

## Frederick County Public Schools: Teachers as Ambassadors for the Learning Sciences

Frederick County Public Schools (FCPS) is a growing suburban district located just outside of the nation's capital. FCPS leaders are committed to improving the outcomes of all students by building teachers' capacities to implement evidence-based instructional strategies. This sentiment is reflected in Goal 2, Priority 4 of the districtwide strategic plan, which states, because "research repeatedly demonstrates that great [teachers] drive better outcomes for students," district leaders "will support all staff by providing ongoing opportunities to grow as professionals throughout their career."<sup>11</sup> Aligned to this goal, the FCPS central office features the Office of Advanced Academics. Margaret (Meg) Lee, a district advocate for classroom practices informed by the learning sciences, leads the Office of Advanced Academics. Lee's team of advanced academic specialists, stationed amongst FCPS elementary and middle schools, have traditionally provided job-embedded, ongoing professional learning opportunities for teachers of high-achieving students.<sup>12</sup>



Lee recognized that by focusing solely on the high achievers, her office could be overlooking historically underserved student groups and unintentionally widening the district's achievement gap. For example, on state assessments, lower percentages of black students, Hispanic students and students qualifying for free or reduced-priced lunch achieved proficiency compared to other subgroups.<sup>13</sup> Given her previous roles as both a teacher and administrator at the district, Lee understood that FCPS students capable of high-level learning may be inhibited by often invisible factors, including poverty, discrimination or cultural barriers. On the Office of Advanced Academics webpage, FCPS echoes Lee's

<sup>11</sup> Alban, T. (2018). *Maryland's reform plan bridge to excellence in public schools: 2018 master plan update*. Frederick, MD: Frederick County Public Schools. Retrieved from <https://campussuite-storage.s3.amazonaws.com/prod/33903/86de7fb0-3a18-11e6-b537-22000bd8490f/1683009/c4db909e-f7bd-11e7-a3ce-0a1f57555670/file/ProgressReport29Vol1.pdf>

<sup>12</sup> Frederick County Public Schools (FCPS). (n.d.a). *Advanced academics*. Retrieved from <https://www.fcps.org/academics/advacademics>

<sup>13</sup> Maryland State Department of Education (MSDE). (2018a). *Frederick County: MCAP*. Retrieved from <http://reportcard.msde.maryland.gov/>

thoughts regarding environmental factors that impede learning, writing, “‘giftedness’ is not a static trait, labeling a student ‘gifted’ or ‘not gifted’ can be problematic and inaccurate.”<sup>14</sup> Thus, to equitably serve all students and bring out their individual potentials as high-performing learners, it was necessary for both FCPS leaders and teachers to understand how to properly nurture students’ executive functions by using evidence-based classroom strategies grounded in the learning sciences.<sup>14</sup>

Lee also had the support of Keith Harris, executive director for the Department of Accelerating Achievement and Equity, which encompasses the Office of Advanced Academics. As a district leader whose role is to oversee efforts to provide special education, English learner, cultural proficiency and psychological services, Harris is dedicated to supporting the academic, social and emotional growth of all FCPS students to ensure they are provided with the knowledge, skills, abilities and experiences necessary to become empowered lifelong learners.<sup>15</sup> Like Lee, Harris believed that to eliminate achievement gaps, classroom instruction must be grounded in the learning sciences.

### **Leveraging Existing Resources**

Lee acknowledged that this endeavor to build FCPS teachers’ and leaders’ proficiency in the learning sciences would not be successful at scale if it became an entirely new districtwide initiative. Such efforts would require significant financial and human capital commitments, and add onto FCPS teachers’ demanding workloads. Therefore, the Office of Advanced Academics was challenged with leveraging existing district structures and driving the largest achievable change with limited resources. To Lee, it became clear that leveraging the advanced academics specialists, who were already influencing professional learning and curricula, was the most logical course of action. Although FCPS does not have enough advanced academics specialists to be stationed in every school, by training them on key findings and principles from the learning sciences, they could, in turn, translate the principles into actionable lesson plans and instructional strategies and ultimately communicate those practices to the broader audience of FCPS principals and teachers.<sup>14</sup> The question now became: Which experts in the learning sciences would make this work possible?

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<sup>14</sup> M. Lee, personal communication, August 30, 2018

<sup>15</sup> Frederick County Public Schools. (2016). *Accelerating achievement and equity*. Retrieved from <https://www.fcps.org/centraloffice/accelerating-achievement-and-equity-summary>

## Forming Strategic Partnerships

At the 2016 Learning and the Brain Conference in Boston, Massachusetts, Lee met the keynote speaker Glenn Whitman, director of the Center for Transformative Teaching and Learning (CTTL) at St. Andrew's Episcopal School in Potomac, Maryland, and learned about the 2017 Science of Teaching and School Leadership Academy. Hosted by CTTL, this week-long summer program would offer educators an opportunity to develop their knowledge about the learning sciences and translate the research into actionable classroom practices. With grant funding from CTTL's partnership with the Ford Foundation, as well as FCPS' budget for travel logistics, FCPS entered into a three-year agreement with CTTL. Every summer from 2017 to 2019, Lee would send two teams of middle school educators and several advanced academics specialists to the Science of Teaching and School Leadership Academy. The district's senior leadership also saw value in this partnership, and the FCPS deputy superintendent, accompanied by Harris and other executive directors from various departments — school leadership, curriculum and instruction, and assessment and accountability — volunteered to attend the academy as an additional district team.<sup>4</sup>

In February 2019, Lee expanded her district's partnership with CTTL by enrolling a cohort of 28 teachers and six administrators in the [Neuroteach Global](#) program, a series of microcourses about the learning sciences supported by ongoing online coaching sessions. To sustain the engagement of district leadership, Harris also participates in this program. A second cohort of 60 teachers will enroll in summer 2019.<sup>16</sup>

## Enabling Policies

Several district policies that recognize and reward teachers for participating in professional learning programs served as critical enablers of the FCPS-CTTL partnership. First, district leaders conducted a crosswalk between the district's teacher evaluation system and CTTL's programs and found a natural fit between the two. Grounded in Charlotte Danielson's [Enhancing Professional Practice: A Framework for Teaching](#), the FCPS teacher evaluation system places a strong emphasis on professional learning, encouraging teachers to "select a goal area and to explore in depth new ideas/interests ... to refine teaching skills and to promote professional growth and student achievement."<sup>17</sup> Therefore, teachers participating in Science of Teaching and School Leadership Academy or Neuroteach Global could be assured that their experiences will reinforce annual evaluation scores.

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<sup>16</sup> M. Lee, personal communication, January 25, 2019

<sup>17</sup> Frederick County Public Schools (FCPS). (n.d.b). *Teacher evaluation*. Retrieved from <https://campussuite-storage.s3.amazonaws.com/prod/33903/86de7fb0-3a18-11e6-b537-22000bd8490f/631232/4403273e-7493-11e6-904b-22000bd8490f/file>

Second, according to the Maryland State Department of Education, the state suggests that professional learning opportunities be aligned to the Council of Chief State School Officers' (CCSSO) InTASC Model Core Teaching Standards. The learning sciences are a key component of the InTASC Model Core Teaching Standards,<sup>18</sup> calling upon educators to understand “how cognitive, linguistic, social, emotional and physical development occurs, with the recognition that learners are individuals who bring differing personal and family backgrounds, skills, abilities, perspectives, talents and interests.”<sup>19</sup> Therefore, FCPS teachers participating in CTTL’s programs may apply for Maryland’s continuing education units (CEUs), which supports their relicensure.<sup>20</sup>

Lastly, Lee is currently in the process of working with the district’s professional learning department to develop a series of three microcredentials that FCPS teachers can earn upon completion of professional learning activities and subsequent demonstration of implementing evidence-based practices grounded in the learning sciences in the classroom.<sup>16</sup>

### **Impact of Professional Learning**

Lee describes that the Office of Advanced Academics’ stakeholders, including school administrators, teachers and students, have been largely receptive to professional learning on the learning sciences. For example, FCPS staff who attended the 2018 Science of Teaching and School Leadership Academy recently presented a session about cognitive load to several FCPS principals. During that session, principals brainstormed some of the strategies that they employ in their own day-to-day work to reduce their cognitive load. Principals also discussed how students at their respective schools — especially those struggling with multi-step tasks — could benefit from being explicitly taught strategies to reduce working memory demands, such as breaking a larger problem into smaller steps or using a graphic organizer to make connections to prior knowledge. Furthermore, principals developed action plans to include discussions on student cognitive load in their teacher observation and feedback procedures.<sup>20</sup>

Teachers who received training on the learning sciences from the advanced academics specialists have reported feeling encouraged to know the reasons behind effective practices they used in the past. In the future, they look forward to replicating these effective practices and mitigate strategies not in line with current findings in the learning sciences, such as identifying and catering to students’ “learning styles.” Lee elaborated that, “Our teachers are excited and asking for more information ... to know that what

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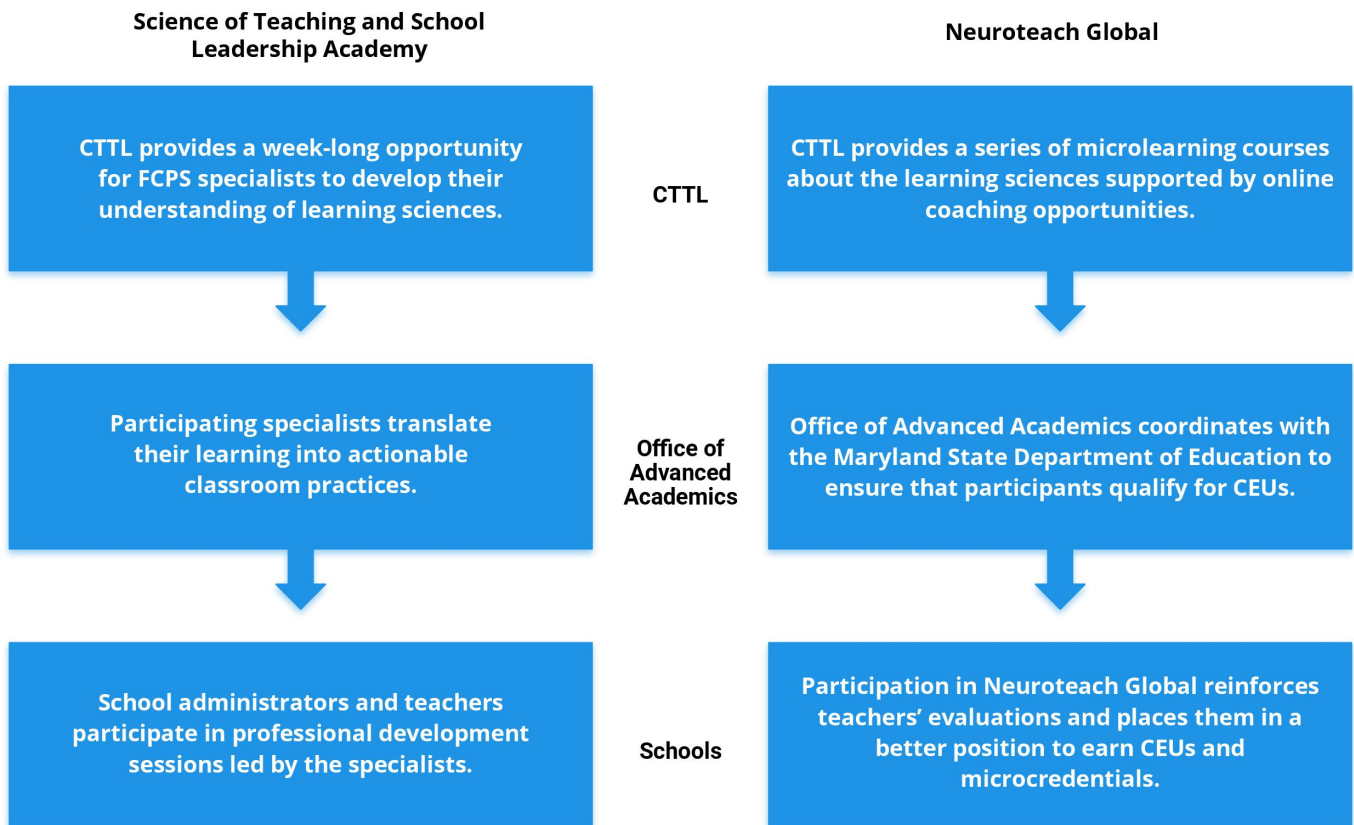
<sup>18</sup> Maryland State Department of Education (MSDE). (2018b). *Continuing professional development manual*. Baltimore, MD: MSDE. Retrieved from <http://marylandpublicschools.org/about/Documents/DEE/ProgramApproval/CPDMANUALRevisedMarch2019.pdf>

<sup>19</sup> Council of Chief State School Officers (CCSSO). (2013). *In TASC model core teaching standards and learning progressions for teachers 1.0*. Washington, D.C.: CCSSO. Retrieved from [https://ccsso.org/sites/default/files/2017-12/2013\\_INTASC\\_Learning\\_Progressions\\_for\\_Teachers.pdf](https://ccsso.org/sites/default/files/2017-12/2013_INTASC_Learning_Progressions_for_Teachers.pdf)

<sup>20</sup> M. Lee, personal communication, October 18, 2018

they're doing is optimized for learners is exciting to them." Finally, students have been observed to be more engaged in their classrooms through exposure to active learning opportunities. For example, after noting that effective learning occurs in the transition between modalities, teachers have pushed students to represent the materials they have learned in a variety of ways. Lee explained, "[In our district], if [students] read about it, they need to talk about it. If they watch it, they need to write about it. If they talk about it, they need to act it out."<sup>20</sup>

## FCPS-CTTL Partnership Structure



## FCPS in 2029

Several challenges still remain in the way of FCPS sustaining professional learning opportunities. Lee described that funding the partnership with CTTL has not been the easiest barrier to overcome. To work around this challenge, Lee worked with CTTL to acquire additional grant funds that would support spring and summer 2019 Neuroteach Global cohorts. Lee is also looking to further incentivize teachers to participate in Neuroteach Global. Currently, Lee is discussing with local institutions of higher education about the possibility of offering graduate credits to teachers who complete the program.<sup>20</sup>

Although such challenges remain to be solved, Lee believes that professional learning on the learning sciences is a worthwhile experience for FCPS teachers and will have a lasting positive impact on the district's achievement gap. Her vision for FCPS 10 years down the road consists of all students, regardless of background, taking ownership of practices informed by the learning sciences (i.e. students engaging in the practices automatically without explicit teacher input) and teachers keeping up with the latest research in the learning sciences to continuously refine their instruction. Lee stated, "There is not a silver bullet to achievement gap, but [the learning sciences are] a small step that can contribute to closing it."<sup>20</sup>



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