Such security in turn depends on the existence of real educational opportunity — opportunity to learn the reasoning skills and technical skills demanded in well-paying jobs. Even nonprofessional work nowadays requires literacy, technical skills, reasoning skills, and collaboration. When our youth begin to sense in Grade 7, 8 or 9 that their schools and communities are in fact not preparing them for those opportunities, they seek alternative tracks. This is where the “school to prison pipeline” begins.

The impoverished communities in which we work are full of hope. We aim to reach those youth who have not yet given up but who are vulnerable — those who have been performing in the bottom quartile on measures of educational achievement. By targeting those students in particular, we are seeking not just to “close an achievement gap” but to establish national standards and practices for their education in a society where all citizens can believe in a just society, can have a dream, and can know that their contributions are worthy. This is more than just mastering a math curriculum. (Aug. 30, 2013, final report to the NSF, award no. 0822175)

Sharing that view, researchers at ETS connected with the Algebra Project through ETS' Policy Evaluation and Research Center and were awarded an NSF grant to create mathematics assessment items that will serve a range of students, including students who are performing in the bottom quartile on typical standardized tests. These students are not served well by many assessments because the assessment shows only that they do NOT know certain content. The group is developing assessment items for a learning progression for the concept of function, which will assist educators in building students' knowledge forward.

The research sample includes students using Algebra Project materials as well as traditional materials. To study whether the language and graphics of the items are understandable to a range of students, several staff of the Young People's Project were trained to be cognitive interviewers. They conducted in-depth interviews with students in several Algebra Project sites to understand how students were interpreting the items. Such interviews can support item validity, and YPP staff are able to harness the language and culture of a broad base of student population to conduct a meaningful interview with these students.

Progress to date includes revising the items based on interviews and other reviews, and piloting of computer-based versions and automated scoring methods in five schools across three states: California, Florida and Illinois. These pilot tests served as a forerunner to a larger field test being planned for spring of 2020 to evaluate the validity of the learning progression.

Bill Crombie, Edith Aurora Graf, Chad Milner, and Sarah Ohls each gave presentations as part of the symposium, "The Use of Learning Progression-Based Assessments with Students and Teachers" at the third annual NCME conference on classroom assessment in September 2019. The presentations discussed findings from the cognitive interviews, the design of the pilot tasks, and teachers' engagement with the content. 2019 STEM For All Video Showcase: <https://stemforall2019.videohall.com/presentations/1613>.

Note: The research reported here is supported, in whole or in part, by the National Science Foundation, through grant award #1621117 to Educational Testing Service. The opinions expressed are those of the authors and do not represent the views of the National Science Foundation.

Bob Moses, "calling on the nation..."

Ever since the founding of the Algebra Project in 1982, Bob Moses has presented its mission in an historical perspective. Now, 37 years later, there are a growing number of researchers and activists at universities and professional organizations who are also calling for equity in mathematics education. Bob Moses spoke with two gatherings that represented deep thinking on this need: the annual UTEACH celebration at Florida International University's STEM Transformation Institute, December 5, and a Spencer Foundation funded conference entitled "Political Knowledge and Practice for Teaching Mathematics" at Univ. of Wisconsin at Madison, May 16.

He participated on a panel of "elders" opening the 3-day conference at Univ. of Wisconsin - Madison, whose purpose was to "collectively (re)imagine k-12 mathematics education as IT COULD BE." The interdisciplinary group from within and outside of education was asked to "bring critical and cutting edge theoretical, methodological and programmatic perspectives from their respective fields...and to move mathematics teacher education beyond its silo." (*letter from Maxine McKinney de Royston, May 7*)

Citing the history of federal actions and inactions going back to 1875 as described in Burke Marshall's 1964 treatise on Federalism and Civil Rights, Moses noted that -

...this history of residual and persistent racism has now morphed into a national education problem that threatens the Common Good - a multi-racial class and caste system that is leaving behind a significant number of youth who both live in communities that are in the bottom economic quartile but who also perform in the academic bottom quartile and will therefore be denied the opportunity to participate in the 21st century Information Age economy and be competitive in the rapidly emerging global workforce. (May 16, 2019, R. Moses)

He notes Burke Marshall's view that "the direction taken [in the past] was not inevitable. Our task is to reverse it, and to make the reversal work, but to do so within the framework of the same institutions" and Bob urged participating researchers to -

...organize to translate the moral crawl space opened up by the Constitution (the citizenship and equal protection tenets of the 14th Amendment) to reinvigorate a federal will and therefore its direct investment and involvement in establishing a federal crawl space that acts on its responsibility for guaranteeing opportunity for those youth struggling to emerge out of the bottom quartile.

Noting the 2020 election issues of Medicare for All and federal Minimum Wage, Bob recommends

...pushing for federal action to tackle the teaching, learning and measurement of mathematics for the bottom quartile that provides opportunity structures for them grounded in aspirational mathematics platforms geared to the needs of the 21st century.

This perspective was one of several shaping a statement presented on Capitol Hill in Washington, DC, at the public briefing on July 18, 2019 by students, teachers, school leaders, researchers and organizers of the national "We The People - Math Literacy for All" Alliance.

Honoring the Life of James A. (Jim) Donaldson, Ph.D.

It is with a heavy heart that we share the news of Jim Donaldson's passing on October 18th, 2019. Jim served as an Algebra Project Board member for 10 years. Dr. Donaldson was Mathematics Professor Emeritus and Former Dean of the College of Arts and Sciences at Howard University in Washington, DC. He published numerous scholarly articles, participated in many professional mathematics and mathematics organizations, and helped co-found the Ph.D. program in mathematics at Howard Univ. His encouraging voice and support of the AP's math literacy mission will be sorely missed. Jim is pictured here contributing to discussions at the 2017 national We the People - Math Literacy for All Alliance planning conf. in St. Louis, MO.



Resources and links

"We the People - Math Literacy for All" Alliance, <https://www.mathliteracyforall.org/>
 The Baltimore Algebra Project: <https://www.baltimorealgebraproject.org/>
 Indianapolis Algebra Project: <http://www.indianapolisalgebraproject.org/>
 The Ohio State Univ. - Math Literacy Initiative: <https://mansfield.osu.edu/initiatives/math-literacy-initiative/>
 Southern Initiative Algebra Project: <http://www.siap.us/>
 The Young People's Project: <http://www.typp.org/>
 TODOS - Mathematics for All, <https://www.todos-math.org/>
 Benjamin Banneker Association: <http://bbamath.org/>

Resources and links, continued

Mathematical Sciences Research Institute – Critical Issues in Math Education 2019:

<http://www.msri.org/workshops/919>

National Council of Teachers of Mathematics: <https://www.nctm.org/>

National Math Festival 2019: <https://www.nationalmathfestival.org/2019-festival/>

Princeton Prison Teaching Initiative: <https://mcgraw.princeton.edu/PTI>

ETS Policy Evaluation and Research Center: <https://www.ets.org/research/perc/>

North Bay Organizing Project, <http://www.northbayop.org/>

SNCC Legacy Project, <https://www.sncclegacyproject.org/>

NSF INCLUDES National Network Coordination Hub, <https://www.includesnetwork.org/new-a-coordinationhub>

The Center for School Climate and Learning, <https://www.thecscl.com/>

InSTEM Camp for Girls @ DePaul Univ: <http://www.instatematdpu.com/>

STEM - New Mexico: <http://www.explora.us/stem-nm/>

Promise Arizona: <http://www.promiseaz.org/#>

Project Exploration/Project SYSTEMIC <https://projectexploration.org/project-systemic/>

Math for America: <https://www.mathforamerica.org/>

West/Southwest Industrial Areas Foundation: <https://www.swiaf.org/>

Eagle Rock School and Professional Development Center: <http://eaglerockschool.org/>

Rethinking Schools, <https://www.rethinkingschools.org/>

Efficacy Institute, <https://efficacy.org/>

Teaching for Change, <https://www.teachingforchange.org/>

Algebra Project, Inc.: <https://algebra.org/wp/>

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and many, many more - thanks again!