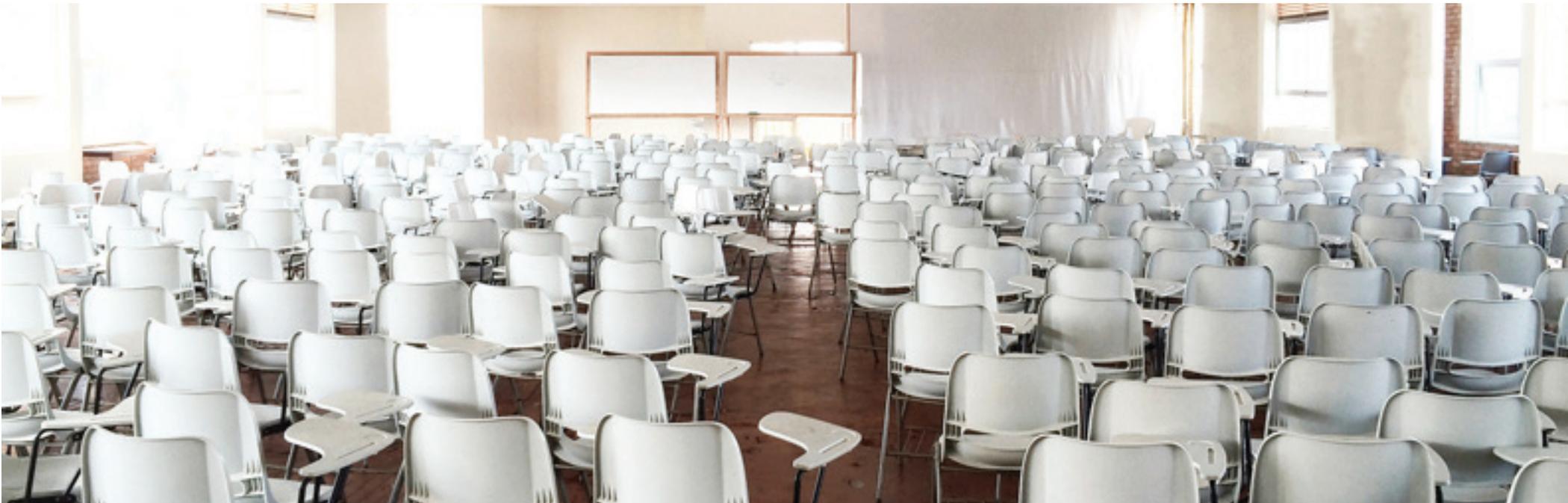# STARTUP TEACHER EDUCATION:

A Fresh Take on Teacher Credentialing

BY THOMAS ARNETT

EXECUTIVE SUMMARY

As education reformers across the country are working to improve student outcomes at scale, many are focusing on improving the teaching force. This case study describes how three groups of charter management organizations—High Tech High in San Diego; Uncommon Schools, KIPP, and Achievement First in New York; and Match Education in Boston—created their own teacher certification and master's degree programs after concluding that the teachers who graduate from most traditional teacher education programs lack the skills needed to teach successfully.

The greatest common obstacle in creating these programs was navigating state policy and accreditation requirements. These requirements vary by state and accreditor and affect the time and effort required for new teacher education programs to be approved. They also heavily influence the program features an institution must adopt, the start-up costs, and the cost structure of a program once it is fully implemented. Any new program should therefore begin by investigating the requirements specific to its region.

In states and regions where the authorization and accreditation processes are lengthy and demanding, program founders need to develop a clear strategy and timeline. They also need to work early to foster strong relationships with others in the field who can offer guidance and generate support for their work. All programs will likely face some challenges in reconciling innovative program models with complex state regulations, which are typically designed to ensure compliance with traditional approaches.

Another common challenge is creating a sustainable business model. Program founders need to articulate a clear understanding of the teachers and schools they are serving, what value new program offerings are providing, and how to provide this value in a sustainable way. Additionally, new programs need to be thoughtful about how their staffing, facilities, scale, and accreditation status will affect revenues and cost structures. Nontraditional approaches to teacher education—such as sharing resources with K–12 schools and adopting innovations in online competency-based learning—can help lower operational costs. These features, however, can also make program approval and accreditation more challenging.

By tracing the development of these programs, this case study explores the benefits and challenges that schools face when creating their own teacher certification and master's degree programs. The study also provides recommendations for schools looking to launch similar programs.

> The largest common obstacle for these programs was navigating state policy and accreditation requirements.

INTRODUCTION

In 2000, Larry Rosenstock, the founder and CEO of High Tech High, a San Diego-based charter management organization (CMO), found himself confronting a major hiring problem. He was working to launch the first High Tech High charter school and had determined that many of the teachers should be industry experts, such as PhD-level engineers and accomplished artists. This nontraditional approach to staffing was key to the school's design, as Rosenstock planned to center the school's curriculum on projects with real-world relevance. But before the school opened, a new state law took effect requiring charter schools to hire credentialed teachers.[1] In effect, the law would prevent him from hiring the types of teachers he wanted to staff his school. If High Tech High were to succeed, he would have to find a way to reconcile state regulations with his innovative school model.

Rosenstock's challenge is not unique. One of the purposes of the charter school movement is to give schools freedom so that they can experiment and develop new approaches to teaching and learning. But although many charter schools have successfully developed their own philosophies, pedagogies, and forms of governance, some have found it difficult to find teachers to hire whose philosophies and methods are aligned with theirs.

In response to this problem, a handful of CMOs have created their own programs for educating teachers, granting teacher certifications, and awarding master's degrees in education that are currently separate from programs at traditional colleges and universities. This case study describes how three groups of CMOs—High Tech High in San Diego; Uncommon Schools, KIPP, and Achievement First in New York; and Match Education in Boston—worked through regulatory hurdles and business model challenges to create their own teacher education programs.

> The three graduate schools provide practical, skills-based training that integrates formal instruction with school- and classroom-based experience.

HIGH TECH HIGH

	Intern Program	Induction Program	MEd Program
Year founded	2004	2007	2007
Reason for starting program	Provide newly hired teachers a pathway toward a Preliminary Credential aligned with High Tech High's methods and philosophy	Provide teachers an Induction program to obtain a Professional Clear Credential aligned with High Tech High's methods and philosophy	Improve the teaching and leadership practices of experienced educators; develop innovative practices to inform teacher education reform; prepare and develop school leaders
Target students	Teachers who enter the profession without first completing a teacher preparation program	Teachers with Preliminary Credentials who need renewable Professional Clear Credentials	Educators with at least 3 years experience who want to deepen their teaching practices and develop their leadership skills
Degree offered	None	None	Master of Education Teacher Leadership or School Leadership Concentration
Teacher certification offered	Preliminary Credential	Professional Clear Credential	None
Student Enrollment	~65	~125	~25
Tuition	$5,000 for two-year program	$3,000 for one-year program; $4,000 for two-year program	$25,000 for one-year full-time or two-year part-time program
Program focus	Help teachers meet certification requirements	Help teachers meet certification requirements	Train experienced teachers on reflective teaching practices and educational leadership
Program structure	Two years of coursework, mentorship, and observation while teaching full time	One to two years of professional development and mentorship while teaching full time	One to two years of coursework while employed in an educational setting
Performance-based graduation requirement	Teachers must pass a Teaching Performance Assessment as required by the state of California	Teachers must demonstrate learning through a final project or presentation	Educators must complete projects that demonstrate mastery of program-learning outcomes
Accreditation status	Accredited by the CTC	Accredited by the CTC	Candidate by institutional accreditation from WASC

High Tech High Background

As Larry Rosenstock approached the launch of High Tech High, there did not appear to be a way to hire the nontraditional teachers he wanted and still meet California's new teacher credentialing requirements. The industry experts he had planned to hire to teach the school's project-based curriculum were already taking pay cuts to go into teaching. Asking them to take a year off from employment to complete a traditional teacher education program would be too great a hurdle to make the career switch worthwhile. On the other hand, California's education code allowed new teachers to earn credentials through university- or college-based alternative teacher certification programs that they could complete while teaching full time.[2] But none of the available programs aligned with High Tech High's educational philosophies and project-based curriculum. Rosenstock believed that sending his teachers to one of these programs would be unproductive in meeting his goals.

As Rosenstock wrestled with the issue, he learned of a 1983 California law that allowed school districts, CMOs, and county offices of education to seek approval from the California Commission on Teacher Credentialing (CTC) to operate their own alternative teacher certification programs, called District Intern programs, for non-credentialed individuals who already possessed bachelor's degrees.[3] Through these District Intern programs, participants could earn a Preliminary Credential by completing coursework and mentorship experiences while employed as full-time teachers on a District Intern Credential.[4]

Although Rosenstock could not avoid the state requirement to staff his school with credentialed teachers, he could offer an alternative route to teacher certification by creating a District Intern program. Such a program would need to align with California's teacher credentialing requirements and provide new teachers with adequate preparation to teach in any of California's K–12 schools. But within those requirements, Rosenstock could create a program that would align closely with High Tech High's logistical needs and pedagogical approaches.[5]

First-tier teacher credentialing

Setting up the District Intern program proved to be a lengthy and involved process. The CTC holds District Intern programs to the same standards as teacher education programs offered by universities or colleges. To meet the CTC requirements, High Tech High first had to develop a sequence of teacher preparation courses. Then, it had to train staff members who already had teaching credentials and prior teaching experience in methods for training new teachers. Finally, it had to develop processes and systems for administering the program.

High Tech High also had to find creative ways to satisfy some of the CTC requirements while remaining true to its vision for teacher education. For example, High Tech High's leaders had developed their own language for describing the elements of their school model. But in order to meet the application requirements, they had to re-craft their language to make it fit the language and framing of the CTC standards.
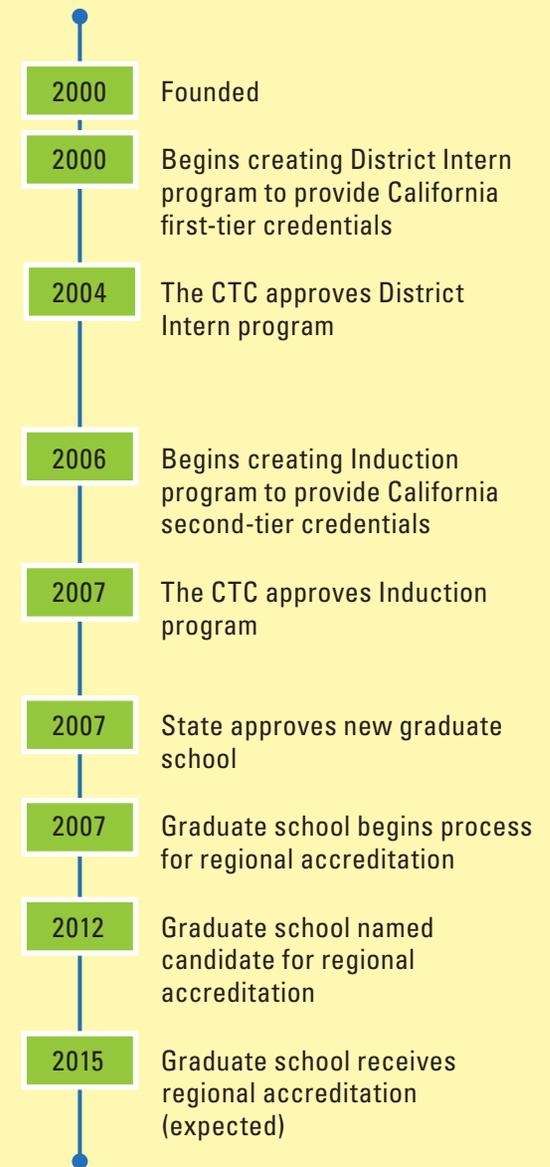
The CTC rejected High Tech High's application multiple times before finally approving the CMO's proposed District Intern program in August 2004.[6] When High Tech High's program launched that fall, it was the first District Intern program in the state to be sponsored by a charter school. Initially, the CTC authorized High Tech High to offer only Single Subject Teaching Credentials for secondary teaching.[7] In the years that followed, High Tech High's leaders completed the program approval process two more times so that the District Intern program could also offer Multiple Subject Teaching Credentials for elementary teaching starting in Fall 2009[8] and Education Specialist Instruction Credentials for special education teachers starting in Fall 2011.[9]

In 2008, the CMO opened the High Tech High Intern program to teachers from non-High Tech High schools. Today, High Tech High's program is one of only eight approved District Intern programs in California.[10] It serves roughly 65 teachers each year, with about two thirds of those teachers teaching at High Tech High schools and the rest teaching at other public and private schools in the San Diego area.

Until 2013, the state had provided High Tech High with line-item funding to support the High Tech High Intern program. This line-item funding, which covered the majority of the program's operating expenses, enabled the CMO to offer the High Tech High Intern program free of charge to both High Tech High and non-High Tech High teachers. Under California's 2013 revisions to the Local Control Funding Formula, however, the state no longer provides line-item funding to District Intern programs.[11] With this change in the state funding policy, High Tech High began charging both High Tech High and non-High Tech High teachers $2,500 a year each to participate in the two-year High Tech High Intern program starting in Fall 2014.

> Institutional accreditation can be important for establishing credibility and giving students access to federal financial aid, but pursuing it is a lengthy and expensive process that influences the organization's capabilities and business model.

High Tech High

Year	Event
2000	Founded
2000	Begins creating District Intern program to provide California first-tier credentials
2004	The CTC approves District Intern program
2006	Begins creating Induction program to provide California second-tier credentials
2007	The CTC approves Induction program
2007	State approves new graduate school
2007	Graduate school begins process for regional accreditation
2012	Graduate school named candidate for regional accreditation
2015	Graduate school receives regional accreditation (expected)

Second-tier teacher credentialing

With the High Tech High Intern program underway, High Tech High's leaders were ready to tackle a second challenge related to teacher certification. The High Tech High Intern program allowed the school's non-credentialed teachers to earn a Preliminary Credential—but the Preliminary Credential, which is only valid for five years and is not renewable, is only the first tier in California's two-tier credentialing system.[12] During the first five years of teaching, teachers are expected to earn a Professional Clear Credential through an approved Teacher Induction program sponsored by a school district, county office of education, college or university, consortium, or private school.[13] The purpose of the state's Teacher Induction requirement is to help novice teachers apply the knowledge and skills they learned in their teacher education programs to their classroom teaching practices by providing them with individualized support and assistance, collaborative experiences with colleagues, and frequent feedback on their teaching.[14]

For High Tech High's leaders, setting up the High Tech High Induction program was simpler than creating the High Tech High Intern program because the state had intended for Teacher Induction programs to be offered primarily through K–12 school systems. Unlike District Intern programs, which require coursework and learning experiences similar to those found in university- or college-based teacher education programs, Teacher Induction programs focus on professional learning experiences at the school site and within the school community.

Nevertheless, it took High Tech High two years to complete the CTC's program approval process. The CTC requires Teacher Induction programs to have a formative assessment system in place for their teachers, and High Tech High's leaders initially designed their own system. When that system did not receive CTC approval, High Tech High partnered with New Teacher Center, a nonprofit organization focused on improving teacher education, to develop a formative assessment system that would hopefully meet CTC standards. But even after High Tech High worked with New Teacher Center to revise its formative assessment system, the CTC again determined that the formative assessment system did not meet CTC standards. After multiple revisions to the system, the CTC finally approved High Tech High's proposed Teacher Induction program in October 2007.[15]

Today, the High Tech High Induction program serves roughly 125 teachers a year, with about half of those teachers teaching at school districts or other charter schools in the San Diego area.[16] High Tech High provides the Induction program at no cost to its own teachers. Teachers from other schools pay $4,000 for the two-year program or $3,000 if their teaching experience qualifies them to complete the program in one year. Non-High Tech High teachers pay an additional $1,000 if they need High Tech High to provide them with a mentor during the program.

Creating a graduate school of education

In 2004, High Tech High's leaders started thinking about how they could increase High Tech High's impact on the national education reform landscape. With this goal in mind, they began considering what it would take to create a master's degree program in which teacher and school leaders could explore progressive pedagogies, look critically at different approaches to teaching and leadership, and most importantly, apply their learning directly to their work in schools and classrooms. Expanding in this new direction seemed like a natural extension of the school's existing work in teacher education and professional development. As Rob Riordan, who became the president of the High Tech High Graduate School of Education, said, "We knew when we started High Tech High that if it was going to be a rich learning environment for kids, it would have to be a rich learning environment for adults."

Philanthropists and thought leaders from the broader education reform community were also interested in efforts to reform teacher education, and this national interest helped High Tech High secure support and funding to start a new graduate school of education. "The [High Tech High Graduate School of Education] has attracted more interest from funders than anything else we've done, partly because of all the press around the crisis in teacher education and the disconnect between schools of education and the K–12 schools," said Riodian.

Luckily for High Tech High, California's requirements for establishing an institution of higher education were minimal and the application process was relatively quick and straightforward.[17] In 2007, High Tech

High submitted an application to establish the High Tech High Graduate School of Education (GSE) and received state approval shortly thereafter from California's Bureau of Private Postsecondary Education.[18] High Tech High launched the GSE in the fall of that same year with two programs: a Master of Education in Teacher Leadership and a Master of Education in School Leadership.

Gaining accreditation

With the graduate school up and running, High Tech High's leaders immediately turned their attention toward seeking regional accreditation for the GSE through the Western Association of Schools and Colleges (WASC). They knew that gaining accreditation would be critical to the GSE's success for three reasons. First, K–12 educators often earn master's degrees to qualify for salary increases at their employing schools, but the majority of K–12 schools do not recognize degrees earned at unaccredited institutions. Secondly, other institutions where the GSE's alumni might seek further education may not recognize coursework and degrees from an unaccredited institution. (The GSE did, however, work out agreements with local universities to honor the GSE's degree while the school was in the process of being accredited.) Finally, without accreditation, the GSE's students would not be eligible for Title IV federal student financial aid.

Even though the GSE had few problems obtaining state approval, it has faced numerous challenges and setbacks while trying to gain regional accreditation.[19] Shortly after the GSE's leaders submitted their application for accreditation, WASC's Accreditation Commission for Senior Colleges and Universities (Accreditation Commission) determined that the school was eligible to seek accreditation and scheduled initial site visits. But following visits in 2009 and 2011, the Accreditation Commission determined that the GSE did not meet the minimal compliance requirements for accreditation candidacy. Accordingly, the Accreditation Commission identified areas where the school needed improvement in order to meet accreditation standards and scheduled a special visit for Spring 2012.[20]

After the 2012 visit, the Accreditation Commission designated the GSE as a candidate for accreditation and scheduled additional visits in 2013 and 2015. During these visits, it identified additional areas where the GSE still needed to meet the accreditation standards, including increasing the number of required credit hours; improving the rigor of the assignments included in the coursework; expanding the size and diversity of the Board of Trustees; developing more formal governance procedures; "codifying the practices of scholarship and creativity" appropriate to the culture of a "graduate education enterprise;" and developing and implementing "a process for the continual implementation and recalibration of [the GSE's] strategic plan."[21] The GSE's leaders worked to address these issues in preparation for their visit from the Accreditation Commission in March 2015. If the forthcoming report from the Accreditation Commission's visit is favorable, the GSE should receive full regional accreditation in June 2015. If the GSE receives accreditation in 2015, the accreditation process will have taken more than eight years to complete.

Business model

In addition to the challenges of accreditation, High Tech High's leaders have struggled to solidify a sustainable business model for the GSE. The school advertises the total tuition for the two-year master's degree program at $25,000,[22] but High Tech High subsidizes the tuition costs for many of its degree candidates through generous fellowships, in part because students were ineligible to receive Title IV federal student financial aid until the GSE became a candidate for accreditation in 2012. The GSE typically brings in around $100,000 each year in revenue from tuition,[23] but this revenue covers only a small portion of the roughly $1,000,000 the GSE spends annually on salaries, benefits, and other operational expenses. Additionally, it brings in roughly $700,000 per year from fees for workshops, consulting services to other K–12 schools, and school tours.[24] The GSE also receives additional support from private philanthropies, which give varying amounts from year to year. Furthermore, while awaiting accreditation, High Tech High has had to rely on a reserve fund it created at the start of the WASC accreditation process to cover the GSE's remaining deficit.

The expenses associated with the accreditation process have placed an additional strain on the GSE's finances. For example, High Tech High has had to take on additional costs associated with separating the operations of the GSE and the K–12 schools to satisfy governance requirements for accreditation. It has also had to hire additional staff to work exclusively on accreditation and has spent roughly $20,000 hosting external evaluators.

Next steps

High Tech High's leaders are actively considering new approaches for achieving their desired impact. Starting in Fall 2014, the GSE consolidated its two Master of Education Programs into a single program that offers two concentrations: the Teacher Leadership concentration and the School Leadership concentration. Consolidating the programs has simplified the accreditation process because the GSE now has to obtain accreditation for only one program. It has also lowered the GSE's operating expenses because the school now employs only one director to run the single program.

Once the GSE gains regional accreditation, High Tech High is considering developing a one-year, full-time teacher education program.[25] Students would earn a Preliminary Credential and a master's degree at the GSE and then complete their student-teaching requirement at one of the 13 High Tech High charter schools. Such a program would provide prospective teachers with a year of training before taking on full-time teaching responsibilities.[26]

The GSE is experimenting with ways to provide educator training through means other than degree programs. During the 2014–15 school year, it is piloting an Education Leadership Academy in which teams of school and teacher leaders from schools across the world visit High Tech High three times throughout the year for three days at a time to observe the High Tech High charter schools, attend workshops on teaching methods and school leadership, interact with High Tech High teachers and GSE faculty, and learn from each other. In addition to the visits, High Tech High helps attendees initiate projects that they will implement back at their own schools and arranges collaborative partnerships between attendees who share similar goals and interests. These partnerships, referred to as "critical friends," are set up as a virtual community, and they provide attendees with sources of collaboration and feedback as they implement their projects.[27]

In 2013, the GSE began offering massive online open courses (MOOCs) as a way to share High Tech High's practices with a global audience, as well as with educators who are interested in learning more about High Tech High's programs and practices but are unable to travel to San Diego for the workshops. High Tech High's leaders view these courses as experiments in new modes of teaching and learning, as well as a marketing tool for generating greater interest in their on-campus programs. As part of their strategic plan, the GSE's leaders are exploring the viability of creating a blended-learning degree option and are using the MOOCs to deepen their understanding of how to create a successful blended-learning experience for school and teacher leaders.

RELAY GRADUATE SCHOOL OF EDUCATION

	MAT Program	Relay Teaching Residency Program
Year founded	2011	2014
Reason for starting program	Create a pipeline for supplying district and charter schools serving low-income student populations with effective new teachers	Provide aspiring teachers with an onramp into the profession that allows them to develop critical skills before taking on full responsibility for a classroom
Target students	Novice teachers who hold full-time teaching positions	Aspiring teachers
Degree offered	Master of Arts in Teaching (MAT)	Master of Arts in Teaching (MAT)
Teacher certification offered	Initial or Professional Certificate	Initial or Professional Certificate
Student enrollment	~980 teachers	~120 aspiring teachers
Tuition	$17,500 for two-year program*	$17,500 for two-year program*
Program focus	Train teachers in concrete teaching skills that directly impact student learning and provide them a path to professional licensure	
Program structure	Two years of competency-based learning, both online and face-to-face, while teaching full time	Two years of competency-based learning, both online and face-to-face, while working in a school-based position under the guidance of a Resident Advisor during Year 1 and as a full-time teacher during Year 2
Performance-based graduation requirement	During Year 2, teachers must demonstrate that their students' achieved at least one year of academic growth using a variety of quantitative and qualitative measures	
Accreditation status	Institutional accreditation by MSCHE; accreditation as a teacher education program by NCATE	

*The listed tuition for Relay's two-year MAT program is $35,000, but all students are eligible to receive the Urban Teacher Scholarship, which reduces tuition to $17,500 for two years.

Relay Graduate School of Education Background

In 2006, Norman Atkins, the founder of Uncommon Schools, a CMO that operates in New York, New Jersey, and Massachusetts, and David Levin, a co-founder of KIPP (Knowledge is Power Program), the nation's largest network of charter schools, with 82 schools in 19 states and Washington, D.C., were earning national recognition for their charter schools, which were helping to close the achievement gap for thousands of students from low-income backgrounds. But Atkins and Levin were not satisfied. More than 12 million children were living in poverty in the United States and a high percentage of them were attending sub-standard schools.[28] Atkins and Levin were concerned that their organizations were not scaling fast enough to address problems of educational inequity in a substantial way. As they considered how to increase their impact, they concluded that they needed to find a way to share the techniques and systems they had developed in their schools with the broader field.

At the same time that they were conceptualizing how to broaden their impact, Atkins and Levin noticed a practical challenge that many of the teachers in their New York schools faced. New York requires teachers to complete an education-focused master's degree in order to obtain a Professional Certificate, which is the second-level teaching certificate in New York's teacher credentialing system.[29] Teachers often reported, however, that their master's degree programs were time-intensive, costly, and not aligned with the practices and training in their schools.

To address these problems, Atkins and Levin, in partnership with Dacia Toll, the founder and co-CEO of Achievement First, a CMO that operates in Connecticut, New York, and Rhode Island, decided to create a new teacher education program. Their aim was to develop a program that would meet New York's state education requirements for teacher credentialing in a way that would better address the professional and practical needs of early-career teachers.

Creating a new teacher education program

As they started exploring options for creating a new teacher education program, the charter school leaders found that launching a new institution of higher education was no easy task. In New York, new schools of education must meet rigorous standards and go through a lengthy approval process to receive state authorization to enroll students and issue degrees.[30] Rather than wrestling with the challenges of obtaining state approval while trying to build a new program from the ground up, Atkins, Levin, and Toll decided to partner with an existing institution of higher education.

They found the partner they were looking for in David Steiner, the then dean of the Hunter College School of Education.[31] Steiner, also a critic of traditional teacher preparation, was eager to work with the three charter school operators to create a teacher education program focused on practice and field-based experience. In Fall 2008, Atkins, Levin, Toll, and Steiner launched their two-year master's degree program, called Teacher U, at Hunter College, with Atkins as its leader.

At Teacher U, teachers taught full time during the week, then met one Saturday a month for face-to-face instruction. The program's curriculum focused primarily on practical skills, such as classroom management and lesson planning, and the majority of Teacher U's assignments complemented the work teachers were already doing in their classrooms. Under the partnership with Hunter College, the charter school operators brought in master teachers and instructional leaders from their charter schools to teach the curriculum and guide the progress of the master's degree candidates, while

Hunter College's deans, department chairs, and faculty provided oversight and guidance and handled the administrative work, such as enrolling students and collecting tuition.

Creating a graduate school of education

Although Teacher U had benefitted early on from partnering with Hunter College, Teacher U's leaders eventually realized that they would need to create an independent institution of higher education in order to realize fully their vision for the teacher education program. They knew that becoming an independent institution would be critical for Teacher U's growth for three reasons. First, becoming an independent institution would help Teacher U set up a sustainable business model. Under the partnership with Hunter College, any revenue in the form of tuition went directly to Hunter College, and Teacher U's leaders had to rely on private philanthropy to cover the programs' operating expenses. Secondly, Teacher U's leaders wanted to expand their program nationally, but Hunter College only operated in New York. Lastly, Teacher U's leaders wanted more freedom to innovate with curriculum and move to proficiency-based modules, but Hunter College required the program to operate within the college's established curriculum and have any significant changes to the curriculum approved by Hunter College's faculty.

After partnering with Hunter College for two years, Teacher U's leaders set out to obtain approval from the New York State Board of Regents to create a new, independent graduate school of education. To obtain state approval, Teacher U's leaders first had to complete an in-depth self-study that asked them to evaluate their proposed school relative to each of the state's standards

Schools wanting to create their own teacher certification programs or graduate schools of education need to familiarize themselves with the program standards and authorization processes in each state where they plan to operate.

Relay

Year	Event
2006	Leaders from Uncommon Schools, KIPP, and Achievement First plan creation of teacher education program
2008	Partners with Hunter College to launch Teacher U
2010	Submits proposal to create independent graduate school
2011	New York approves creation of graduate school
2011	Relay launches; begins operations in New York City and Newark
2011	Begins seeking regional and programmatic accreditation
2012	Receives regional accreditation
2013	Receives programmatic accreditation
2013	Expands to New Orleans
2014	Expands to Chicago and Houston
2014	Offers teacher residency program

related to establishing new institutions of higher education.[32] Then, they had to provide a long list of requested information regarding the proposed institution's resources, facilities, curricula, admissions criteria, recruitment strategies, faculty, and administration, along with justification of the need for a new institution.[33] Finally, a group of external reviewers, selected in consultation with the New York State Education Department's Office of College and University Evaluation (OCUE), had to review the program. Once Teacher U's leaders completed these and other prerequisite tasks, they submitted their proposal to the OCUE in February 2010.[34]

After receiving the proposal, the OCUE conducted its own in-depth review of Teacher U. In June 2010, it made a site visit to determine Teacher U's readiness to operate as a graduate degree-granting institution.[35] In August 2010, it canvased all degree-granting institutions in New York City to give them an opportunity to provide input on the potential effect that Teacher U could have on their teacher education programs.[36] A number of these institutions raised objections to the intellectual and philosophical underpinnings of the proposed program based on Teacher U's close ties to K–12 schooling and weaker connection to the culture and traditions of academia.[37]

Once the OCUE had completed these reviews, the New York Board of Regent's Higher Education Committee reviewed the preliminary report on the proposed program. The overall review reflected favorably on the program. But one concern was that the name Teacher U inaccurately implied that the new institution had the status of a university. In response, Teacher U's leaders decided to change the name of the institution to the Relay Graduate School of Education (Relay).[38] With this change, the New York Board of Regents approved the program in February 2011—this marked the first time in over 90 years that a new graduate school of education had been created in the state of New York.[39] In the fall of that year, Relay welcomed the first cohort of teachers to its two-year Master of Arts in Teaching (MAT) program.

When launching the graduate school of education, Relay's leaders continued to build on the program model they had developed at Teacher U. In addition to Saturday classes, they began holding face-to-face classes two weeknights a month at local K–12 schools. To make the curriculum accessible, scalable, and personalized to teachers' individual learning needs, they created a blended-learning model in which roughly 40 percent of instruction is provided through online learning and the remaining 60 percent through face-to-face instruction. The curriculum content is broken into competency-based modules that give teachers multiple opportunities to practice skills, and teachers can skip content for which they can demonstrate mastery. Relay has also developed an online video library with hundreds of videos modeling best practices from real classrooms that teachers can watch.

To earn the MAT degree, teachers must present proof that their students have learned at least one year's worth of content over the course of a school year. Teachers do this by compiling a portfolio that includes student achievement results, notes on classroom observations by Relay faculty, videos of their teaching, documentation of their performance in the Relay program, and artifacts from the classroom.

Gaining accreditation

After launching the new graduate school in 2011, Relay's leaders moved quickly to obtain programmatic accreditation from the National Council for Accreditation of Teacher Education (NCATE) and regional accreditation from the Middle States Commission on Higher Education (MSCHE). As Relay's leaders considered their long-term vision, they saw accreditation as a crucial step in scaling their program nationally for three reasons. First, having regional and programmatic accreditation often accelerates the process of gaining state approval to operate an institution of higher education, grant degrees, and confer teacher certifications because states often streamline the approval process for accredited institutions. Secondly, accreditation would be important for attracting teachers because many potential MAT degree candidates would be hesitant to enroll in an unaccredited institution and earn credits that might not be transferable to other institutions. Finally, without accreditation, Relay's students would not be eligible to apply for Title IV federal student financial aid.

Obtaining programmatic and regional accreditation involved lengthy and intensive processes.[40] To gain programmatic accreditation, Relay first had to prepare and submit a report to demonstrate that it met all six of the NCATE preconditions for entering the accreditation process. Then, once NCATE had reviewed and accepted the report, Relay had to schedule a visit from NCATE staff so that NCATE could verify the quality of the program before granting full accreditation.[41] To gain regional accreditation, Relay had to prepare and submit an accreditation readiness report, host a visit

from an MSCHE staff member, host another visit from an applicant assessment team, update the accreditation readiness report, conduct a self-study, and host an evaluation team visit in order to receive final accreditation approval.[42]

At least three factors helped Relay gain accreditation relatively quickly. First, Relay dedicated a number of staff members to work full time on the accreditation process. "We worked really hard at developing systems and programs that were entirely aligned with the standards set by the institutional and teacher preparation accreditation authorities," said Atkins. Secondly, Relay had developed many of the resources and structures required of an accreditation-worthy institution through its previous partnership with Hunter College. Finally, by operating for two years under Hunter College's accreditation, Relay had established a strong reputation with the accreditation authorities. "We benefited from the work that we had done and the track record that we had established at Hunter College. The accreditation authorities recognized the work that we had done as a semi-autonomous unit at Hunter College in graduating students and developing a program," said Atkins. Relay's focused efforts and positive reputation paid off, and the school received programmatic accreditation from NCATE in 2011[43] and regional accreditation from MSCHE in 2012.[44]

Business model

The listed tuition for Relay's two-year MAT program is $35,000, although all students are eligible to receive the Urban Teacher Scholarship, which significantly reduces tuition to $17,500 for two years. In addition, many students receive AmeriCorps awards, private scholarships, Title IV federal student aid, or other benefits that further reduce the cost of tuition.

Relay's New York campus currently operates at a slight revenue surplus. In the 2014 fiscal year, it had expenses totaling roughly $6 million that were covered by about $5.8 million in revenue from tuition and $500,000 from locally funded scholarships. When it opens new regions, Relay relies on philanthropy to cover startup costs, but aims for each new region and program to become financially sustainable within five years.

In the short time since the school's founding, Relay's leaders have worked aggressively to scale the impact of the school. In addition to New York, Relay now offers MAT programs in Newark, N.J., New Orleans, Chicago, and Houston.[45] Relay's operating costs across all of its regions during the 2014 fiscal year were roughly $16.8 million. During that same time period, it brought in roughly $8.9 million in tuition and fees and secured approximately $8.3 million from private philanthropy.

Many of the design features of the MAT program help Relay keep its operational expenses low. For example, the MAT program provides much of its instruction online and holds in-person classes in rented or borrowed classrooms at K–12 schools. With these features, Relay has avoided many of the costs incurred by traditional institutions for faculty and physical facilities. Relay also centrally houses its "shared services"—such as finance, marketing, and technology—in order to gain efficiencies and ensure quality as the organization scales.

> Relay has kept operational costs low by providing much of its instruction online and holding in-person classes in rented or borrowed classrooms at K–12 schools. It has also captured economies of scale as it has grown to new regions by using a centrally-developed online curriculum and centralizing services such as finance, marketing, and technology.

Next steps

Relay's leaders plan to open five new campuses in the next two years. As Relay considers additional regions for expansion, it looks for locations where there are large numbers of novice teachers, where startup funding is available through local philanthropies, where the policy environment is favorable to its model of operation, and where there is a strong pool of expert practitioners who can serve as faculty.

Across its current regions, Relay enrolls roughly 980 MAT students, 130 students pursuing alternative teacher certification, and 180 principals each year. Among the MAT students, roughly 80 percent are novice teachers working toward both teacher certification and a master's degree, roughly 10 percent are certified teachers working toward a master's degree, and roughly 10 percent are prospective teachers working toward a master's degree while training in the Relay Teaching Residency program.

In addition to the MAT degree, Relay now offers programs for current and aspiring principals, including a Master of Education in School Leadership program, a National Principals Academy Fellowship program, and a Leverage Leadership Institute Fellowship program.

In Fall 2014, Relay launched the Relay Teaching Residency program, a two-year master's degree program designed for recent college graduates and career changers who want to teach in urban public schools. During the first year in the program, residents complete coursework while working full time in urban schools under the supervision a master Resident Advisor teacher. Successful first-year residents transition into lead teaching roles in the second year of the program while they complete coursework for their master's degrees.

Relay recently developed a series of MOOCs offered through the Coursera platform. To date, more than 20,000 individuals from more than 180 countries worldwide have enrolled in these online courses.

MATCH EDUCATION

	MET Program
Year founded	2012
Reason for starting program	Provide a pathway into teaching for Match Corps tutors; develop innovative practices to inform teacher education reform
Target students	New college graduates who are interested in pursuing teaching as a career, but did not study education in college
Degree offered	Master in Effective Teaching (MET)
Teacher certification offered	Preliminary License for elementary teachers; Initial License for middle and high school teachers
Student enrollment	~30
Tuition	$9,000 for two-year program
Program focus	Train Match Corps tutors to be effective rookie teachers with fundamental teaching skills for work in "no excuses" charter schools and provide them a path to licensure
Program structure	Two years of coursework while working as a full-time Match Corps tutor during Year 1 and as a full-time teacher during Year 2
Performance-based graduation requirement	While teaching full time during Year 2, degree candidates must outperform rookie teachers not trained by Match Education on an evaluation system that takes into account scores assigned by outside experts, principal interview scores, and student survey data
Accreditation status	No institutional or programmatic accreditation

Match Education Background

In 2000, Michael Goldstein started Match High School (MHS), a Boston-based charter school, with the clear goal of closing the achievement gap for the area's disadvantaged students. He worried, however, that raising test scores would not be enough to guarantee that students would go on to enroll and succeed in college. As he looked for possible ways to address the issue, he wondered if tutoring might be the answer. He envisioned a program in which tutors would provide students with individualized academic instruction, develop mentoring relationships with students, and foster strong connections with students' families to provide integrated home and school support.

In Spring 2002, MHS began experimenting with offering intensive, one-on-one math tutoring to 9th graders. Based on the preliminary success of the pilot program, MHS decided to launch a new tutoring program that fall, funded in part through a federal work-study program, in which undergraduate students from local colleges and universities would provide part-time tutoring to 10th graders. Based on positive results from the work-study tutoring program, Goldstein started looking for ways to make tutoring a more dedicated and integrated part of the school's instructional approach and scale it across all grade levels.

In 2004, MHS adopted a new strategy to expand the tutoring program. It ended its work-study tutoring program and began recruiting recent college graduates from top colleges and universities across the country to work as full-time tutors in a new program called Match Corps. "I thought, if we can get 10 hours a week out of an undergrad, and Teach for America can get 70 hours a week out of a top college grad for two years as a teacher, I wonder if we can get top college grads to work 70 hours a week as a tutor—far less money, but much more day-to-day success," said Goldstein. Under this program, Match Corps tutors received housing,[46] a small living stipend, and training in exchange for a one-year commitment as a full-time tutor. The new program allowed MHS to provide tutoring to all of its students and make tutoring a central feature of the Match Education model.[47]

Credentialing teachers

Goldstein and his colleagues soon found that a number of Match Corps alumni were going on to work as teachers after completing their one-year tutoring commitment. As new teachers, Match Corps alumni had to enroll in expensive teacher education programs to earn their teaching credentials. These individuals reported, however, that much of the training in their teacher education programs was not useful in helping them improve classroom practices.
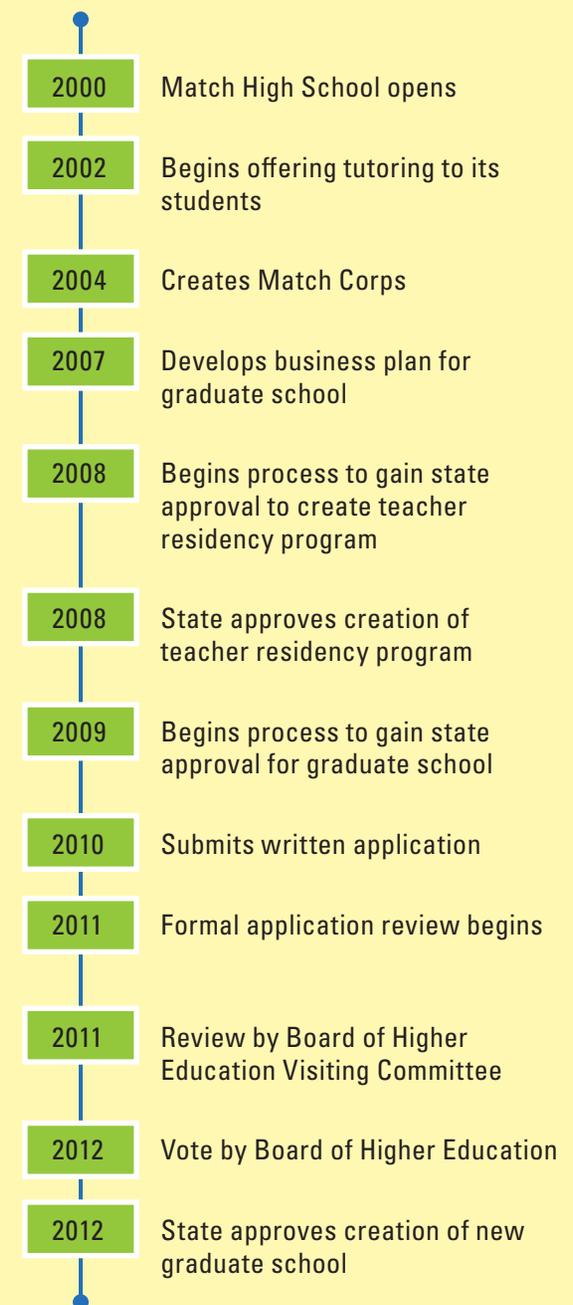
At the same time, leaders at Match Education, the Boston-based CMO that oversees MHS and Match Corps, recognized two important trends. First, many high-performing charter schools in the Boston area were struggling to find teachers to hire who could produce dramatic gains in student achievement. Second, many national education reform leaders were identifying major flaws in the traditional teacher preparation model and making efforts to reform teacher education. Motivated by the needs of their Match Corps alumni, as well as by these two broader teacher issues, Match Education's leaders decided to develop their own resident teacher program. The program would provide interested tutors with the training and coursework needed to earn a teaching license in Massachusetts—and most importantly, prepare them to be "unusually effective rookie teachers."[48]

To offer an alternative teacher certification program in Massachusetts, Match Education's leaders had to obtain approval from the Massachusetts Department of Elementary and Secondary Education (ESE).[49] In Massachusetts, the approval process is relatively easy compared to other states, as is evidenced by the fact that school districts and CMOs offer 25 of the state's 83 approved teacher certification programs.[50] It entails submitting an application to provide evidence that the proposed program meets state requirements and hosting a one- to three-day site visit from the ESE. Typically, this process takes a little over a year to complete.[51]

According to Goldstein, gaining state approval to offer an alternative teacher certification program was a straightforward process. "In Massachusetts, there [is] a fairly light regulatory burden to develop ... a teacher certification program. ... [T]he bar to get approved there was to prepare a binder describing what you plan to do. ... It took work, but it was ... reasonable," said Goldstein.

In 2008, after receiving state approval from the ESE, Match Education launched a one-year teacher resident program called Match Teacher Residency (MTR). Under this program, residents worked as full-time tutors on Mondays through Thursdays and received intensive teacher training on Fridays and Saturdays. The teacher training entailed both coursework and classroom role-play simulations that gave residents repeated opportunities to practice and receive feedback on their teaching skills. During the spring and summer, residents did their student teaching at the Match Education charter schools. Upon successful completion of the program, residents were eligible to earn their Initial or Preliminary licenses to teach in Massachusetts.[52]

Match Education

Year	Event
2000	Match High School opens
2002	Begins offering tutoring to its students
2004	Creates Match Corps
2007	Develops business plan for graduate school
2008	Begins process to gain state approval to create teacher residency program
2008	State approves creation of teacher residency program
2009	Begins process to gain state approval for graduate school
2010	Submits written application
2011	Formal application review begins
2011	Review by Board of Higher Education Visiting Committee
2012	Vote by Board of Higher Education
2012	State approves creation of new graduate school

Creating a graduate school of education

After establishing the MTR program, Match Education's leaders focused their attention on finding ways to improve the program's teacher training. Even though Match Education's leaders knew that a teacher's first year of full-time classroom responsibility was critical to her professional development, the structure of the one-year MTR program limited Match Education's ability to support graduates during their first year as full-time teachers. At that time, the MTR program offered graduates informal support once they began teaching full time, but Match Education's leaders found it difficult to keep first-year teachers engaged in additional training after they had graduated from the program.

In response to this challenge, Match Education's leaders decided to formalize a second year of training by turning their one-year teacher residency program into a two-year master's degree program that would extend through the residents' first year of full-time teaching. As part of the requirements for the master's degree, residents would complete a yearlong, online-learning course that would include multiple cycles of reflection and feedback with a Match Education teaching coach while they were teaching full time during the second year of the program.

Goldstein also hoped that the master's degree program would provide Match Education with an opportunity to engage in broader teacher education reform efforts. Operating a graduate school would bring Match Education into the higher education community and provide the CMO with greater credibility and influence in discussions related to teacher education reform and improvement.

In pondering the idea of launching a graduate school, Goldstein consulted with Ben Daley of High Tech High and Norman Atkins of Relay to understand better their journeys. Once it became evident that creating a master's degree program would be a worthwhile endeavor, Goldstein began seeking approval from the Massachusetts Board of Higher Education (Board) to found a new graduate school of education.

The first step in the process of gaining state approval required submitting a detailed application describing the proposed institution.[53] According to Goldstein, this was a multi-year process that required roughly one year of full-time attention from a Match Education staff member. Once the state had received the application, the review process involved a site visit by a committee of reviewers,[54] a public hearing regarding the application, responses from Match Education regarding any issues raised during the site visit or hearing, an analysis of all application materials by the Board's staff,[55] a review by the Board Academic Affairs Committee,[56] and then a vote from the entire Board.

Match Education's business model aligns the incentives of its teacher preparation program with the needs of the teachers it produces and the schools that hire them:

- Teachers don't pay tuition until they begin teaching full time

- Teachers who don't complete the program don't pay tuition

- Schools that hire teachers pay Match Education for a portion of the teacher training, but don't have to pay these fees for any teachers with whom they aren't satisfied

Throughout this process, Match Education's leaders worked hard to build relationships with other higher education stakeholders in Massachusetts. As Goldstein said:

> No matter what type of program you're trying to propose to the Board of Higher Education in Massachusetts, there are often reactions from incumbents that try to use political relationships to block or challenge new entrants to the market. It's a much more challenging regulatory process [than starting a teacher certification program]. ... It was a lot of work to build alliances [and] educate people about what we were trying to do. So there was a lot of proactive relationship building that was part of this in parallel with the [application process].

Match Education received state approval to launch the Charles Sposato Graduate School of Education, Inc. (SGSE) in March 2012[57] and enrolled the first class of degree candidates in its two-year Master in Effective Teaching (MET) program that fall.

Gaining accreditation

Seeking accreditation has not yet been a priority for Match Education for at least four reasons. First, despite the SGSE's lack of accreditation, the MET program receives more applicants each year than it has slots and currently accepts only about 13 percent of its applicants.[58] Secondly, teachers who complete the MET program are in high demand among Boston-area charter schools. To date, 100 percent of the residents who have completed the MET program have successfully secured teaching positions, and 97 percent of all graduates are currently teaching or working in public education in some capacity.[59] Third, Match Education has yet to encounter any instances in which schools refuse to give graduates the customary salary increases for their master's degrees. Finally, although the SGSE's lack of accreditation makes students ineligible to receive Title IV federal student financial aid, the cost of tuition for the program is, at present, low enough that the lack of access to aid does not seem to deter potential applicants.

Nevertheless, Match Education's leaders plan to begin the process of seeking regional accreditation within the next year. As they seek to influence the broader teacher education field, they see accreditation as important for giving the SGSE credibility beyond the Boston-area charter sector.

Business model

One of the challenges for the SGSE has been developing a sustainable business model. Revenue to support the MET program comes primarily from the tuition Match Education charges its residents and from the placement fees Match Education charges the schools that hire its residents. Interestingly, Match Education has structured these revenue sources in a way that focuses the MET program on providing value to both its residents and the schools that hire them. Residents pay $9,000 for the two-year program, but do not make any payments until they are receiving salaries as full-time teachers. Match Education, however, does not charge tuition to residents who exit the program before completion. Additionally, the schools that hire the residents can forego payment for any teacher with whom they are not satisfied. Between tuition and hiring fees, Match Education's annual revenue has been around $400,000 each year.

In comparison, the cost of operating the MET program comes to around $1 million each year after covering salaries and benefits for faculty, pay for instructional staff, and other operational expenses. At present, Match Education covers the difference in revenues and costs through philanthropic subsidies. Over the next five years, it plans to reach financial sustainability by increasing tuition and placement fees.

Next steps

As they look to the future, Match Education's leaders are continually working to improve the quality of the training they offer through the MET program. Recent program changes have included giving more emphasis to lesson planning and delivery, preparing residents for teaching the Common Core State Standards, and training residents on how to teach from the pre-built curriculum that is becoming increasingly common at the schools where they work.

Match Education also is in the initial phase of a four-year, $4-million study by the Harvard Center for Education Policy Research that will test the effectiveness of Match Education's training methods. Match Education's leaders are hopeful that the study will demonstrate that the effectiveness of their alumni is a product of their training and not merely attributable to the selectivity of their program.

Tips & Recommendations

The charter school leaders who started these programs offered a number of recommendations to other schools considering a similar path.

CREDENTIALING TEACHERS

- Getting elite talent to run the program can be a challenge. Focus on finding people who are willing and eager to challenge convention and embrace self-imposed measures of quality that no one else is using.

- Develop a clear understanding of the ways homegrown credentialing will benefit your organization. Be sure that the benefits outweigh the costs and challenges of setting up and maintaining the program.

CREATING A MASTER'S DEGREE PROGRAM

- Know why you want to open a graduate school. What is the mission? Who will be served? From where, besides tuition, will the revenue come? What balances will the organization strike among teaching, technical assistance, and faculty scholarship? The answers to these questions evolve with the organization, but it is important to ask them from the outset.

- Manage your expectations when creating a timeline. Remember that you will need to explain and justify something new and different to regulators who are essentially charged with ensuring adherence to conventional and traditional approaches.

- Build relationships with other higher education stakeholders. These relationships help to garner support among regulators and help educate people about the aims and benefits of the program.

- Think about the process in stages. For example, first set up a program for credentialing teachers and then work toward offering master's degrees. Alternatively, establish a track record by initially partnering with an existing institution of higher education and then determine if it makes sense to create a new institution. Always keep in mind how decisions will affect long-term sustainability and flexibility to innovate.

The CMOs expanded their teacher education programs in phases:

- High Tech High first developed teacher certification programs and then created a separate graduate school of education for experienced educators

- Relay first partnered with Hunter College to train teachers and then established an independent graduate school of education

- Match Education first developed a teacher certification program for its tutors and then expanded this program to provide master's degrees

CONCLUSION

For nearly a century, university and college departments of education have prepared and educated the majority of K–12 teachers in the United States. These programs provide teachers with the coursework and training required to meet state teacher certification requirements. They also assist teachers in advancing their careers and increasing their pay by serving the policy-driven demand for master's-level credentials. Yet, despite an apparently ample supply of traditional teacher education programs in the United States, three groups of CMOs—High Tech High in San Diego; Uncommon Schools, KIPP, and Achievement First in New York; and Match Education in Boston—created their own teacher certification and master's degree programs after concluding that the teachers who graduate from most traditional teacher education programs lack the skills needed to teach successfully.

The challenges associated with creating these new teacher certification and master's degree programs could be classified into three broad categories. First, developing the pedagogical practices that effectively produce the desired teacher development outcomes. Second, meeting the regulatory requirements to obtain program approval from the relevant state and accrediting agencies. Third, developing revenue sources and cost structures that enable the programs to have sustainable business models.

The pedagogical approaches of High Tech High, Relay, and Match Education's programs have a common emphasis on creating strong connections between formal teacher education and the application of that education in K–12 classroom settings. At the same time, each institution has its own distinct instructional methods: High Tech High exposes teachers to its project-based approach to learning; teachers at Relay receive competency-based training that blends online and face-to-face instruction; and Match Education's Sposato Graduate School of Education has made tutoring and role-play simulations the core components of its model. This case study does not attempt to evaluate the effectiveness of these pedagogical practices. But for the purposes of this study, these pedagogical practices are important because they differentiate these programs from traditional programs. Much of the interest in and demand for these programs is a result of their distinct approaches for educating teachers. And given the importance of pedagogical practices to the overall success of these

programs, High Tech High, Relay, and Match Education are all continuing to refine their pedagogical approaches to improve their effectiveness.

The greatest common obstacle for High Tech High, Relay, and Match Education has been navigating state policy and accreditation requirements. Because these requirements vary by state and accrediting agencies, there is considerable variation in the amount of time and effort required to gain program approval. For example, the requirements for setting up an alternative teacher certification program are more demanding in California than in Massachusetts. Unlike most states, California has an independent agency that focuses exclusively on administering teacher certification and regulating certification providers. Conversely, the process for approving a new institution of higher education is easier in California than in Massachusetts or New York. This is because Massachusetts' Board of Higher Education and New York's Board of Regents are both charged with ensuring the academic quality of new institutions of higher education, whereas California's Bureau of Private Postsecondary Education, a unit of the California Department of Consumer Affairs, is primarily concerned with ensuring that new institutions do not take advantage of students or issue fraudulent diplomas. Institutional and programmatic accreditation can be important for signaling a new institution's quality and for earning credibility and influence among other institutions. Institutional accreditation also directly impacts an institution's business model because
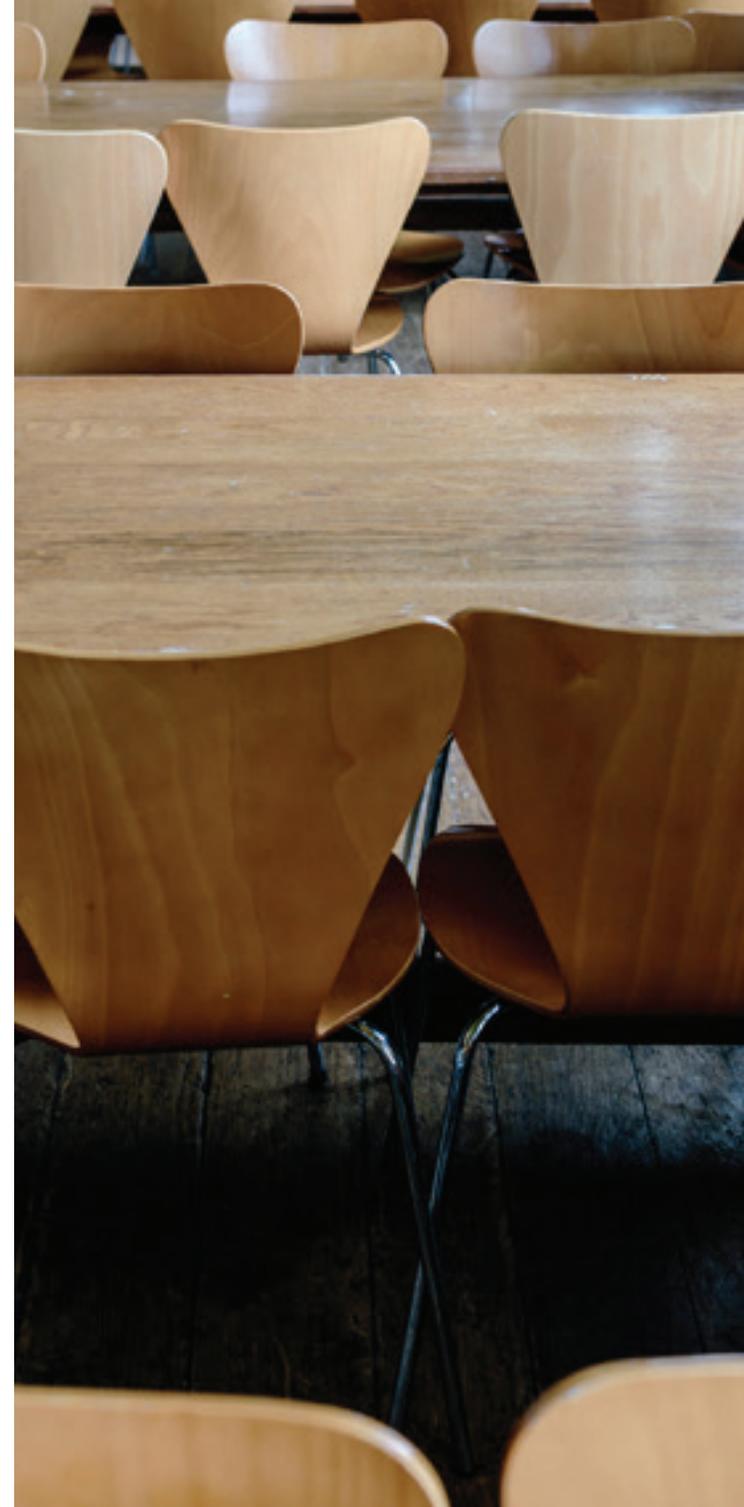
institutions that are not regionally accredited cannot offer students Title IV federal student financial aid and, therefore, face pressure to keep tuition low in order to attract students.

On the other hand, accreditation heavily influences the program features and operating cost structures that institutions adopt. For example, High Tech High's GSE had to increase its operational costs when pursuing institutional accreditation in order to meet accreditors' requirement for more separation between the operations of the GSE and the K–12 schools. Accreditation also places requirements on the academic background and credentials of an institution's faculty, the content of its curriculum, its pedagogical practices, and its governance structures. Lastly, the accreditation process is costly and often requires institutions to dedicate significant human resources to it.

Although schools must receive state approval to operate teacher certification and master's degree programs, they can choose whether or not to seek institutional or programmatic accreditation. Nonetheless, any nontraditional program will likely face some challenges related to reconciling its program models with state approval and accreditation process requirements because these processes are typically designed to ensure adherence to traditional approaches.

Another common challenge for the programs described in this case study was creating sustainable business models. High Tech High, Relay, and Match Education's programs all relied on private philanthropy to cover their startup costs; over time, however, each has had to give careful consideration to the costs of its program features and the revenue sources for covering those costs. For example, High Tech High is working aggressively toward accreditation and Match Education is increasing its tuition in order to make their business models sustainable. In contrast, by centralizing operations such as finance and curriculum development, Relay has gained economies of scale as it opens its program in additional regions.

In summary, the programs described in this case study demonstrate the viability of K–12 public charter schools and school leaders expanding their operations into the work of preparing and educating teachers. This work, however, is not something to be approached casually. Schools interested in pursuing this route need to identify a clear unmet need that justifies creating a new teacher education program, and they need a clear understanding of who they are serving. They also need to be extremely thoughtful about the requirements and timeline associated with approval and accreditation processes pertinent to their particular locale, and they need to work early on to foster strong relationships with others in the field who can offer guidance and generate support for their work. Lastly, they need to be thoughtful about their potential revenue sources and about how the staffing, facilities, scale, and accreditation status of their programs will affect their cost structures.

1 California Education Code §47605.6(l), http://www.leginfo.ca.gov/cgi-bin/displaycode?section=edc&group=47001-48000&file=47605-47608 (accessed January 13, 2015).

See also "Charter Schools," California Commission on Teaching Credentialing, http://www.ctc.ca.gov/employers/charter-schools.html (accessed April 2, 2015).

2 California Education Code §44450-44468, http://leginfo.legislature.ca.gov/faces/codes_displayText.xhtml?lawCode=EDC&division=3.&title=2.&part=25.&chapter=3.&article=3 (accessed April 2, 2015).

3 California Education Code §44380-44387, http://leginfo.legislature.ca.gov/faces/codes_displayText.xhtml?lawCode=EDC&division=3.&title=2.&part=25.&chapter=2.&article=11 (accessed January 14, 2015).

See also "A History of Policies and Forces Shaping California Teacher Credentialing," California Commission on Teacher Credentialing, February 2011, http://www.ctc.ca.gov/commission/files/CTC-history.pdf.

4 In California, a Preliminary Credential is the first of two levels of teacher credentialing. Most California teachers earn their Preliminary Credentials by completing a traditional teacher education program at an institution of higher education prior to entering full-time teaching.

5 For more on the founding of High Tech High's District Intern program, see Jennifer Husbands, "Alternative Routes to Teacher Certification," *UnBoxed,* Issue 1, Spring 2008, http://www.hightechhigh.org/unboxed/issue1/alternative_certification/ (accessed January 12, 2015).

See also Larry Rosenstock, "Why We Did It," *UnBoxed,* Issue 1, Spring 2008, http://www.hightechhigh.org/unboxed/issue1/why_we_did_it/ (accessed March 23, 2015).

6 "Tenth Annual Accreditation Report to the California Commission on Teacher Credentialing," Committee on Accreditation, August 2005, http://www.ctc.ca.gov/reports/coa_2004_05_annual_report.pdf.

7 "Tenth Annual Accreditation Report to the California Commission on Teacher Credentialing."

8 "Report of Program and Institutional Accreditation Recommendations," Professional Services Division, California Commission on Teacher Credentialing, April 2009, http://www.ctc.ca.gov/educator-prep/coa-agendas/2009-04/2009-04-item-06.pdf.

9 "Report of Program Accreditation Recommendations," California Commission on Teacher Credentialing, March 2011, http://www.ctc.ca.gov/educator-prep/coa-agendas/2011-03/2011-03-item-06.pdf.

10 The other seven K–12 school systems in California that offer District Intern programs are Bay Area School of Enterprise (Reach Institute), Los Angeles Unified School District, Mt. Diablo Unified School District, Orange County Department of Education, Sacramento County Office of Education, San Joaquin County Office of Education, and Stanislaus County Office of Education. See "Table 2 – District Recommended Multiple Subject, Single Subject, and Education Specialist Instruction Credentials, July 1, 2012 to June 30, 2013," *Teacher Supply in California, A Report to the Legislature, Annual Report 2012–2013,* California Commission on Teacher Credentialing, April 2014, pp. 32-33, http://www.ctc.ca.gov/reports/TS-2012-2013-AnnualRpt.pdf.

Also, for a list of all teacher certification programs in California (including District Intern programs), see http://cig.ctc.ca.gov/cig/CTC_apm/all.php (accessed January 13, 2015).

11 "Local Control Funding Formula Overview," California Department of Education, http://www.cde.ca.gov/fg/aa/lc/lcffoverview.asp (accessed April 2, 2015).

12 "Multiple Subject Teaching Credential: Requirements for Teachers Prepared in California," California Commission on Teacher Credentialing, July 2014, http://www.ctc.ca.gov/credentials/leaflets/cl561c.pdf.

"Single Subject Teaching Credential: Requirements for Teachers Prepared in California," California Commission on Teacher Credentialing, December 2014, http://www.ctc.ca.gov/credentials/leaflets/cl560c.pdf.

13 "Options for Earning a General Education (MS/SS) Clear Teaching Credential," California Commission on Teacher Credentialing, May 2014, http://www.ctc.ca.gov/credentials/files/options-genl-ed-clear.pdf.

14 "Induction Program Standards," California Commission on Teacher Credentialing, June 2008, http://www.ctc.ca.gov/educator-prep/standards/Induction-Program-Standards-2013.pdf.

15 "Commission Approves Support and Assessment Induction Programs for New Teachers," California Commission on Teacher Credentialing, October 2007, http://www.ctc.ca.gov/briefing-room/pdf/PR-2007-10-05-1.pdf.

16 For more on the Induction program, see "Induction Program Overview," High Tech High, http://www.hightechhigh.org/about/induction.php (accessed January 13, 2015).

17 California Education Code §94885, http://leginfo.legislature.ca.gov/faces/codes_displayText.

18 "School Detail," California's Bureau for Private Postsecondary Education, https://app.dca.ca.gov/bppe/view-school.asp?schlcode=60985611 (accessed January 14, 2015).

19 The WASC accreditation process has three stages: 1) eligibility, 2) candidacy, and 3) initial accreditation. The time it takes for an institution to progress through these stages depends on how quickly the institution can demonstrate substantial compliance with WASC's accreditation standards. To gain accreditation, the institution must submit an Eligibility application. If the application is approved, the institution then prepares an Institutional Report that WASC reviews prior to conducting a three-day site visit. After the site visit, WASC's Accreditation Commission for Senior Colleges and Universities reviews the visiting team's report. If the Commission finds that the institution demonstrates substantial compliance with WASC standards, it may decide to grant initial accreditation. If the Commission finds that the institution is minimally in compliance with the standards, it will designate the institution as a Candidate for accreditation and schedule another visit. Lastly, if the institution does not meet the standards even at a minimal level, the Commission may either request another visit or deny Initial Accreditation

and Candidacy. See "How to Become Accredited by WSCUC," WASC Senior College and University Commission, http://www.wascsenior.org/resources/eligibility (accessed January 14, 2015).

20 Ralph A. Wolff, "Commission Action Letter, Special Visit, June 2012," WASC, July 3, 2012, available at http://www.wascsenior.org/institutions/high-tech-high-graduate-school-education (Accessed March 27, 2015).

21 Mary Ellen Petrisko, "Commission action letter for CPR for Initial Accreditation, February 2014 action," WASC Senior College and University Commission, March 7, 2014, available at http://www.wascsenior.org/institutions/high-tech-high-graduate-school-education (accessed January 14, 2015).

22 "Financial Aid," High Tech High Graduate School of Education, http://gse.hightechhigh.org/financialAid.php (accessed March 27, 2015).

23 The GSE has recently received philanthropic grants to cover tuition costs for its current students.

24 Kelly Wilson, email to the author, March 20, 2015.

25 The GSE is unable to offer Preliminary Credentials until it receives state accreditation. High Tech High currently offers Preliminary Credentials through the High Tech High Intern program sponsored by the High Tech High K–12 schools.

26 Interestingly, as High Tech High has evolved, its leaders have moved away from their initial model of hiring primarily industry experts. Today, many of High Tech High's new teachers are recent college graduates who majored in disciplines relevant to High Tech High's curriculum such as engineering and science.

27 "Education Leadership Academy," High Tech High Graduate School of Education, http://hthedleadership.weebly.com/ (accessed January 14, 2015).

28 Carmen DeNavas-Walt, Bernadette D. Proctor, Jessica Smith, "Income, Poverty, and Health Insurance Coverage in the United States: 2006," U.S. Census Bureau, August 2007, p. 13, https://www.census.gov/prod/2007pubs/p60-233.pdf.

29 "Professional Certificate—Master's Degree Requirement," New York State Education Department Office of Teaching Initiatives, http://www.highered.nysed.gov/tcert/certificate/relatedmasters.html (accessed April 2, 2015).

30 "Protocol for Opening a College in New York State," New York Office of College and University Evaluation, http://www.highered.nysed.gov/ocue/aipr/Protocolforopeningacollege.htm (accessed January 14, 2015).

31 June Kronholz, "A New Type of Ed School," *Education Next*, Fall 2012, http://educationnext.org/a-new-type-of-ed-school/ (accessed January 14, 2015).

32 "The Institutional Self-Study," New York Office of College and University Evaluation, http://www.highered.nysed.gov/ocue/documents/Self-studyForNewCollege-includingRegs.doc (accessed January 14, 2015).

33 "Information Needed for Reviewing Proposals for Degree Authority," New York Office of College and University Evaluation, http://www.highered.nysed.gov/ocue/aipr/InfoNeededforDegreeAuthority.htm (accessed January 14, 2015).

34 Joseph P. Frey, "Relay School of Education (Formerly Teacher U): Master of Arts in Teaching (M.A.T.) Program in Middle Childhood Education" Memo, New York Department of Education, February 3, 2011, http://www.regents.nysed.gov/meetings/2011Meetings/February2011/211hea2.pdf.

35 Frey.

36 Frey.

37 Yoav Gonen, "Charters get own education graduate school," *The New York Post*, February 15, 2011, http://nypost.com/2011/02/15/charters-get-own-education-graduate-school/ (accessed January 14, 2015).

38 The new name reflects the school's philosophy that "having multiple effective teachers in succession—a relay—can positively impact a student's life." See "About Our Institution," Relay Graduate School of Education, http://www.relay.edu/history/ (accessed July 16, 2014).

39 Elizabeth Green, "A new graduate school of education, Relay, to open next fall," *Chalkbeat*, February 14, 2011, http://ny.chalkbeat.org/2011/02/14/a-new-graduate-school-of-education-relay-to-open-next-fall/#.VRU-y_nF-So (accessed March 27, 2015).

40 "List of Preconditions and Documentation," NCATE, http://ncate.org/Accreditation/BecomingaCandidateforAccreditation/Preconditions/ListofPreconditionsandDocumentation/tabid/595/Default.aspx (accessed January 14, 2015).

41 "Becoming a Candidate for Accreditation," NCATE, http://www.ncate.org/Accreditation/BecomingaCandidateforAccreditation/tabid/117/Default.aspx (accessed January 14, 2015).

42 "Becoming Accredited: Handbook for Applicants & Candidates for Accreditation," Middle States Commission on Higher Education, March 1, 2009, http://www.msche.org/publications/BecomingAccredited6-13.pdf.

43 "Accredited Institution Details: Relay Graduate School of Education," NCATE, http://www.ncate.org/tabid/178/Default.aspx?ch=106&CO_ID=32860&state=ny (accessed March 27, 2015). For the year of Relay's first NCATE accreditation, see Norman Atkins, "Presentation to the NYS Board of Regents," Relay Graduate School of Education, April 23, 2013, http://www.regents.nysed.gov/meetings/2013Meetings/April2013/RelaySchoolofEducation.pdf.

44 "Statement of Accreditation Status: Relay Graduate School of Education," Middle States Commission on Higher Education, http://www.msche.org//Documents/SAS/626/Statement%20of%20Accreditation%20Status.htm (accessed March 27, 2015).

45 In states that do not require a master's degree to teach in K–12 schools, Relay's alternative teacher certification programs provide the coursework required to earn a teaching credential.

46 Today, Match Education provides tutors and residents with a housing stipend, which they may use for Match housing if they choose.

47 Carla Stillings Candal, "Match-ing Students with Excellent Tutors: How a Massachusetts Charter School Bridges Achievement Gaps," Pioneer Institute, February 2014, http://pioneerinstitute.org/download/matching-students-to-excellent-tutors-how-a-massachusetts-charter-school-bridges-achievement-gaps/ (accessed January 14, 2015).

48 "A Different Kind of Graduate School," Match Education Sposato Graduate School of Education, http://www.matcheducation.org/mtr (accessed January 14, 2015).

49 Massachusetts State Regulation 603 CMR 7.03, http://www.doe.mass.edu/lawsregs/603cmr7.html?section=03 (accessed January 14, 2015).

50 In Massachusetts, "public and private higher education institutions, districts, collaboratives, and non-profit organizations" can offer teacher certification programs. See "Preparing Educators: Educator Preparation Review & Approval," Massachusetts Department of Elementary and Secondary Education, http://www.doe.mass.edu/edprep/pr.html (accessed January 14, 2015).

For a list of all approved teacher certification programs in Massachusetts, see "Educator Preparation Review Schedule," Massachusetts Department of Elementary and Secondary Education, http://www.doe.mass.edu/edprep/SOListReviewDates.pdf

51 "Guidelines for Program Approval," Massachusetts Department of Elementary and Secondary Education, July 2013, http://www.doe.mass.edu/edprep/ProgramApproval.pdf.

52 "Teacher License Types and General Requirements," Massachusetts Executive Office of Education, http://www.mass.gov/edu/government/departments-and-boards/ese/programs/educator-effectiveness/licensure/academic-prek-12/teacher/teacher-license-types-and-general-requirements-.html (accessed April 7, 2015).

53 Massachusetts State Regulation 610 CMR 2.07, http://www.mass.edu/forinstitutions/academic/documents/610CMR.pdf.

54 Members of the visiting committee for the Sposato Graduate School of Education included Norman Atkins, founder and president of Relay Graduate School of Education, and Kelly Wilson, director of High Tech High Graduate School of Education's MEd Program.

55 "Board of Higher Education Request for Committee and Board Action," Academic Affairs Committee, Massachusetts Department of Higher Education, February 28, 2012, http://www.mass.edu/library/documents/AAC12-28.pdf.

56 "Academic Affairs Committee Meeting," Agenda, Massachusetts Department of Higher Education, February 28, 2012, http://www.mass.edu/meetings/AACmeeting20120228.asp

57 "Meeting Minutes," Massachusetts Board of Education, March 6, 2012, http://www.mass.edu/library/documents/2012-3-06BHEMeetingMinutes.pdf.

58 The MET program has been both selective and rigorous since its inception. Match Education accepts only about 13 percent of applicants into the program each year. Of those who are accepted and who then choose to join the program, roughly one third of them exit the program prior to completion, either because they fail to demonstrate adequate performance or because they decide during the residency experience that teaching is not for them. See "Frequently Asked Questions," Match Education Sposato Graduate School of Education, http://www.sposatogse.org/about/faq/ (accessed March 27, 2015).

59 "Frequently Asked Questions."

About the Institute

The Clayton Christensen Institute for Disruptive Innovation is a nonprofit, nonpartisan think tank dedicated to improving the world through disruptive innovation. Founded on the theories of Harvard professor Clayton M. Christensen, the Institute offers a unique framework for understanding many of society's most pressing problems. Its mission is ambitious but clear: work to shape and elevate the conversation surrounding these issues through rigorous research and public outreach. With an initial focus on education and health care, the Institute is redefining the way policymakers, community leaders, and innovators address the problems of our day by distilling and promoting the transformational power of disruptive innovation.

Acknowledgements

About the author

Thomas Arnett is an education research fellow at the Clayton Christensen Institute, where his research focuses on the changing roles of teachers in blended-learning environments and other innovative educational models. Prior to joining the Institute, Thomas worked as an Education Pioneers Fellow with the Achievement First Public Charter Schools and as a Teach For America corps member in the Kansas City Missouri School District. He holds an MBA from the Tepper School of Business at Carnegie Mellon University and a BA in Economics from Brigham Young University.