THE CENTER *for* TRANSFORMATIVE TEACHING & LEARNING™
AT ST. ANDREW'S EPISCOPAL SCHOOL

Organization Name: The Center for Transformative Teaching & Learning

Contact: Glenn Whitman, Director, CTTL and Dean of Studies
8804 Postoak Road
Potomac, MD 20854
(301) 983-5200, x322, gwhitman@saes.org

Project Title: Neuroteach Global

Executive Summary: The Center for Transformative Teaching and Learning (CTTL) was created in 2011 to be the research and professional development arm of St. Andrew's Episcopal School, training teachers in Mind, Brain, and Education Science to improve student learning locally, nationally, and globally. The Center for Transformative Teaching and Learning CTTL is building and refining Neuroteach Global, a professional development tool that uses technology and the science of learning to revolutionize how educators develop their understanding of the Science of Learning and their ability to translate research into actions in their schools, classrooms, and their personalized work with students. In essence, Neuroteach Global uses the science of learning to teach the Science of Learning.

Part I: The Solution

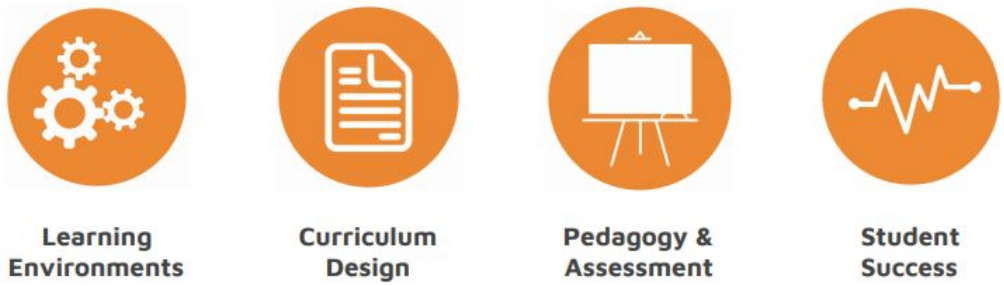
Challenge: Ineffective Teacher Professional Development: Regardless of race, class, or geographic location, all students deserve an expert teacher who understands the most promising Science of Learning research and who can design, implement and support effective programs and environments that lead to student success and well-being. Early childhood through 12th-grade teachers spend an average of 19 days per year participating in trainings designed to teach behavorial change theory at a cost of more than $2.5 billion dollars at the federal level alone. Unfortunately, evidence is mounting that little is achieved as a result of these efforts to understand effective learning behavior.

Solution: Designing for True Behavioral Change: NTG believes that administrators and teachers are the ultimate stewards of the student learning environment and organ (the brain), and that investing in human capital development is the most efficient and effective way to facilitate MBE Science of Learning research and effect predictable student success. Whether administrators are working with teachers, teachers are working with students, or students are developing themselves, our behavioral change pathways start with engagement as a gateway to learning, learning as a gateway to behavioral change, and behavioral change as a gateway to impact.

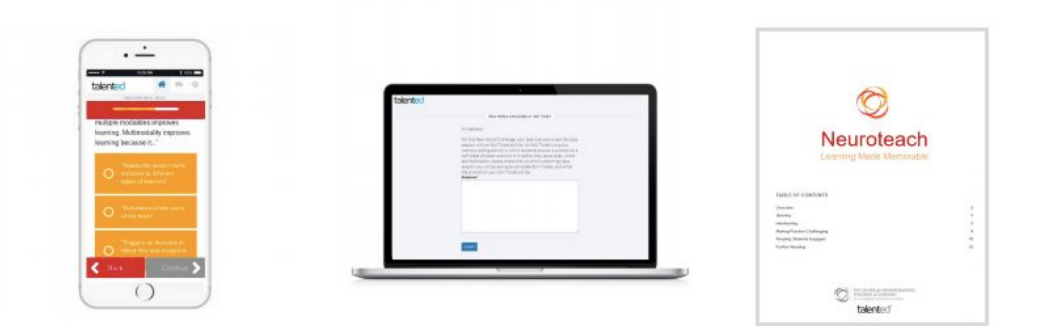
NTG will integrate current CTTL curriculum and in-person programming into a series of 24 engaging and effective gamified micro-learning courses that can be experienced by teachers anytime, anywhere, on the device of their choosing. Pilot results of our first micro-course showed 91% of participants self-reporting improved knowledge of applied neuroscientific research and 70% of teachers applying new skills in their classrooms after less than 1 micro-course hour.

Neuroteach Global is a scalable, digital-first professional learning experience supported by on-site learning engineers that use the science of learning to train teachers and school leaders in the Science of Learning. NTG focuses on the whole child to empower students to find greater academic, social, and emotional success as a foundation for closing achievement gaps in critical subjects such as math and literacy. NTG delivers research in areas such as: memory, engagement, project-based learning, executive function, and metacognition, alongside belonging, well-being, identity validation, and mental health. Teachers also receive feedback as they move through the program, and as they translate research into practice through a series of scaffolded, real-world challenges in their schools, classrooms, and work with students.

- Neuroteach Global is creating approximately 24 micro-courses within four learning tracks:



- Each track is composed of a series of 1-hour micro-courses. Every micro-course comes with…



Interactive Text Adventures

Use research-informed, educational neuroscience strategies and practices to transform the fictional classrooms of Dewey High.

Real World Challenges

Apply the strategies you've learned in the interactive text adventures in your *own* real life classroom. Real coaches review your submissions and provide feedback.

A Field Guide

Read up on the actual educational neuroscience research, and gain strategies that you can put to use right away.

Anticipated Outcomes: Neuroteach Global will dramatically increase access, first for teachers and school leaders and then for students, to the valuable Science of Learning content that the CTTL has been delivering through its in-person programming and publications. Schools and school districts of all sizes and demongraphics have demonstrated that there is a need for the relevant, cost and time effective MBE professional development. However, the CTTL's Science of Learning and School Leadership Academy, a week-long intensive program held each summer, consistently maintains a waiting list for participants. Additionally, the demand for the CTTL's in person programming at schools and school districts around the country and the world exceeds what the CTTL team is able deliver. Neuroteach Global greatly increases the scale of the CTTL's work and its has the potential to make possible the Center's goal to train any and every teacher in Mind, Brain, and Education Science to improve student learning locally, nationally, and globally.

As a professional development tool, Neuroteach Global is accessible, time and cost effective, and provides important user data to the CTTL and individual participants. At a cost of $23 per credit hour, Neuroteach Global is a unique value for school districts looking for effective research-informed and cost efficient staff-development solutions. After initial startup costs, and as teachers, school leaders, and school districts enroll in the platform, we estimate that NTG will generate enough revenue to sustain itself after a startup period of five years. In spite of the low cost to learn, we are positioned to earn revenue that will be reinvested in NTG to improve the user experience and measure user impact.

Evidence of Success: With the launch of Levels 1-4, we anticipate training more than 46,000 teachers in the first 5 years, which translates to an impact on more than 2 million students. Already, 1,000 teachers from 20 schools have expressed interest in participating and 600 users, the majority of which are public school educators, are fully engaged in the 12 Level 1 microcourses. The entire Delta, Colorado public school district and a portion of Frederick County public schools have 300 and 100 teachers and school leaders signed up, respectively. In fact, as of mid January 2019, the entire Delta County public school district has completed the first micro-course of Neuroteach Global. As users complete the Level 1 micro-courses, we are soliciting feedback from users via personal outreach to enhance the user experience and to generate ideas as we develop the next iteration of Level 1. Based on initial data collections we have also found that if someone finishes two chapters of a course, then there's 80% completion rate of a whole micro-course. To further refine our understanding of how NTG is being used, we have developed a baseline survery with our funding partner the Chan Zuckerberg Initiative. Further, a Customer Success and Operations manager was recently hired who will help develop, collect and analyze user data. This position will also develop and maintain a pipeline of prospective users, schools, and school districts in order to reach our goal of training 10,000 teachers in Year 1 through Year 2, followed by 30,000 in Year 3 - Year 4, and 16,0000 in Year 5.

In almost all public school and school districts, subsidization of the program will be key and the CTTL recognizes that the success of providing NTG to most public schools will be contingent upon that subsidization. The CTTL and Neuroteach Global trainers and advancement staff are working directly with regional schools and school networks to launch the product, and to identify funding opportunities that leverage public/private partnerships. Teachers and school leaders who participate in Neuroteach Global and see its benefits will help to recruit colleagues and other schools.

Part II: Implementation Plan

Vision for Impact: The CTTL believes that Neuroteach Global will dramatically increase access – first to teachers and school leaders and then students – to the valuable MBE Science content that it has been delivering through its in-person programming and publications. As a professional development tool, Neuroteach Global is accessible, time and cost effective, meets users where they are, and provides data to the CTTL to further inform our work. Neuroteach Global involves a modest cost for participants and the technology does not require additional monetary expenditure, making it ideal for low-resource learning environments.

Ideal Conditions: The CTTL currently conducts its in-person and virtual trainings with over 200 schools across the country and around the world. Typically, these are one to two-day trainings or these schools send are participants in the CTTL's Science of Learning and School Leadership Academy held each July at St. Andrew's Episcopal School. Past experience has taught us that our most successful partnerships develop through personal relationships, either with specific teachers or school leaders. Less important in developing a successful partnership is the type of school. We have had tremendous success with public, private and charter schools in urban, rural and suburban environments. For in-person trainings, we prioritize schools who can guarantee 100% of teacher and school leader participantion and who can commit to two follow up visits. The Summer Academy seeks a balance of public, private and charters schools and early, mid-career and veteran teachers and school leaders. Thanks to generous funding from the Edward E. Ford Foundation and the J. Willard and Alice S. Marriott Foundation, we have been able to subsidize the cost of attendance for all public and charter school teachers and school leaders.

Ideally, the schools and school districts that implement NTG will be ones that are already familiar with the CTTL, and more importantly with MBE science. However, the CTTL recognizes that not all schools and educators can afford the cost of our in-person trainings, let alone the cost of implementing NTG. Additionally, given the nature of the public school budget process, schools and school districts may not be able to implement the program until one or two future budget cycles. The success of providing NTG to most public schools across the country will be contingent upon subsidization. Ideally these schools would help the CTTL identify foundations and corporate supporters whose mission aligns with our goal to support quality education by improving teaching and learning.

Regional Focus & Other Partners: The CTTL is partnering with schools and school districts to implement Neuroteach Global across the country with a goal to end the teacher quality, student achievement, and student school experience gap. We are seeking new partnerships with foundations and supporters who also wish to find innovative ways to empower teachers and students to achieve academic success and personal well-being.

Most importantly, we are seeking regional and community funders who can bring Neuroteach Global to the first set of 100 teachers and school leaders in their respective communities. This early and regional-specific support will enhance respectives communities by putting them on the cutting edge of

teacher professional development, and thereby enhance the quality of schools, instruction, and student achievement, all of which prepares students for the 21st century world and workforce.

For example, a grant of $40,000 would allow the CTTL to provide Grant Wood Area Education Agency, an organization that serves nine Iowa school districts, with Level 1 of Neuroteach Global, which would enable the training of 100 teachers and school leaders, thus impacting approximately 6,000 students. Grant Wood Area Education Agency is an example of an organization that has expressed interest in CTTL programing and training, but lacks the resources to take advantage of the Center's in-person training.
We are also seeking thought partners who have experience in the education technology field and as well as experience working with regional school districts. Our partnership with Chris Cerf, former Superintendent of Newark, New Jersey Public Schools, which was made possible by Pathway2Tomorrow has already yielded interesting and helpful conversations and we are looking forward to his visit to the CTTL in February 2019.

Engagement: Neuroteach Global has already generated market demand and verbal user interest and commitments from a variety of schools. As previously mentioned, a Customer Success and Development Manager has recently been hired to develop, close and manage these leads:

Collegiate School (Va.)

Crisp County School District (GA)

Discovery Learning Alliance and its schools in Kenya, Uganda, and Africa

Delta County School District (Colo.)

Frederick County Public Schools (Md.)

GEMS Education (Worldwide)

Grant Wood Area Education Agency (Iowa)

ITSI and its schools in South Africa, Australia and the UK

Meade High School (Md.)

Mitchell County School District (SD)

New School Ventures (D.C.)

New Teacher Center (Calif.)

Northeast High School (Md.)

St. Vrai Valley School District (CO)

Teach For America (Washington, D.C. Region)

Timeline, Operational Phases and Cost per Phase: NTG is seeking funding support for Phase 2 B through Phase 3 of our growth plan. Grants from the Chan Zuckerberg Initiative, the Omidyar Group, and Pathway2Tomorrow along with operational support from St. Andrew's Episcopal School have funded the project through Phase 2 A.

Phase	Timeline	Outcomes	Costs (not including SAES investment)
1 A	Oct. - Dec. 2018	Create Digital Curriculum & Certification Levels: Complete the build of Level 1 and its four key learning tracks: Learning Environments, Curriculum Design, Pedagogy & Assessment, and Student Success & Well-being. Content Creator and Delivery Lead hired. NTG Advancement support hired. Sales/Marketing support contracted.	Development Cost: $168,000 Administrative Cost: $17,500 **Total 1A Cost: $185,500**
1 B	Jan. - Apr. 2019	Staged rollout & product iteration: Launch Level 1 in three public school districts and three private schools with 500 to 1,000 teachers that will include recent teacher finalists of the Varkey Foundation's Global Teacher Prize. This strategic rollout will pressure test our system to improve our delivery and design methods. Level 2 build begins. Additional Content and Delivery Leads hired, along with Operations Manager. Advancement Officer is fully on board.	Development Cost: $168,000 Administrative Cost: $106,250 **Total 1B Cost: $274,250**
1 C	Feb. - Jul. 2019	The CTTL will build and launch a Learning Engineer training program as an extension of its Science of Teaching and School Leadership Academy. This program will facilitate the growth of an international network of learning engineers and Science of Learning translational hubs, based in pre-collegiate schools, each responsible for supporting the launch of Neuroteach Global within their geographic locations.	Development Cost: $50,000 Administrative Cost: $106,250 Public School Subsidy: $70,000 **Total 1C Cost: $226,250**

2 A	Apr. -Sept. 2019	Global rollout: Rollout Level 1 & Level 2 to learners worldwide. This rollout will also include an evaluation co-designed with the Science of Learning Institute at Johns Hopkins University on key metrics that include: teacher and student efficacy, instructional differentiation, and elements of student academic achievement and well-being. Level 3 & Level 4 build begins.	Development Cost: Administrative Cost: **Total 2A Cost:**	$100,000 $106,250 **$206,250**
2 B	December 2019	Staged rollout & product iteration: Launch of Level 3 and Level 4 in 3 schools with 500 to 1,000 teachers to assess our system and continue to improve our delivery and design methods.	Development Cost: Administrative Cost: **Total 2B Cost:**	$56,000 $106,250 **$162,250**
2 C	June 2020	Global rollout: Roll out Level 3 and Level 4. Johns Hopkins will continue its efficacy study. Initial identification of potential translation hubs worldwide begins. International language conversions.	Development Cost: Administrative Cost: Public School Subsidy **Total 2C Cost:**	$28,000 $263,500 $150,000 **$441,500**
3 A	December 2020	Learning Engineer Placement / New Translational Hubs: As learners exemplify excellence in mastering Level 3 and Level 4, we will recruit and resource top students to spearhead translational hubs in their regions.	Development Cost: Administrative Cost: **Total 3A Cost:**	$28,000 $263,500 **$291,500**
3 B	June 2021	Alpha Beta Test: NTG Student Edition. With the classroom environment and teacher approach to utilizing MBE solidified, NTG will design, deliver and test a modified version of our Science of Study micro-course, utilizing the same process as the original pilot project.	Development Cost: Administrative Cost: **Total 3B Cost:**	$50,000 $264,500 **$314,500**
3 C	December 2021	Pilot Launch: NTG Student Edition. NTG will pressure test the initial pilot project along with two additional micro-courses, with 500 to 1,000 students and partner with Johns Hopkins University to conduct pre- and post-efficacy tests.	Development Cost: Administrative Cost: **Total 3C Cost:**	$20,000 $264,500 **$284,500**

Total	Oct. 2018 - Dec 2021.	Phase 1A - Phase 3C build, training evaluation and staffing and administrative costs	Development Cost: $658,000 Administrative Cost: $1,498,500 Public School Subsidy: $220,000 **TOTAL PROJECT: $2,396,500**

Communications and Resources for Neuroteach Global

Neuroteach Global seeks to enhance teacher impact with MBE Science of Learning. The CTTL believes that teachers and school leaders should use the Science of Learning to teach the Science of Learning. The CTTL has developed the following marketing materials, with more to be designed soon.

https://neuroteach.us/

https://neuroteach.us/faq