

NC STATE

Friday Institute for Educational Innovation

Strategic Plan Framework

2021-2024

Introduction

Since its opening in 2005, the Friday Institute for Educational Innovation has worked to ensure that every child in every school is prepared for their desired future. A part of North Carolina State University's College of Education, we are intently focused on K-12 learning, with an acute awareness of how students are prepared for what follows-- whatever pathway that might be.

Advancing education and ensuring that all learners are prepared to succeed requires a cross-sector team effort. Twenty-first century schools and the systems that manage them are complex, as are the needs of children. By bringing together students, educators, researchers, policymakers, educational professionals, and community advocates, we build collaborations that improve learning for all children.

As part of a research-intensive university community, we operate as an institute, featuring exceptional academic leadership from a range of disciplines. Our work leads us to collaborate alongside engineers, scientists and industry experts that range from software developers to museum professionals. Education lays the foundation for our state's future, and to prepare students accordingly, we must disrupt inequitable systems by engaging stakeholders across sectors to provide students access to future opportunities.

Our emphasis on student learning leads us to articulate what we hope for our students with specificity. We imagine a North Carolina where all children are empowered to succeed in school and in life, such that:

- Race and economic circumstances are not predictors of a child's success.
- All children are resilient and emotionally and intellectually empowered (social and emotional learning) to succeed in school and life.
- Students are prepared with knowledge relevant to the jobs available to them.

Hence, the mission of the Friday Institute: *advancing K-12 education through innovation in teaching, learning and leadership, we bring together students, teachers, researchers, policymakers, and educational professionals to foster collaborations that improve education for all learners.*

The work of the Friday Institute is diverse and multi-faceted — always focused on building human capital and technological infrastructure capacity in education. We equip educators with the latest in research-based knowledge and develop tools to improve their practice. We also provide leadership for broadband expansion with the goal of every household and school in North Carolina having reliable access to the internet. Our strategic framework is undergirded first by clarity about how we work, so we can then

steward the impact we seek.

How We Work

The Friday Institute's position in the educational ecosystem is uniquely defined by our leadership through six core strategies necessary to make certain every child learns. We are an agile and nationally-recognized group of scholars. As leaders in our respective fields, we reach across academic and industry silos to generate informed, practical support for educators and schools navigating 21st century challenges.

The pace of change today, and particularly technological change, demands that the Friday Institute constantly generate new ways of reaching students. Technological advancement generates both new subjects for students to learn and new tools for teachers to use in their classrooms. Whether building resources to teach statistics, creating curricula for nanoscience, or installing virtual reality technology for students to explore a human heart, innovation at the Friday Institute improves learning across disciplines.

Ensuring success in classrooms today also means overcoming barriers that range from access to broadband to the lack of mental health support for teachers and students. Student learning improves when teachers are well-supported by school and system leadership, able to meet students where they are both academically and emotionally, and equipped with proven teaching strategies and necessary resources.

The constant in our approach at the Friday Institute is our focus on *learning*; we support and improve learning through six core strategies:

Research. We conduct foundational research in search of effective classroom practices and solutions to challenges that hinder learning. By identifying evidence-based programs that work for educators and students, the Friday Institute helps schools and systems scale innovative approaches to teaching and learning.

Evaluate. We evaluate programs, curricula, and innovations/technologies to inform effective teaching strategies and ensure that community investments impact the educational ecosystem productively and as intended.

Innovate. We create tools that help teachers evaluate their lessons and decision-makers scale what is working in the classroom. We are particularly committed to innovation in the development of technology and the necessary infrastructure to enable digital learning.

Inform. We inform stakeholders through our research and evaluation practices and

networks so that policy and resources enable progress in pressing issues like access to broadband, STEM education, and literacy education.

Convene Leaders. By bringing together educators, students, practitioners, and policy makers, we ensure best practices and innovation are widely understood, funded, practiced and, when appropriate, scaled across North Carolina.

Build Capacity. We design and deliver high-quality professional development programs that provide educators with support, tools, and structures that help create capacity for innovation across schools, districts, and educational systems.

As part of NC State we “Think and Do” by inviting and challenging others to innovate with us. Informed by cutting-edge research and in collaboration with partners in education, government, and private industries, we empower educators and their students to be forward-thinking learners and leaders. In this manner, we contribute to the social and economic well being of North Carolina and help our schools meet the challenges of preparing students for the global workforce. Sound research leads to informed decision-makers and ideally, to successful implementation that provides teachers with effective resources to ensure that every student learns.

The Impact We Seek

Our mission to improve education for all learners invites endless possible pathways forward. Regardless of our selected strategy, what remains most important is *why* we work: the impact we seek. In 2020, the Friday Institute engaged in a comprehensive, strategic re-visioning process that focused our work on three key areas of impact:

1. Cultivate equity in education through equity-mindedness;
2. Amplify teaching and learning through technology; and
3. Increase capacity for innovation(s) throughout education systems.

For each impact area, our strategies remain consistent. We research, find, or grow effective teaching practices that are evidence-based; we evaluate innovations and programs to ensure access to and efficacy of practice; we provide leadership in the educational ecosystem as a trusted advisor to inform standards, practices, and policy; and we build capacity to scale innovative practices through convenings and other professional development opportunities.

The Friday Institute has hundreds of projects archived since its founding, some that engage the Institute’s entire range of strategies, and others that may deploy only one or two. Below we share a few examples of our work in each impact area. In most cases, our examples notably serve more than one impact area. Regardless of the chosen path,

the Friday Institute works from its core purpose: improving education for all learners so that every child in every school is prepared for their desired future.

Impact Area 1: Cultivate equity in education through equity-mindedness.

The Friday Institute believes deeply that every child deserves the opportunity to learn and is committed to addressing the barriers that cause inequitable access to education. Barriers to learning sometimes exist in the classroom in the form of implicit bias and underinvestment in schools and resources. Barriers to learning also exist outside the classroom in the form of affordable housing or access to technology, but the impact of those external factors weighs heavily upon the classroom. Recognizing that shaping one's mindset is often the most effective means of creating and sustaining systemic change, the Friday Institute works to foster equity by encouraging equity-mindedness within and around educational systems.

The projects highlighted below respond to barriers in equity and make high-quality, engaging educational opportunities available.

Example 1

Computer Science for All (CS4NC). Computer science opens more doors for students than nearly any other discipline in today's world. In 2017, the United States had approximately 500,000 unfilled tech jobs (jobs that pay 50% more than the average private sector job), and yet, most U.S. high schools offered no computer science courses. As of 2021, only 56% of North Carolina high schools offer computer science courses and mostly at affluent schools; of the schools that do offer computer science, only 40% teach a majority of youth from low-resource communities.

Course offerings are only one part of the challenge; enrollment in the available computer science courses remains over 60% male. Female, Black and Hispanic students continue to be underrepresented in computer courses. Enrollment is often reliant upon guidance counselor recommendations and under-represented students do not see themselves in the teachers or students already enrolled, subjecting students to the assumption that the courses are not for them. In North Carolina's rural communities particularly, students are subject to the assumption that they would not benefit from the computer courses; nor are rural students thought of as candidates for the subject.

To create greater exposure and opportunities for *all* students to explore computer science at school, the Friday Institute is a part of CS4NC, a collective of statewide computer education organizations providing resources for teachers and schools (alongside the North Carolina Department of Public Instruction, computer science

departments at NC State and UNC-Charlotte, the Computer Science Teachers Association, and other entities). The Friday Institute is conducting research and designing learning resources for teachers to support computer science and computational thinking, advising schools and districts interested in a computer science education, and engaging with leaders and policy makers locally and nationally to further understand the barriers to and opportunities in computer science. To encourage a more coordinated statewide effort for computer science education in North Carolina, the Friday Institute convenes statewide leaders through annual CS4NC summits.

Perhaps most directly increasing equitable access to computer education, the Friday Institute is partnering with Code.org to offer professional development for teachers interested in teaching computer education courses. Designed for teachers who may not have taught nor even studied computer science, teachers attend a combination of summer and weekend workshops and networking events to learn the curriculum and secure additional support. The program has trained more than 500 educators coming from a variety of professions across North Carolina.

For both teachers and students, the Friday Institute has created a lower barrier for entry into computer science, while providing a higher potential for achievement. Students who may not perceive themselves, nor are not perceived by others, as future computer scientists are experiencing success and finding life-changing opportunities. More than 100,000 students across North Carolina have had access to computer science courses that they otherwise would not have because of the efforts of the Friday Institute, Code.org, and the other collaborators in CS4NC.

Example 2

North Carolina Mathematics and Science Education Network Pre-College Program (MSEN) at NC State University. At the Friday Institute, we know that students from marginalized communities, both urban and rural, are more likely to attend schools without STEM (Science, Technology, Engineering, and Math) educational resources. The Friday Institute believes students with access to STEM education are better prepared for and more likely to access post-secondary education (two- or four-year college) that results in well-paying, sustainable jobs.

Because of this, the MSEN STEM Enrichment Program became a part of the Friday Institute at its inception in 2005. In 1986, the NC-MSEN Pre-College Program was initiated and developed by a group of African-American, K-12 educators and university faculty from across the UNC System. The program was funded by the UNC System and placed on several campuses across North Carolina, including NC State and UNC Chapel Hill, among others. The program was designed to increase access to STEM for underserved students by offering in-school elective courses, after-school clubs, and out

of school experiences. Saturday Academies, STEM competitions, academic awards recognition programs, and summer opportunities were made available.

With support from a competitive National Science Foundation (NSF) grant, MSEN has expanded the program with the NC State College of Engineering to provide programming to two middle schools in Edgecombe County, serving 120 students in the county over the next three years. In addition, the TEXplore – Summer Enrichment and Saturday Academy Program was launched (with funding from the Burroughs Wellcome Fund and in collaboration with the NC State College of Textiles), to start a Saturday Academy program in Catawba and Gaston Counties. This program will encourage underserved students in grades seven through nine to pursue four-year college admissions to NC State in textile fields.

Since 2010, the program has been a part of numerous grants from the NSF, the BelleJAR Foundation, and the Burroughs Wellcome Fund to grow its service area to include rural counties in northeastern North Carolina, such as Bertie, Edgecombe, Halifax, Northampton, and Warren.

MSEN reaches populations traditionally under-represented in STEM fields; 80% of MSEN students are of African-American, Latinx or Native American descent. MSEN was serving an average of 320 students per year (pre-pandemic) and maintaining a 50:50 male-to-female ratio. Students demonstrate remarkable success: 99% of MSEN high school seniors have matriculated to four-year universities and 80% of MSEN students have chosen STEM and/or STEM education majors.

Example 3

NC Conference for Educational Equity. In North Carolina, like in many school states, 80% of educators are white and 52% of students are people of color. As a result, teachers sometimes don't understand the life experiences of their students and students struggle to see themselves in educators who don't look like them. In an effort to intentionally examine the intersection of race, ethnicity, gender, and inequality, the Friday Institute launched a series of conferences designed to increase equity-mindedness by providing educators an opportunity to talk and exchange experiences and ideas about equity.

In 2020, the Friday Institute began hosting an annual conference focused on building capacity for equity-mindedness by bringing educational leaders together. The first NC Conference on Educational Equity provided stakeholders with an opportunity to rethink current practices and develop a deeper understanding of differing perspectives that contribute to inequity in education. The second annual North Carolina Conference for Educational Equity focused on examining districtwide practices, community-based

programs, school policies, and classroom procedures designed to create more equitable learning and life outcomes for students.

Attendees left with an understanding of what they can do as educators – in their school, in their community, and in their district – to identify and dismantle structural inequality and ensure each and every student has an equal opportunity for success.

Participants shared their lessons, resources, and ideas with one another online – amazed by what they learned about their students and a system they thought they knew so well. Leaders recognized that they must work through their own personal trauma before schools can create a trauma-informed community. Of the 2,600 educators participating:

- 52.8% of participants registered for five or more sessions, and
- 89.4% were interested in learning more about equity and African-American students.

Participants expressed a renewed commitment to and interest in using resources to connect with students who are falling behind.

The third NC Conference for Educational Equity will be held in July 2022.

Example 4

North Carolina At-Home Learning Initiative. In the spring of 2020, the COVID-19 pandemic closed schools across the nation and the educational ecosystem was forced to adapt, seemingly overnight, to a new way of teaching. Online teaching was the only option for public school districts and in North Carolina, 16.9 million public school students lacked access to a stable internet connection, rendering online school impossible. In response, the Friday Institute developed innovative strategies to address the inevitable learning gaps for students without an internet connection.

The Friday Institute responded immediately by partnering with PBS North Carolina and the North Carolina Department of Public Instruction (NCDPI) to translate math and literacy lessons to a broadcast format, enabling teaching and learning to continue through public television’s statewide delivery system. The Friday Institute understood the need to keep learners engaged despite a different model of teaching and collaborated to develop a cost-effective alternative to learning online for those without internet access.

The Friday Institute surveyed more than 600 principals, teachers, and families to develop literacy and math lessons for PreK - 5th grade students. Developed collaboratively, the curriculum aligned with appropriate learning standards and the

science of reading framework. Users shared important feedback: focus programming on increasing student engagement by offering opportunities for social and emotional learning and present content with teachers who “look like me.”

A total of 192 ten-to-twelve-minute lessons aired twice weekly in English and Spanish. In addition to lessons aired on PBS-NC and YouTube, lesson plans and related extension activities remain available at GoOpenNC.org. Lessons are not dependent upon one another, and therefore can be used at a student's own pace.

Importantly, the lessons provide a model for delivering education over broadcast, which in turn serves as a new platform for teaching. Other colleges of education are looking to this content as an example of how to teach through television. Continuing adaptations include airing educational materials over the summer months to address learning loss. Over the course of the pandemic year, 82,357 households visited 42,000 pages on the At-Home Learning Initiative website. As of September 2021, there has been a total of 77,954 views during weekday hours of the At-Home Learning Initiative Programs.

When the pandemic hit, the Friday Institute and its partners recognized that the need to adapt the traditional educational paradigm was most urgent for those living in traditionally marginalized communities. By creating the opportunity to engage with families and students through broadcast methods, in multi-languages, the cross-sector team was able to provide a platform for engagement that was accessible to all. Finally, while the innovation was a result of responding to a pressing need during the pandemic, its application has long-range possibilities for success.

Impact Area 2: Amplify teaching and learning through technology.

The Friday Institute is committed to using technology to support the ever-changing needs of children and their teachers. Emerging technologies can improve classroom learning but do not always have the impact sought; effective research and evaluation by the Friday Institute will inform policy makers, as well as community and school leaders, so that they adopt technology that works, avoid wasteful expenditures, and reach learners with new *and* impactful technology. Where tools may be lacking or absent, the Friday Institute will create or design the educational supports from scratch.

Example 1

ESTEEM Project. Prospective math teachers rarely have sufficient exposure to statistics content and pedagogy as they are preparing to become teachers. Most statistical concepts are crammed into an already packed secondary mathematics teacher education curriculum by professors who are often under-prepared to prepare future educators on how to teach statistics. The Enhancing Statistics Teacher Education

with E-Modules [ESTEEM] project provides technological and curricular resources, faculty networking experiences, and ongoing faculty support to assist faculty in preparing undergraduates studying to become middle and high school math teachers. The ESTEEM project addresses three primary goals.

1. Create online resources for statistics preservice teacher education,
2. Design modules and approaches for using these resources, and
3. Implement resources and modules in undergraduate mathematics education teacher education programs.

In order to make the educational materials widely available without barriers, the ESTEEM materials were designed using technologies that are free and web-based. The materials were designed for use with preservice middle and secondary mathematics teachers in online environments with opportunities to adapt to face-to-face or hybrid courses, or with other teacher audiences.

A key result of the ESTEEM project, pre-service secondary mathematics teachers are better equipped to teach statistics with online tools. Better prepared teachers will lead to increased statistics and data literacy for students in grades 6-12, feeding the pipeline into data-intensive STEM disciplines. In addition, the Friday Institute is partnering with the Concord Consortium to support ongoing enhancements to the statistical software CODAP (Common Online Data Analysis Platform), a free, web-based data tool designed as a platform for developers and as an statistics application for middle, high, and college-aged students. Software developers incorporate feedback received through ESTEEM; the enhancements made to CODAP's statistical capabilities will be immediately available to subsequent projects that make use of it, thus broadening CODAP's impact and improving a key technological resource for teachers and students.

Example 2

InSTEP: Invigorating Statistics Teacher Education Through Professional Online Learning. In order to prepare students who are data literate and ready to pursue careers requiring data science and statistics skills, current math teachers need to effectively integrate data experiences into an already packed mathematics curriculum, even as they feel under-prepared to do so. Scholars at the Friday Institute developed InSTEP in partnership with RTI International to design and deploy a personalized online learning platform to support teachers as they grow their expertise in teaching statistics and data science.

When complete, the InSTEP platform will contain online resources and tools to

support preparation of secondary mathematics teachers and enhance the learning and teaching of statistics and data science in grades 6-12. The program will also observe how teachers use the resources, individually and within an online professional network, working to support more effective use of the statistics tools and resources. Supporting teachers through three essential functions, the InSTEP platform and learning experience:

- Allows teachers to personalize their own learning to meet their professional needs through customized recommendations and collaborative spaces.
- Builds skills in data investigations and innovative teaching approaches based on the practices of data professionals and research on students' learning with data.
- Expands their professional collection of resources and technology vetted by experts in statistics and data science education.

Example 3

Rural Home Internet Access Pilot. Technology cannot enhance learning where there is no reliable access to internet service. Between 10 and 30 percent of students across North Carolina lack internet access, either because families cannot afford the service or because service is simply not available in their county.

The Friday Institute, engaged by the NCDPI, launched the Rural Home Internet Access Pilot Program to test and recommend emerging wireless technologies to address North Carolina's internet access gaps. Approximately 200 families are participating in the pilot, providing qualitative data about connectivity quality and speed that will inform public and private funding and strategy decisions. The pilot is testing three technologies: Low Earth Orbit (LEO) satellite internet access via SpaceX Starlink, Television Whitespace (TVWS), and cellular technologies using Citizen Broadband Radio Service (CBRS).

One conclusion is evident: there is no one-size-fits-all solution for North Carolina's dispersed communities. Lessons learned to date include:

- Fiber isn't always the answer. SpaceX Starlink is easily installed and offers high speed but is the most expensive.
- TVWS adds one extra frequency band and is well suited for homes that are several miles away from a tower, and or when signals pass through thick foliage.
- CBRS, or cellular technology, promises to allow an organization or business to own and operate a private cellular network. A unique opportunity for public-private partnerships, a private cellular network can offer solutions beyond educational access like telehealth.

By testing technologies to meet the challenges of rural home connectivity, the Friday Institute pilot study provides a successful first step toward securing internet access for every student. Submitted to the NCDPI, the report is available for consideration by policymakers, private providers and any other stakeholder concerned about rural internet access. The pilot has also highlighted other challenges to internet access, such as the absence of a labor force with the skills to install wireless technologies in rural parts of the state. Collectively, the Rural Home Internet Access Pilot is informing this state's decision makers toward broadband internet access for every student in North Carolina, regardless of zip code.

Example 4

Innovations in STEM Education Research. The Friday Institute hosts a team of leading education researchers dedicated to projects that advance teaching and learning in STEM subjects, either through technology directly or through wider scientific engagement in partnership with other organizations.

Using *zSpace*, an innovative virtual reality technology, the Friday Institute created and implemented a variety of science lessons in Vance County, North Carolina. Students have held a beating human heart in their hands and explored the Arctic Ocean through an undersea adventure without ever leaving their desk. Virtual reality allows students to explore concepts in three dimensions that are hard to imagine from a picture on a piece of paper. Students can also test experiments in virtual reality without the fear of failure associated with real-time experiments. The technology is also particularly engaging for historically underserved groups in science: students for whom English is their second language, students with disabilities, or students whose cultural or religious beliefs render some scientific experiences unavailable.

The pandemic posed particular challenges for teachers and students in terms of engagement and motivation. Another team of educators and researchers used a day-long virtual workshop to see how they could use a sense of awe to increase students' motivation and interest in science. Current research about awe suggests that in addition to increasing motivation, it increases curiosity, enhances memory, and improves science reasoning. Research also demonstrated that a sense of awe can provide comfort in times of uncertainty. That experiences invoking a feeling of reverential respect mixed with fear or wonder can increase a students' sense of comfort is a particular benefit amidst the stress of the pandemic.

In order to address the challenge of finding qualified science teachers, a struggle for 41% of North Carolina schools, the Friday Institute recently explored the influence of museum volunteer opportunities upon high school students' career interests. The 21

participants all enrolled as a museum volunteer because of an interest in science or animals, but 55% of the high school volunteers left the program with an increased desire to teach in a K-12 setting.

The Friday Institute previously partnered with museums for its FAME Program, researching how families and museums together can help more children become scientists. The program targeted 60 third- and fourth-grade students and their families, engaging them in museum programs focused on STEM subjects monthly for one year. In addition, programming included STEM professionals from the community and take-home, hands-on science activities.

Students enrolled in FAME increased their participation in science-related projects at home and indicated that they saw science as important to their future more often than they did prior to the program. The program not only impacted the students targeted; three parents in attendance changed their career to a STEM field, and an older sibling who had a learning disability and was struggling with science in school earned the principal's science award following his participation in the program.

Impact Area 3: Increase capacity for innovation(s) throughout the education systems.

It is no secret that schools today operate under a system designed for a different era and a different economy. If our children are to succeed in a rapidly advancing world where new technologies abound, our schools and school systems must innovate and adapt. The Friday Institute is committing resources, research, and a wealth of partnership efforts to support educators via innovative strategies for teaching and learning in real-time. We convene stakeholders toward implementation and scale for initiatives worthy of further investment.

The Friday Institute is uniquely positioned to build capacity for innovation due to its ability to quickly respond to pressing needs. There is perhaps no better example of this than during the pandemic: the entire educational system was forced to adapt to a new method of virtual teaching, seemingly overnight. The agility of the Friday Institute enabled their immediate response, providing educators with the innovative tools and support needed to teach online effectively.

Example 1

Online Professional Learning. The Friday Institute hosts a collection of online professional learning opportunities for teachers. Topics vary, but the consistent goal is to meet the ongoing and ever-changing needs of teachers in a manner that is

accessible both logistically and in terms of content: breaking complex subjects into workable chunks of information and delivering that content to teachers on a feasible timeline given their time-constrained world.

Importantly, the Friday Institute responds quickly when necessary. At the beginning of the pandemic, educators were asked to remake their lesson plans for a virtual learning environment in literally a week or less. The Friday Institute partnered with the NCDPI to offer professional support for the transition from in-class learning to virtual learning. Over the course of six weeks, the Friday Institute offered sixty-one sessions across eight focus areas and engaged more than 13,500 educators.

The Friday Institute can also adapt existing courses to meet new demands. During the pandemic, its Social and Emotional Learning (SEL) course experienced significant growth in enrollment owing to the social and emotional stress facing students; however, teachers faced extremely limited time to participate. To support teachers, the Friday Institute extended the timeline for the SEL course and now keeps the course open for an entire school year instead of a traditional four-month semester. While a whole child approach has been advocated for more than a century, the new understanding by educators that SEL learning forms the *foundation* for academic success is replacing old thinking that SEL learning is less important than academic subjects, changing a teachers' approach in the classroom. The Friday Institute is helping teachers reach students during an exceptionally challenging period through improved understanding of SEL practices, while simultaneously extending the availability of the SEL course for teachers in need of additional time.

Another course attracting the attention of teachers focuses on learning differences. That there is no such thing as an “average” student requires a shift in mindset about how we approach our students. Stress is like a frying pan for executive center function; students thought to be disorganized before the pandemic will likely struggle even more during high-stress periods. A mindset that helps teachers see executive function as a skill rather than a talent will help teachers reach students even in the midst of their most challenging school experiences, leveraging their strengths rather than focusing on their weaknesses .

Whether building capacity for new teaching methods like virtual learning, or sharing a new understanding and framing of knowledge thought to be understood, the Friday Institute's online learning opportunities provide teachers access to experts and space to adapt their classroom practices. Online courses are effective, free of charge, and open to anyone.

In the surveys that followed the SEL course, nearly half of teachers reported that they shared content learned in the course with someone **outside** of the course; the Friday

Institute is reaching teachers *and* their professional communities through its online course offerings with its thoughtful, flexible, and adaptable approach.

Example 2

Digital Transformation. Even before the pandemic, NCDPI recognized the important role that technology and innovation could play in North Carolina’s classrooms. The Friday Institute responded by working in collaboration with policymakers, education leaders, practitioners and other partners across the state to develop the North Carolina Digital Learning Plan.

The Digital Learning Plan developed a long-term strategy and recommendations for state actions to guide and support K-12 schools in their transitions to digital-age education, including legislative strategies to secure funding for teacher preparation and digital resources. Ensuring access to technology in all schools requires access to broadband, software systems, and other digital resources. The North Carolina Virtual Public School expands access to curricula not always available at every school. All together, districts and schools across the state are now deeply engaged in wide-ranging, innovative digital learning initiatives.

Once the plan was complete, the Friday Institute was called upon to support teachers’ implementation of the plan. The Friday Institute supported and launched initiatives, such as the NC Digital Leaders Coaching Network, Professional Learning and Leading Collaborative, and Instructional Principles for Remote Teaching and Learning, to support a statewide transition from textbook to digital. These and other initiatives grew digital learning capacity throughout North Carolian’s school districts, as demonstrated by the following results:

- 62% of districts were rated as “advanced or on target” for progress on indicators like Access to Digital Content, Student Centered Learning and Learning Management Systems.
- 57% of educators identified as using digital technology in the classroom, up from 29%.
- 44% of teachers attended professional development opportunities focused on digital learning, up from only 19% before the plan.
- 33,000 educators have accessed the #GoOpenNC educational resource platform highlighted in the North Carolina At-Home Learning Initiative summary, Impact Area 2.

Outcomes for educators participating in the Friday Institute's professional learning programs included:

- 92% of educators surveyed reported that the program changed the way they thought about digital teaching and learning.
- 89% said that the program helped them integrate digital teaching and learning practices.
- 95% reported that the program helped them make decisions that impacted students in a positive way.

Example 3

Global and Cultural Responsiveness: Project-Based Inquiry Global (PBI Global).

PBI Global provides a mechanism for young people to examine global challenges on local, regional, national, and international levels through an inquiry process. Students ask compelling questions; gather and analyze sources; synthesize evidence; evaluate and revise; and then share and publish their work and act upon it. Through PBI Global, the Friday Institute is reaching students across the United States and beyond through projects in Kenya and Belize, as well as ongoing work in China.

Used in conjunction with the 17 United Nations Sustainable Development Goals (SDGs, adopted by all UN member nations in 2015 as a path to worldwide peace and prosperity), PBI Global provides a framework to guide teachers and students through the inquiry process to address the SDGs. Culturally responsive principles guide both Friday Institute team members' positionality as researchers and practitioners and our pedagogies (how we teach). We approach all people and cultures with respect, acknowledging, responding to, and celebrating the norms, beliefs, and behaviors that are passed down from one generation to the next.

In some cases, the Friday Institute invites students from different schools to engage in PBI Global together. Students from a rural high school, Person Early College for Innovation and Leadership, joined forces with students from an urban high school, Wake STEM Early College High School, for a project to study clean water and sanitation challenges (SDG Goal 6: Clean Water and Sanitation).

Additionally, in 2017, the Friday Institute traveled with a group of students and teachers from Wake STEM Early College to China, partnering with students and teachers at Suzhou North America High School to investigate and take social action on the challenges of global migration, particularly for refugees. Students from both schools found the challenges of migration to be particularly salient. In China, mass internal movement of people from rural to urban spaces continues to present documentation, resource, and equity challenges. For some of the U.S. students involved in this PBI Global, the issue of migration hit close to home as they or their parents immigrated to

the U.S. Working in small groups composed of students and coaches from each school, their shared perspectives provided a foundation for this PBI Global experience. One teacher noted, “PBI Global has changed the way we learn, it changed the way I have taught, and it will change the way my students will live forever.” In the words of a student, PBI Global “really inspired me. I want to go to every single country now, not only just to visit; I really want to figure out ways to change the world for the better.”

Through PBI Global, the Friday Institute seeks to build teachers’ capacity to innovate through an inquiry-to-action cycle grounded in enduring global challenges. Teachers using PBI Global are, in turn, empowering students to change the world from their own backyard, wherever that may be. Since 2006, more than 3,000 teachers around the world have participated in a PBI Global project.

In Conjunction with NC State’s Strategic Plan

Importantly, the Friday Institute’s work toward its three key impact areas supports, expands, and extends NC State’s strategic plan goals. Through the Friday Institute’s examples herein, the university is empowering students for a lifetime of success – both university students touched by the Friday Institute’s work and the K-12 students across our state for whom learning is improved and enhanced through the Friday Institute’s mission.

The work of the Friday Institute, by definition, expands and advances the university’s service to the state’s citizens, and does so through a multitude of collaborative research efforts that increase scholarship and innovation in the service of improved learning for our K-12 students. With several nationally recognized and honored research fellows, NC State is known through the Friday Institute’s projects both across the country and around the world. With a key focus upon increasing equity in education through equity-mindedness, the Friday Institute deploys projects that encourage and instill a culture of equity throughout the Institute and with its partners.

So That All Learners are Prepared to Succeed

At the Friday Institute, we think creatively and act thoughtfully to improve educational outcomes for all learners. Since 2005, a multitude of projects demonstrates our commitment to *Think and Do*, but student learning is the common motivating force behind all of our work. We work across sectors and silos, with elected officials and local educators, software developers and engineers.

Whether our strategy is research, evaluation, innovation, or professional development, we must ensure that every student is prepared for a relevant future that they desire. That future is assuredly impacted by technological advancement, but also by barriers to

educational success that require urgent attention. Our three impact areas guide our efforts today: the Friday Institute is committed to increasing equitable access to education through equity-mindedness, enhancing teaching and learning through technology, and growing the capacity for innovation within each aspect of our educational systems.

Signature Friday Institute Events/Award

- Friday Medal Award Ceremony (annual)
- National Advisory Board Meeting (annual)
- Friday Institute Graduate Student Research Fellow Awards (annual)
- Friday Institute Cross-Talks (monthly)
- NC Conference for Educational Equity (annual)
- Exploring Next-Generation Education Webinars (6 per year)
- College of Education Partnerships - Catalyst Grants, Friday Institute Fellows (annual)
- New Initiatives for 2022 with Policy Briefs
 - PreK-12 Literacy and Equity Summit (January 19, 2022)
 - North Carolina LatinX Educator Convenings (January-May 2022)